1. Increasing use of biologics in Denmark 2019-2023 – a quality control study from Gastrobio

Anja Poulsen, Lone Larsen, Ida Vind, Niels Steen Krogh,
Mark Ainsworth, Jens Kjeldsen, Johan Burisch

Region Hovedstaden

Region Nordjylland

Region Syddanmark

Gastrobio

Baggrund

Stigende incidens og prevalens ved IBD med øget brug af dyre biologiske lægemidler

1.Dorn-Rasmussen M, Lo B, Zhao M, Kaplan GG, Malham M, Wewer V, et al. The Incidence and Prevalence of Paediatric- and Adult-Onset Inflammatory Bowel Disease in Denmark During a 37-Year Period: A Nationwide Cohort Study (1980-2017). J Crohns Colitis. 2023;17(2):259-68.
2.Agrawal M, Jess T. Implications of the changing epidemiology of inflammatory bowel disease in a changing world. United European Gastroenterol J. 2022;10(10):1113-20.
3.Larsen L, Karachalia Sandri A, Fallingborg J, Jacobsen BA, Jacobsen HA, Bøgsted M, et al. Has the Incidence of Inflammatory Bowel Disease Peaked? Evidence From the Population-Based NorDIBD Cohort 1978-2020. Am J Gastroenterol. 2023;118(3):501-10.
4.Burisch J, Zhao M, Odes S, De Cruz P, Vermeire S, Bernstein CN, et al. The cost of inflammatory bowel disease in high-income settings: a Lancet Gastroenterology & Hepatology Commission. Lancet Gastroenterol Hepatol. 2023;8(5):458-92.

Gastrobio

Formål

At undersøge forbruget af biologiske lægemidler med bred repræsentation fra danske IBD centre

Gastrobio

Aalborg

Bispebjerg

Hvidovre

Farsø

Hjørring

Odense

Projekter	Diagnose	Diagnose dato	Dage siden kontakt	Seneste koloskopi	TPMT (U/ml)	PSC	Aktiv bio. beh.	Næste bio. vurdering	Aktiv standard beh.	Gravid?	CAVE	Bio bank	Kontaktlæge	Data valideret t.o.m.
	Colitis ulcerosa	2015/01/26	175	2020/02/14		Ubesvaret	Ingen	2020/01/29	Azath	Nej	Ingen registreret	Ja	Lone Larsen	2021/08/19

Medicintavle | Operationstavle | Seneste udbredelsesfigur | Graf | Montreal klassifikation

Alle kontakter

Operationer | Graviditeter

	27feb 2015	11mar 2015	08apr 2015	03jun 2015	30jul 2015	21sep 2015	17nov 2015	12jan 2016	08mar 2016	03may 2016	11may 2016	26aug 2016	
Kontakt-type	UPM	PM	PM	PM	PM	M	PM	PM	PM	P	L	P	Kontakt-type
Bio. præparat	Infliximab	Infliximab	Infliximab	Infliximab	Infliximab	Infliximab	Infliximab	Infliximab	Infliximab	-	-	-	Bio. præparat
Bio. dosis	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	-	-	-	Bio. dosis
Bio. frekvens	026	026	026	hv.8u	hv.8u	hv.8u	hv.8u	hv.8u	hv.8u	-	-	-	Bio. frekvens
Givet dosis/penne/tabletter	250 mg	300 mg	300 mg	300 mg	300 mg	300 mg	300 mg	300 mg	300 mg	-	-	-	Givet dosis/penne/tabletter
Uger siden sidste dosering	-	2	4	8	8	8	8	8	8	-	-	-	Uger siden sidste dosering
5ASA (Tabl.)	-	-	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	5ASA (Tabl.)
Solu.	40	-	-	-	-	-	-	-	-	-	-	-	Solu.
Pred. (Tabl.)	-	35	15	-	-	-	-	-	-	-	-	-	Pred. (Tabl.)
Azath.	-	-	-	-	-	-	-	-	-	-	-	-	Azath.
Vægt (kg)	53.4	56,4	56	59,2	60,8	60	60,7	59,5	60	-	60	-	Vægt (kg)
Aktivitetsscore (SCCAI)	11	3	1	0	1	1	1	0	0	-	0	-	Aktivitetsscore (SCCAI)
ΔAktivitetsscore (ΔSCCAI)	-	-8	-2	-1	+1	0	0	-1	0	-	-	-	ΔAktivitetsscore (ΔSCCAI)
SHS	63.0	42.0	28.0	18.0	29.0	24.0	25.0	26.0	19.0	-	20.0	-	SHS
ΔSHS	-	-21	-14	-10	+11	-5	+1	+1	-7	-	-	-	ΔSHS
Helhedsvurdering (Læge)	3	-	-	-	-	-	-	-	-	-	0	-	Helhedsvurdering (Læge)
CRP (mg/L)	52	1,9	1,9	14	3,1	-	4,0	2,3	5,1	3,1	-	-	CRP (mg/L)
Hb (mmol/L)	6,8	5,9	3,6	8,2	8,7	-	9,1	8,6	8,7	8,4	-	-	Hb (mmol/L)
Alb (g/L)	28	31	38	41	38	-	40	41	39	36	-	-	Alb (g/L)
F-CALP (mg/Kg)	-	-	-	-	-	-	-	-	30	30	-	54	F-CALP (mg/Kg)
Bivirkninger	Ingen	Ingen	Ingen	NA	Ingen	Ingen	Ingen	Ingen	Ingen	NA	Ingen	NA	Bivirkninger
Undersøgelser (Normale)	-	-	-	-	-	-	-	-	-	-	-	-	Undersøgelser (Normale)
Undersøgelser (Abnormale)	Kolo.	-	-	-	-	-	-	-	-	-	-	-	Undersøgelser (Abnormale)
Trough Levels	-	-	-	-	-	-	-	-	-	-	-	-	Trough Levels

Projekter	Diagnose	Diagnose dato	Dage siden kontakt	Seneste koloskopi	TPMT (U/ml)	PSC	Aktiv bio. beh.	Næste bio. vurdering	Aktiv standard beh.	Gravid?	CAVE	Bio bank	Kontaktlæge	Data valideret t.o.m.
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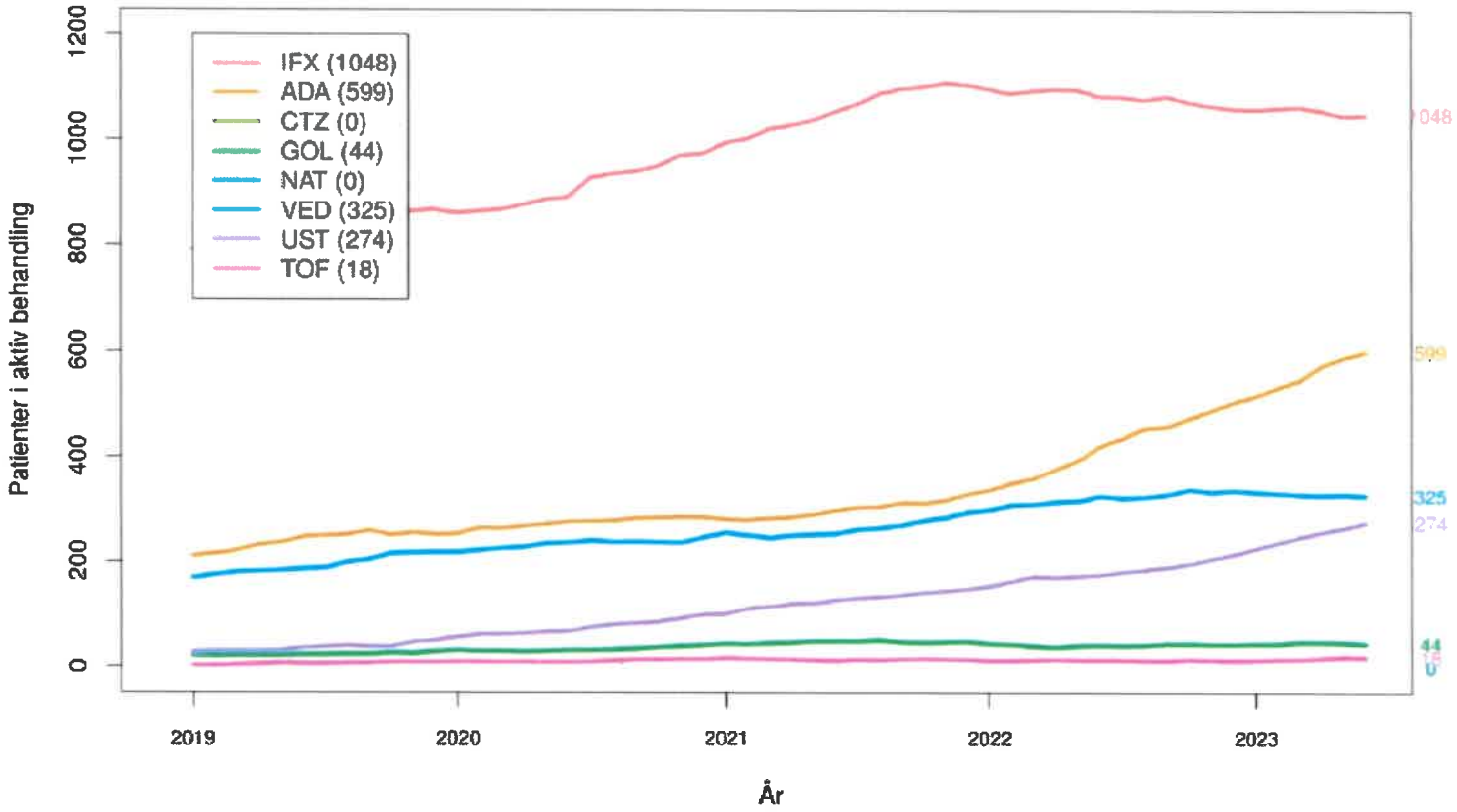
Bio. dosis	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg	5 mg/kg		-		Bio. dosis
Bio. frekvens	026	026	6		hv.8u	hv.8u	hv.8u	hv.8u	hv.8u		-	-	Bio. frekvens
Givet dosis/penne/tabletter	250 mg	300 mg	300 mg	300 mg	300 mg	300 mg	300 mg	300 mg	300 mg	-	-	-	Givet dosis/penne/tabletter
Uger siden sidste dosering	-	2	4	8	8	8	8	8	8	-	-	-	Uger siden sidste dosering
5ASA (Tabl.)	-	-	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	5ASA (Tabl.)
Solu.	40	-	-	-	-	-	-	-	-	-	-	-	Solu.
Pred. (Tabl.)	-	35	15	-	-	-	-	-	-	-	-	-	Pred. (Tabl.)
Azath.	-	-	-	-	-	-	-	-	-	-	-	-	Azath.
Vægt (kg)	53.4	56.4	6	59.2	60.8	60	60.7	59	60	-	60	-	Vægt (kg)
Aktivitetsscore (SCCAI)											0		Aktivitetsscore (SCCAI)
ΔAktivitetsscore (ΔSCCAI)		-8		-1	1	0	0	-1		-	-		ΔAktivitetsscore (ΔSCCAI)
SHS	3.0	42	3.0	18.0		2	3.0	26		-	2		SHS
ΔSHS		-2			-			+1			-		ΔSHS
Helhedsvurdering (Læge)	3	-	-	-	-	-	-	-	-	-	0	-	Helhedsvurdering (Læge)
CRP (mg/L)	52	1,9	1,9	14	-	-	4,0	2,3	5,1	3,1	-	-	CRP (mg/L)
Hb (mmol/L)	6,8	5,9	3,6	8,2	8,7	-	9,1	8,6	8,7	8,4	-	-	Hb (mmol/L)
Alb (g/L)	28	31	38	41	38	-	40	41	39	36	-	-	Alb (g/L)
F-CALP (mg/Kg)	-	-	-	-	-	-	-	-	30	30	-	54	F-CALP (mg/Kg)
Bivirkninger	Ingen	Ingen	Ingen	NA	Ingen	Ingen	Ingen	Ingen	Ingen	NA	Ingen	NA	Bivirkninger
Undersøgelser (Normale)	-	-	-	-	-	-	-	-	-	-	-	-	Undersøgelser (Normale)
Undersøgelser (Abnormale)	Kolo.	-	-	-	-	-	-	-	-	-	-	-	Undersøgelser (Abnormale)
Trough Levels	-	-	-	-	-	-	-	-	-	-	-	-	Trough Levels

FMK + LABKA integration

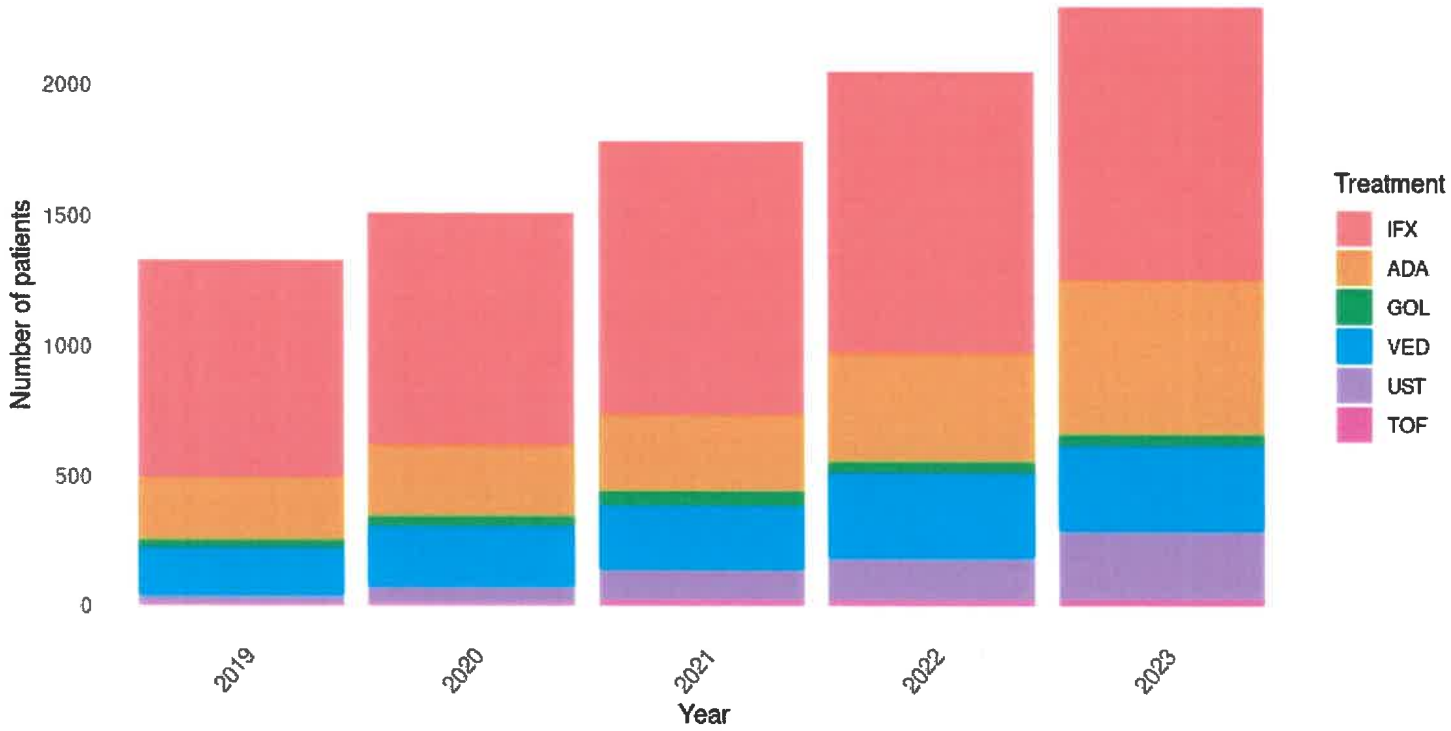
Gastrobio

Antal patienter i behandling 2019- maj 2023



Gastrobio

Antal patienter i behandling 2019- maj 2023



GRATIS FOR ALLE

Tak til vores sponsorer

Gastrobio

Region Hovedstaden

Ida Vind
Johan Burisch
Anja Poulsen

Region Nordjylland

Lone Larsen

Region Syddanmark

Mark Ainsworth
Jens Kjeldsen

3.

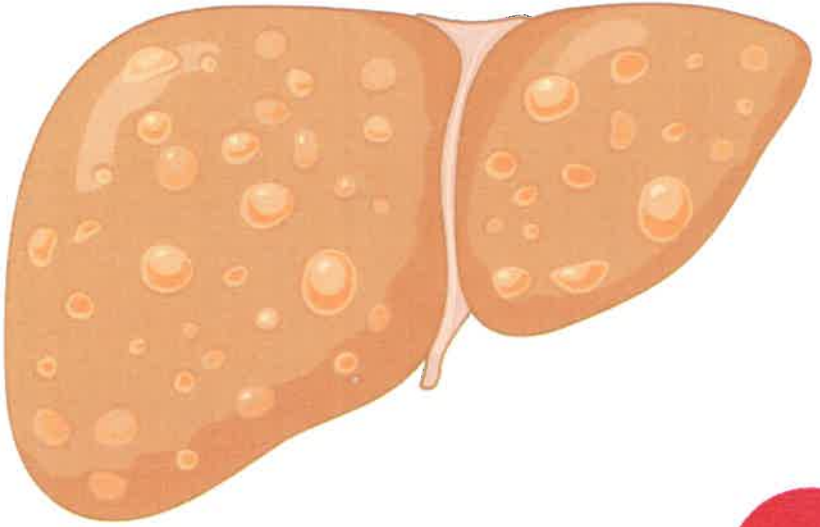
Resolution of non-alcoholic fatty liver disease through bariatric surgery restores urea cycle function and reduces ammonia levels

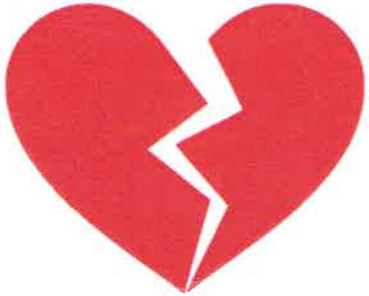
K. KJÆRGAARD[1], ACD. MIKKELSEN[1], PL. ERIKSEN[1], CW. WERNBERG[2], S. DUTOIT-HAMILTON[3], B. RICHELSEN[4], MM. LAURIDSEN[2], H. VILSTRUP[1], RP. MOOKERJEE[1,5] and KL. THOMSEN[1,5]

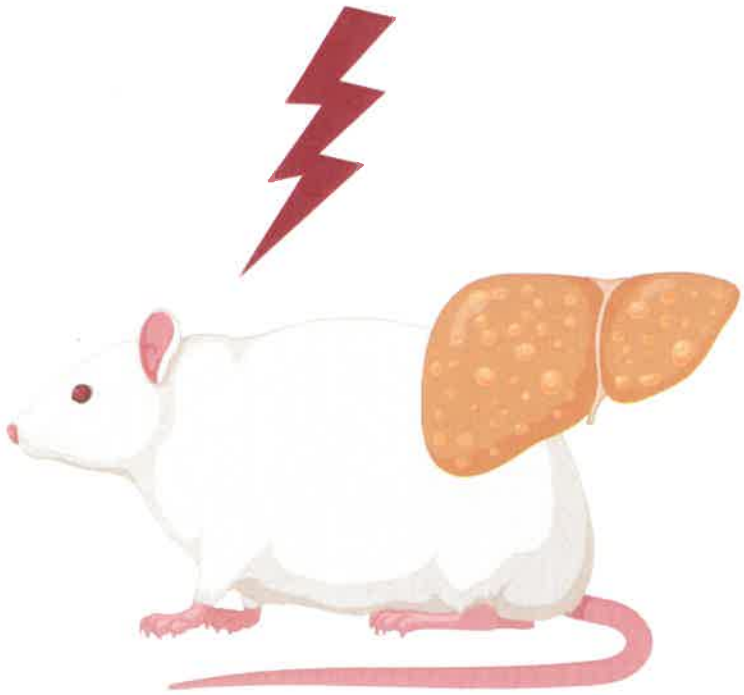
[1]Lever-, Mave- og Tarmsygdomme, Aarhus Universitetshospital
[2]Medicinske Mave- og Tarmsygdomme, Syddansk Universitetshospital
[3]Patologi, Aarhus Universitetshospital
[4]Steno Diabetes Center, Aarhus Universitetshospital
[5]Institute for Liver and Digestive Health, University College London

DSGH ÅRSMØDE 2023

AARHUS UNIVERSITY HOSPITAL

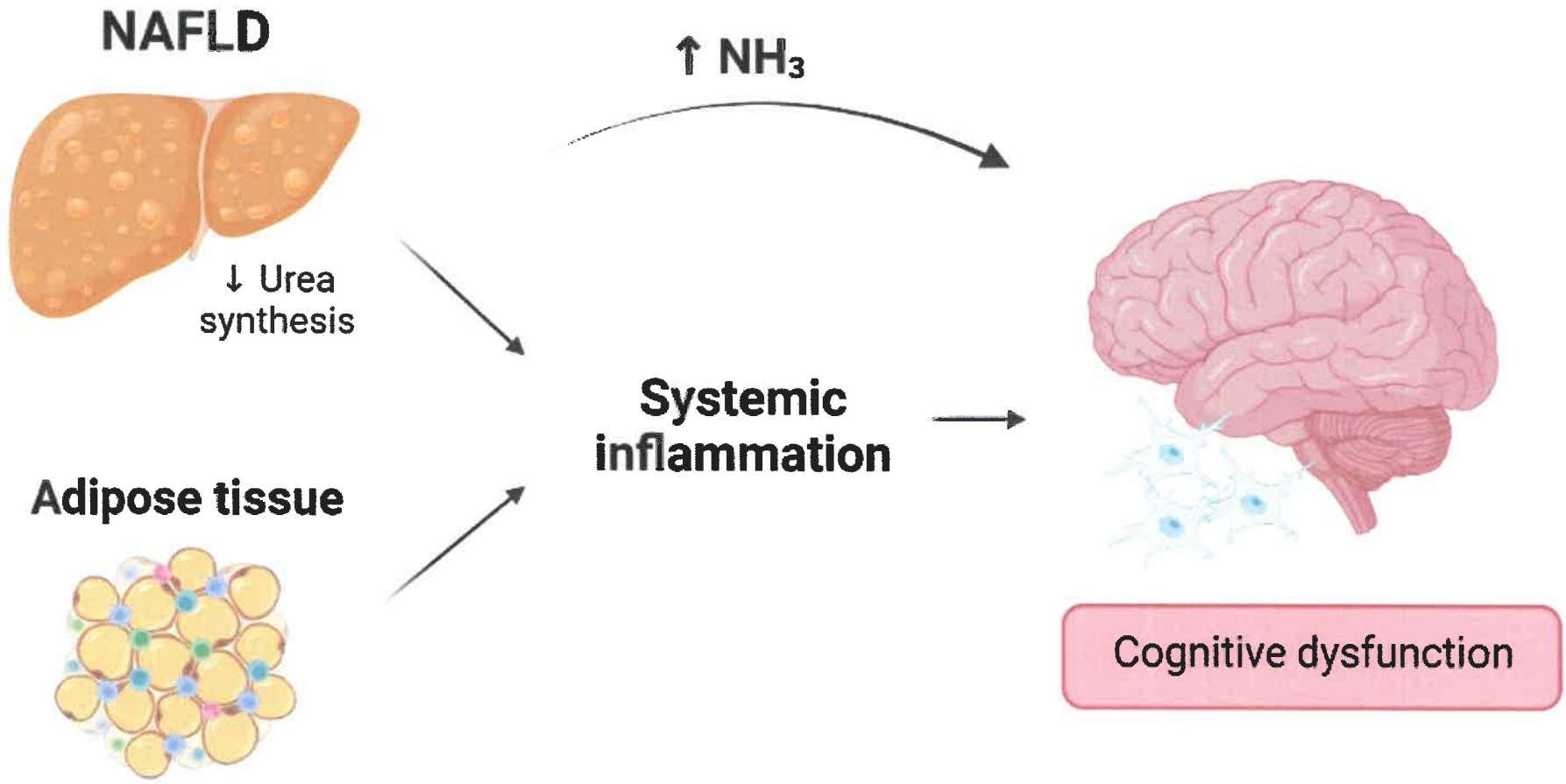


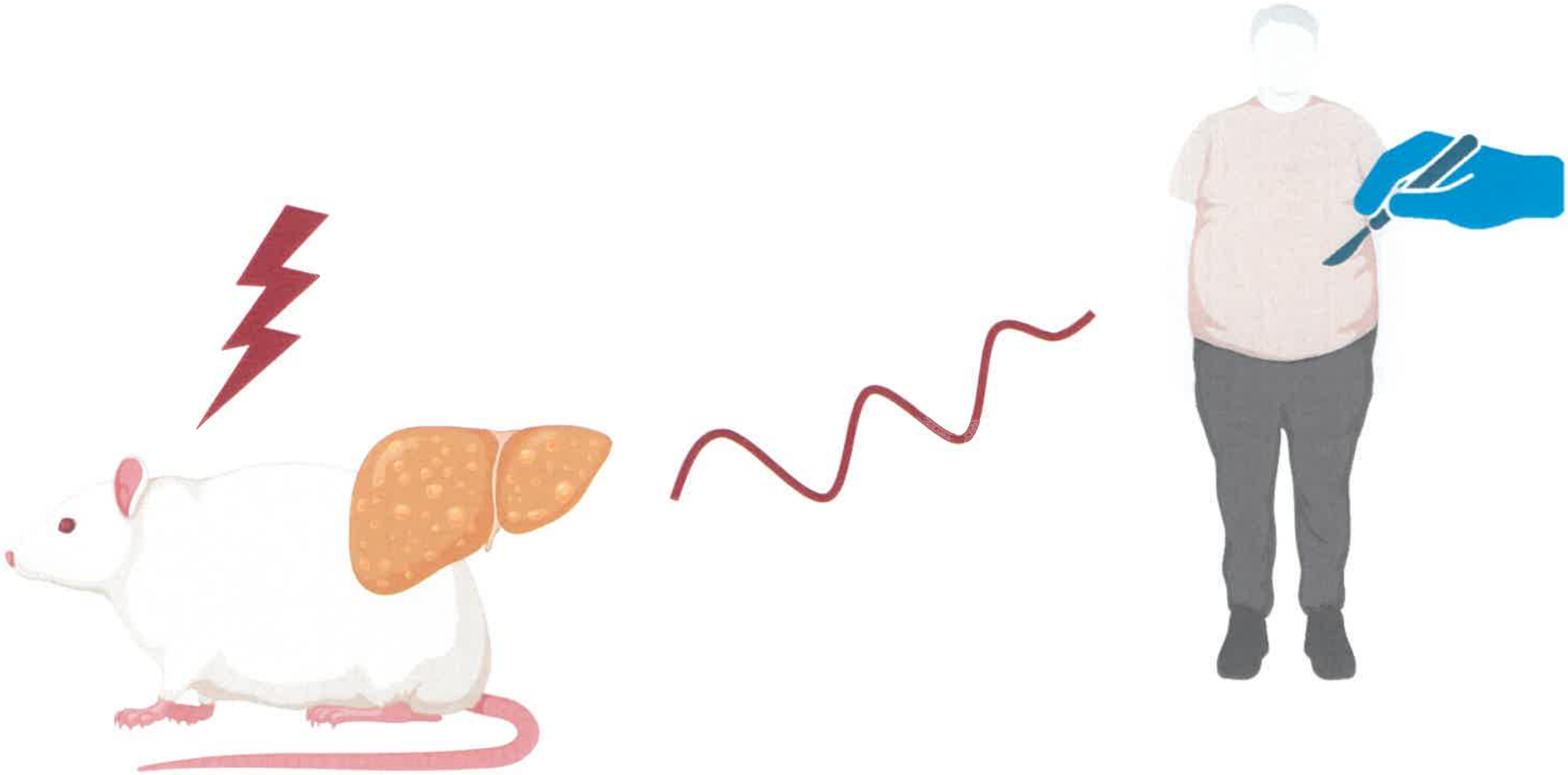




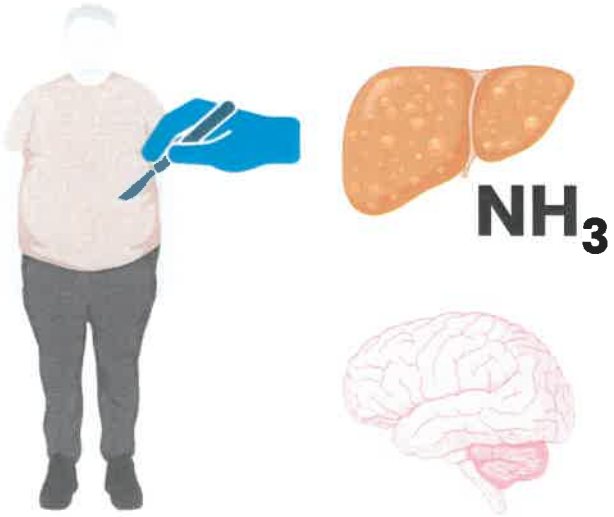
- ✓Kognitiv dysfunktion og depressionslignende adfærd
- ✓Kronisk systemisk inflammation
- ✓Neuroinflammation og nedsat synaptisk densitet

Kjærgaard K et al. (Unpublished)


NAFLD
↑ NH_3
↓ Urea synthesis
Systemic inflammation
Adipose tissue
Cognitive dysfunction



Formål



Hypoteser

1) Helbredelse af **fedtlever** gennem bariatrisk kirurgi genopretter normal **urinstofsyntese** i leveren og reducerer **ammonium** i blodet.

2) De afledte effekter af vægttab på metabolisk **leverfunktion** og **systemisk inflammation** forbedrer **kognition** hos patienter med NAFLD.

Design

Inklusion

- Alder ≥ 18 år
- Henvist til bariatrisk kirurgi
- Alkoholindtag < 20/30 g pr. dag
- Udelukkelse af anden leversygdom

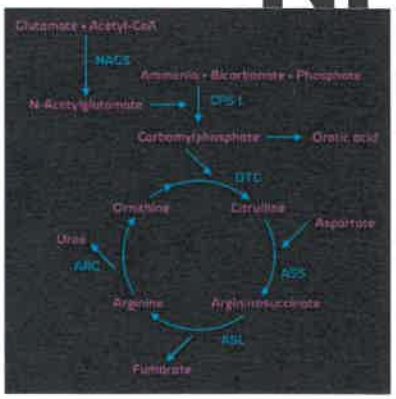
Eksklusion

- Infektiøs, inflammatorisk, malign, el. neurologisk sygdom
- Antipsykotika el. andet sederende
- Systemisk prednisolon seneste 8 uger

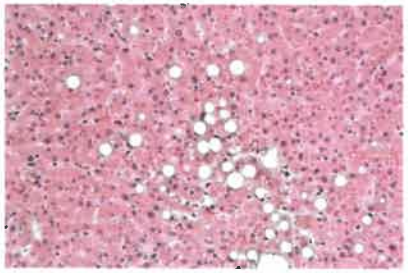
Metoder

FHNC

NH_3



Biopsi



mRNA

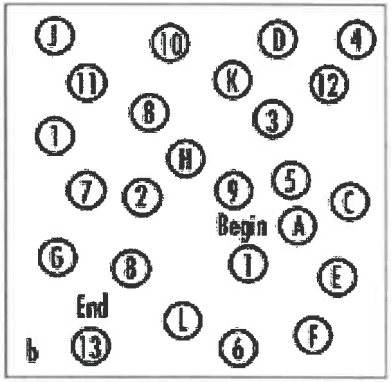
Blodprøver

- Ammonium
- Lipider
- Levertal
- Systemisk inflammation

BIA

Metoder

PSE test

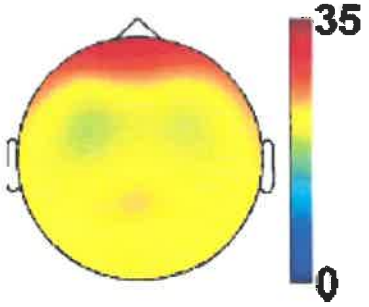


CRT

Spørgeskemaer

MMSE
MDI

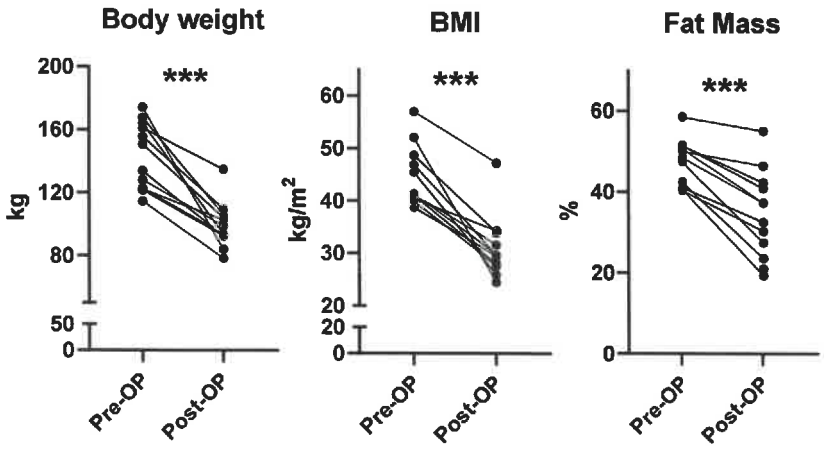
EEG

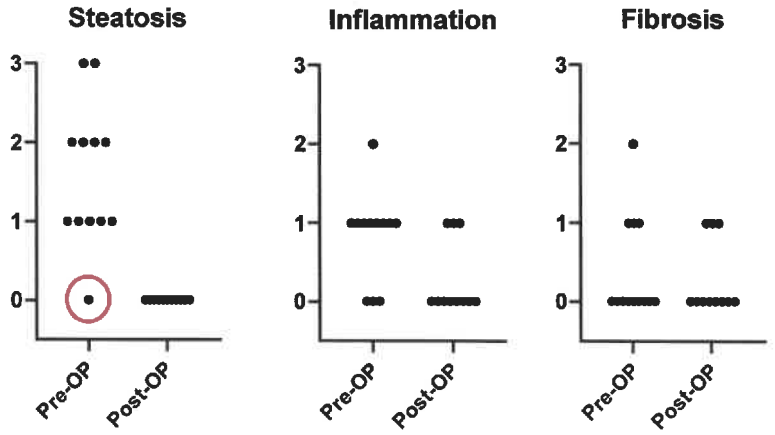


Resultater

Vægttabet efter bariatrisk kirurgi helbreder NAFLD hos samtlige patienter

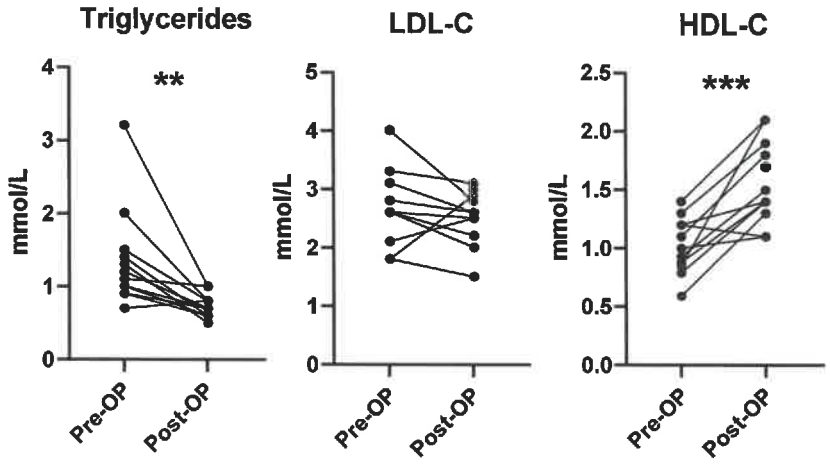
	Primary cohort (n = 12)
Sex (male/female)	6/6
Age (years)	48 ± 5
Diabetes (yes/no)	0/12
Hypertension (yes/no)	3/9
Obstructive sleep apnoea (yes/no)	8/4
Type of surgery (gastric bypass/sleeve gastrectomy)	4/8
Time between surgery and Post-OP (days)	638 (574-671)

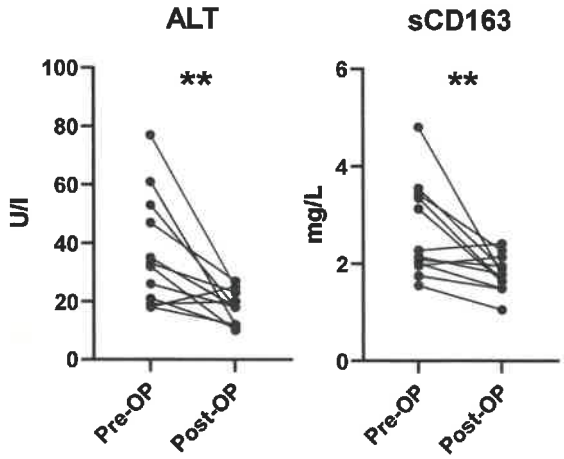




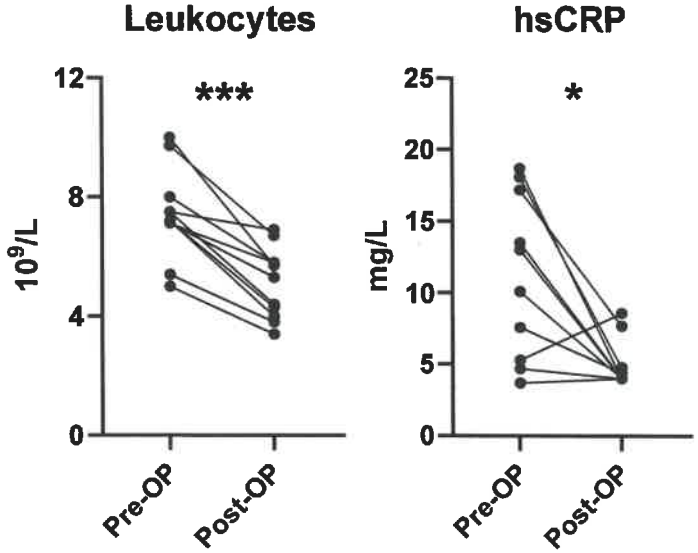
*p<0.05, **p<0.01, ***p<0.001

Resultater





Vægttab og helbredelse af NAFLD afhjælper dyslipidæmi, leverskade og systemisk inflammation

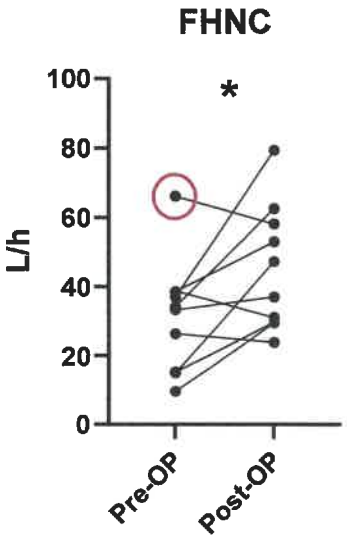


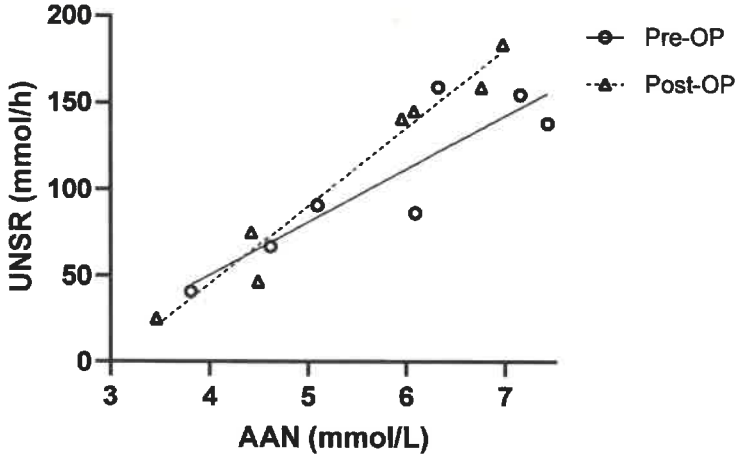
*p<0.05, **p<0.01, ***p<0.001

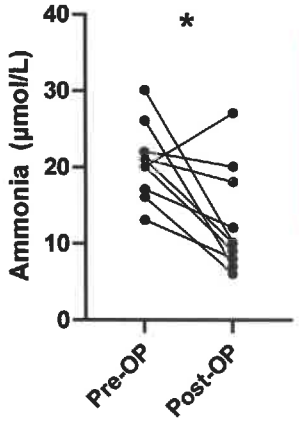
Resultater

NH_3

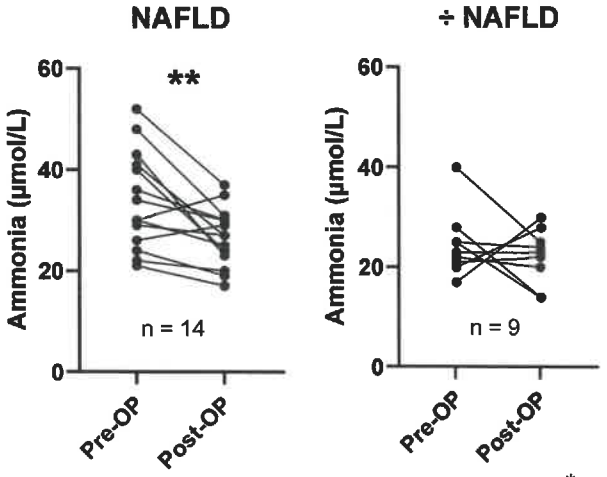
FHNC øges med 39% efter helbredelse af NAFLD







Bariatrisk kirurgi reducerer ammonium men kun i patienter med NAFLD

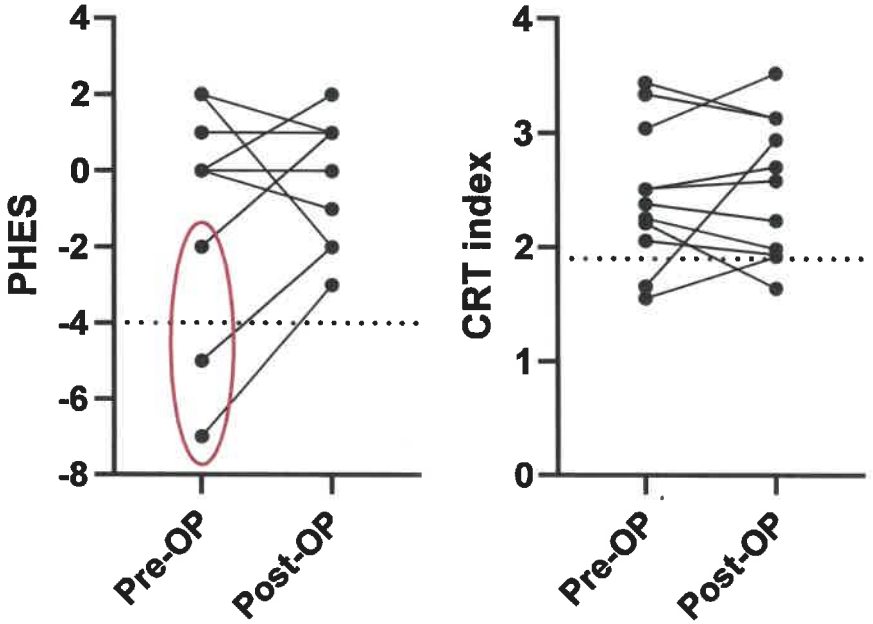


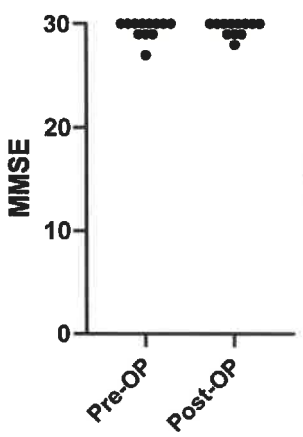
Sydvestjysk Sygehus

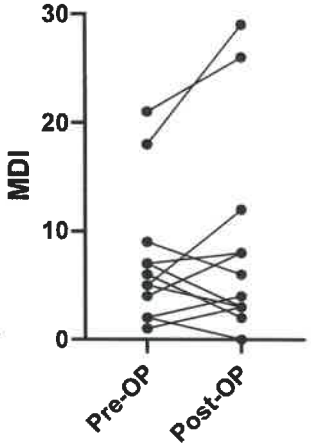
*p<0.05, **p<0.01, ***p<0.001

Resultater

Bariatrisk kirurgi forbedrer ikke kognitiv funktion

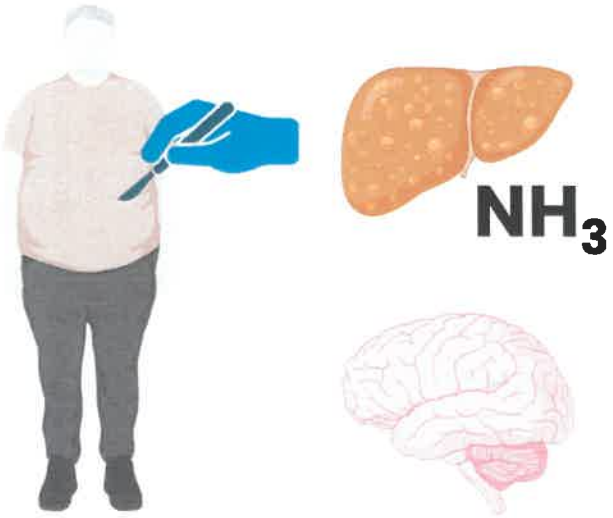






Psykometriske cut-offs:
PHES <-4; CRT index <1.9

Formål



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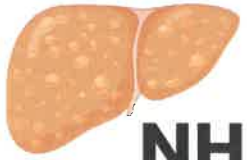
Konklusion



NH_3

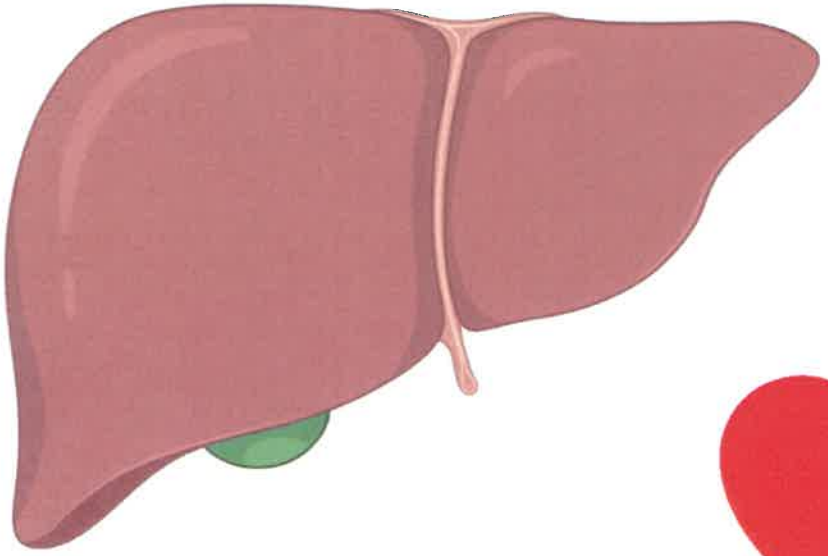
1. Urinstofsyntese

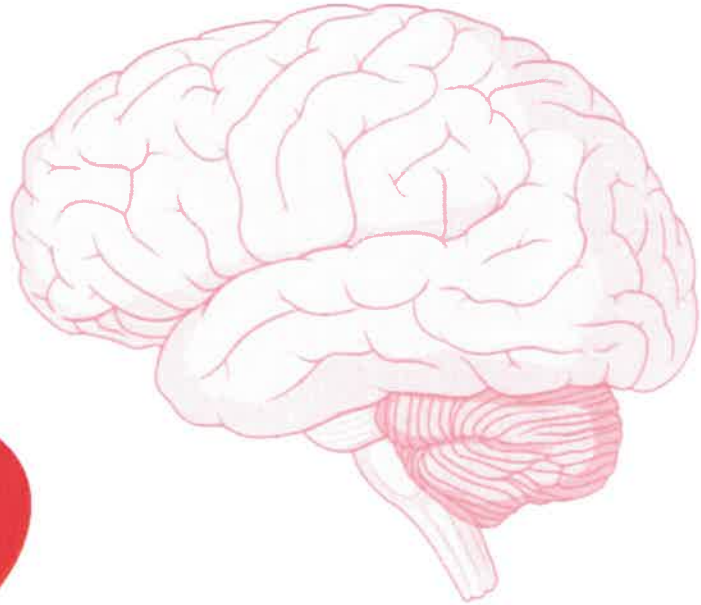
- ✓ Genopretter normal urinstofsyntesefunktion
- ✓ Reducerer ammonium hos patienter med NAFLD

2. Kognitiv funktion

- ✓ Ikke systematisk forbedring
- ✓ Forbedring hos impaired

- EEG
- HE tests?





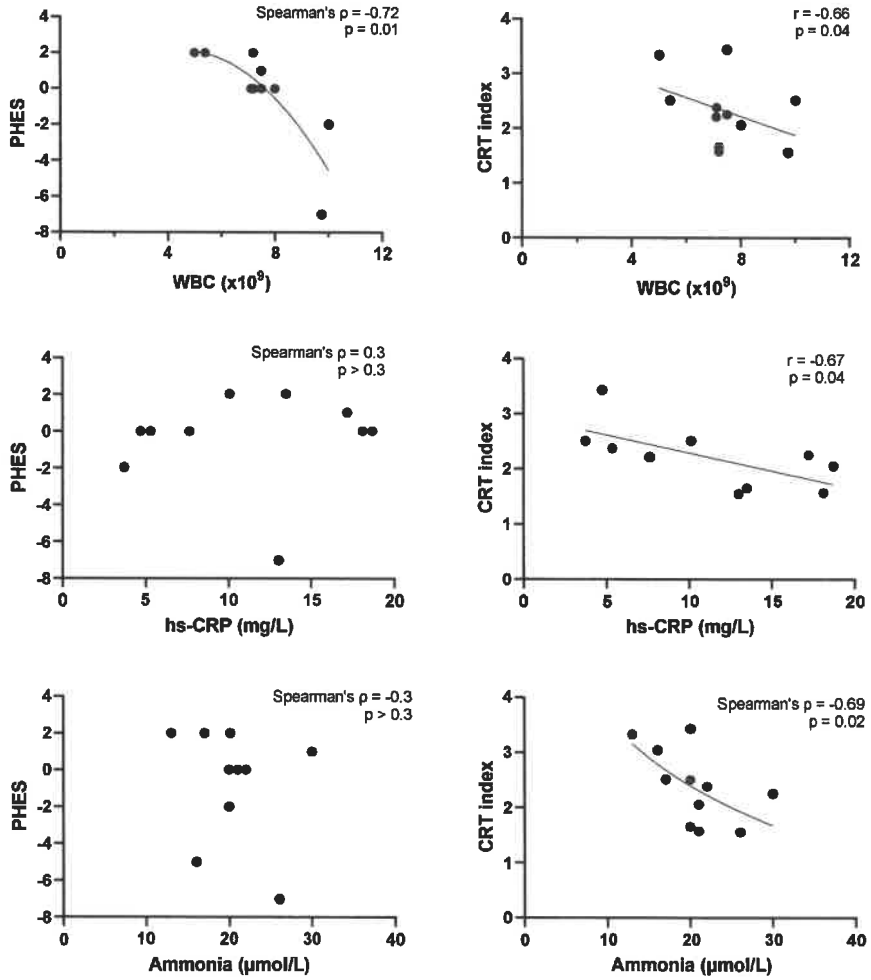
Resultater

	Primary cohort (n = 12)	Validation cohort (n = 23)
Sex (male/female)	6/6	6/17
Age (years)	48 ± 5	42 ± 13
Diabetes (yes/no)	0/12	6/17
Hypertension (yes/no)	3/9	11/12
Obstructive sleep apnoea (yes/no)	8/4	11/12
Type of surgery (gastric bypass/sleeve gastrectomy)	4/8	17/5
Time between surgery and Post-OP (days)	638 (574-671)	755 (737-796)

	NAFLD (n = 14)		Non-NAFLD (n = 9)	
	Pre-OP	Post-OP	Pre-OP	Post-OP
Body weight (kg)	119 (111-134)	90 (77-97)***	124 (121-132)	88 (71-97)**
BMI (kg/m^2)	43 (40-45)	30 (29-34)***	45 (42-47)	29 (25-32)**
NASH (yes/no)	4/10	0/14	0/9	0/8
NAS	2.5 (2.0-2.5)	0 (0-0)***	0.0 (0.0-0.0)	0.0 (0.0-0.0)
Steatosis (0/1/2/3)	0/7/5/2	13/1/0/0***	9/0/0/0	8/0/0/0
Lobular inflammation (0/1/2/3)	1/8/2/3	13/1/0/0***	8/1/0/0	8/0/0/0
Ballooning (0/1/2)	10/3/1	14/0/0	9/0/0/0	8/0/0/0
Fibrosis (0/1/2/3)	3/5/6/0	4/7/2/1	5/4/0/0	4/4/0/0

*$p<0.05$, **$p<0.01$, ***$p<0.001$

Resultater


Spearman's ρ = -0.72
p = 0.01
PHES
WBC (x10⁹)
r = -0.66
p = 0.04
CRT index
WBC (x10⁹)
Spearman's ρ = 0.3
p > 0.3
PHES
hs-CRP (mg/L)
r = -0.67
p = 0.04
CRT index
hs-CRP (mg/L)
Spearman's ρ = -0.3
p > 0.3
PHES
Ammonia (µmol/L)
Spearman's ρ = -0.69
p = 0.02
CRT index
Ammonia (µmol/L)

4/

Patients with Eosinophilic Oesophagitis in Denmark have higher use of psychotropic drugs: a Danish Nationwide Study of Psychotropic Drug Use in 3,367 Patients and 16,835 Matched Comparators

Andreas Kiesbye Øvlisen, **Line Tegtmeier Frandsen**, Martin Hollænder, Kasper Bredal, Jacob Holmen Terkelsen, Kristian Hay Kragholm, Christian Torp-Pedersen, Dorte Melgaard, Anne Lund Krarup

Line Tegtmeier Frandsen
Hoveduddannelseslæge, ph.d. studerende
DSGH Årsmøde 08. September 2023

AALBORG UNIVERSITETSHOSPITAL
– i gode hænder

Eosinofil øsofagitis (EoE)

- Kronisk immunmedieret sygdom
- Øsofagus dysfunktion og eosinofil inflammation (≥15 eos/hpf)

Hvad ved vi i forvejen?

- Nedsat livskvalitet
- Andre GI sygdomme (IBD og cøliaki) har øget risiko for psykiatrisk komorbiditet
- Få studier om EoE og psykiatrisk komorbiditet
- Nyt nationalt, registerstudie (2022) fra Sverige: 50% øget risiko for psykiatrisk sygdom hos EoE patienter vs. baggrundsbefolkningen[1]

1) Röjler L, Garber JJ, Butwicka A, Roelstraete B, Ludvigsson JF. Individuals With Eosinophilic Esophagitis Are at Greater Risk of Later Psychiatric Disorder. American Journal of Gastroenterology. 2022;117(7):1046–55.

At undersøge om EoE patienter efter diagnosetidspunktet sammenlignet med baggrundsbefolkningen har

1) Øget forbrug af psykofarmaka?

2) Flere kontakter til psykiatrien?

3) Øget risiko for selvskade eller selvmordsforsøg/selvmord?

Nationalt registerstudie

- 3367 EoE patienter
- 16.835 kontroller fra baggrundsbefolkningen

Inklusionskriterer for EoE patienterne

- SNOMED koderne for esophagus (T62) og eosinofil inflammation med ≥15 eos/hpf (M47150)
- Udelukkelse af anden årsag til den eosinofile inflammation (ICD koder)
- % psykofarmaka før inklusion (diagnosetidspunktet)

Matchede kontroller fra baggrundsbefolkningen

- 1:5 (køn og alder)
- % psykofarmaka før inklusionen
- % EoE

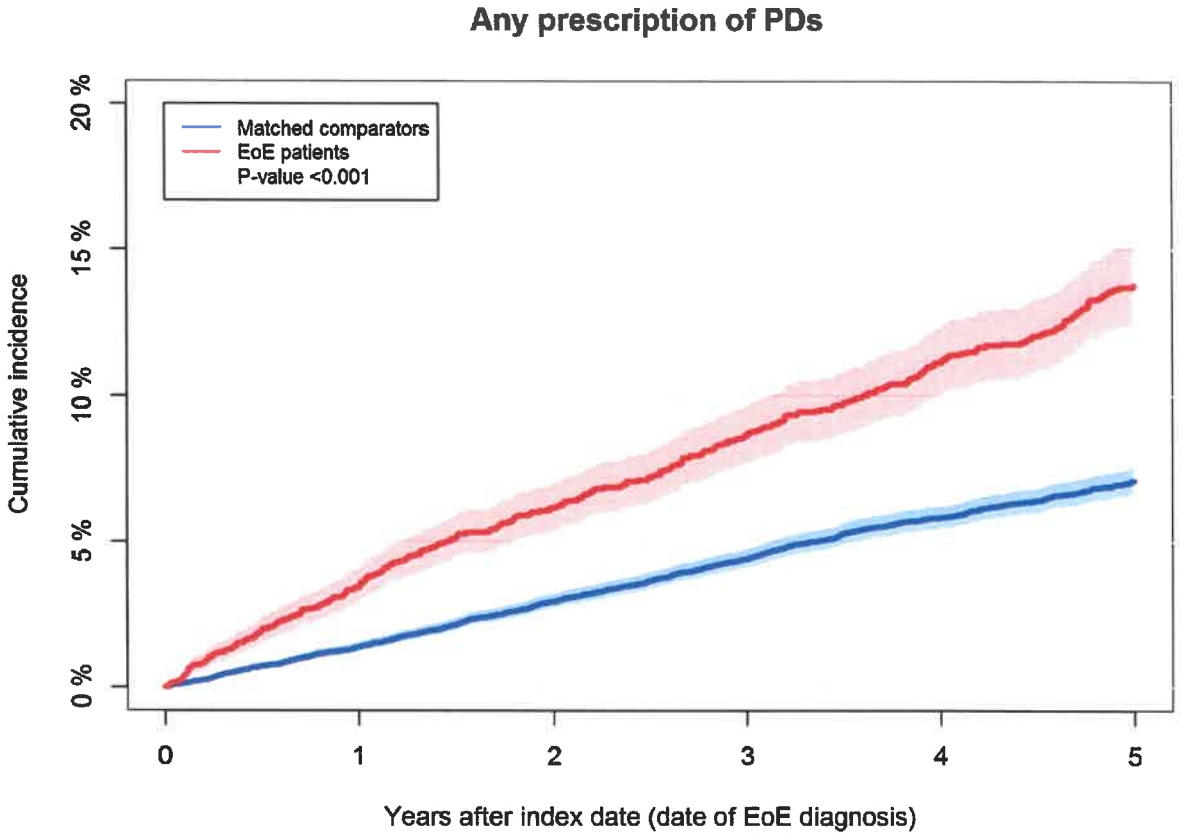
Events

1) Første indløste recept på psykofarmaka (+ undertype)
2) Andet indløste recept på psykofarmaka
3) Første kontakt til psykiatrien (både ambulant og indlæggelse)
4) Registeret selvmord/selvmordsforsøg eller selvskade

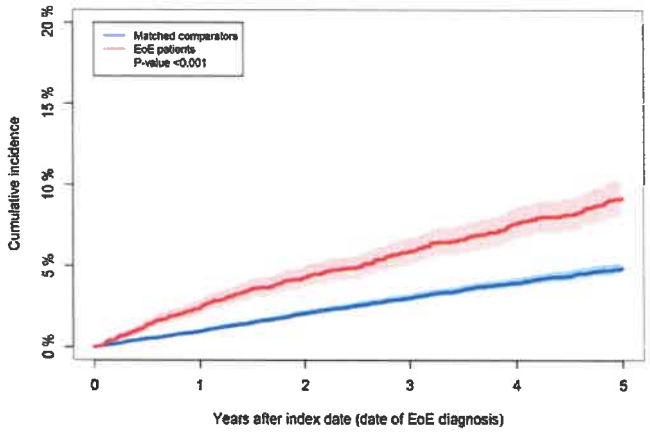
Statistisk analyse

- Aalen-Johansen estimator
- Gray's test
- Cox proportional hazards models

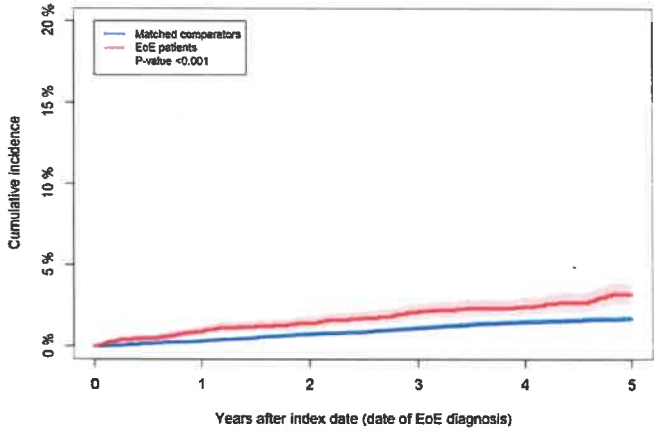
EoE **13.8%** vs. the matched comparators **7.1%** (HR 1.83; CI 1.6-2.0; P ≤ 0.001)



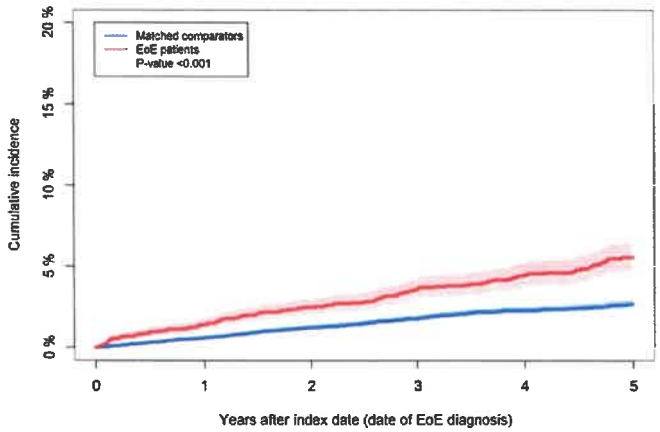
Antidepressants

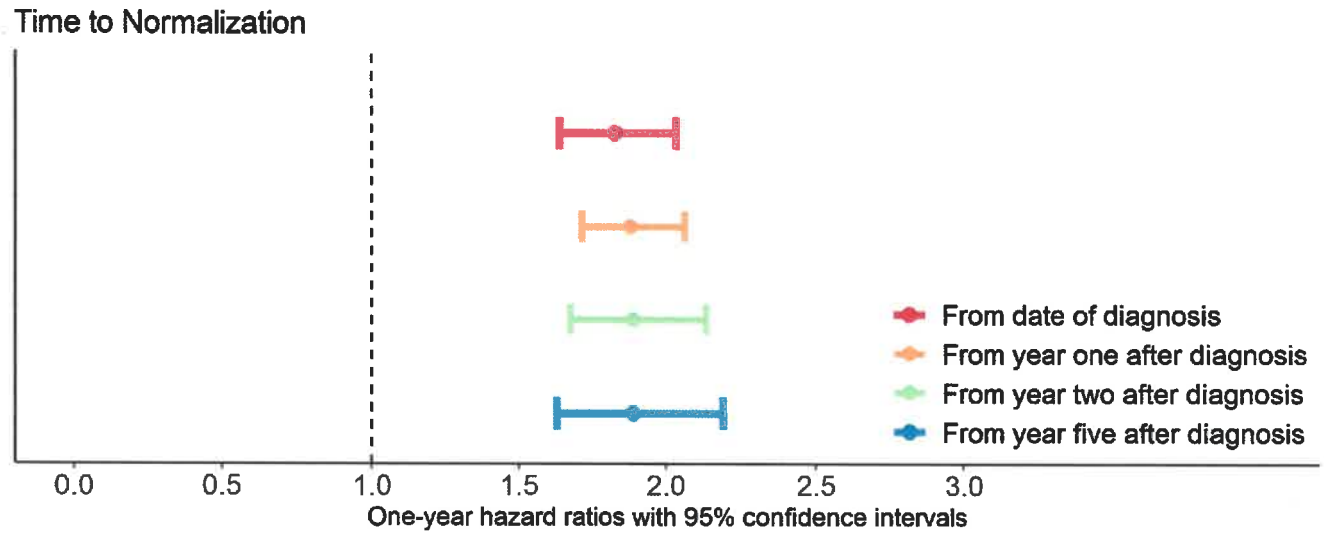


Antipsychotics



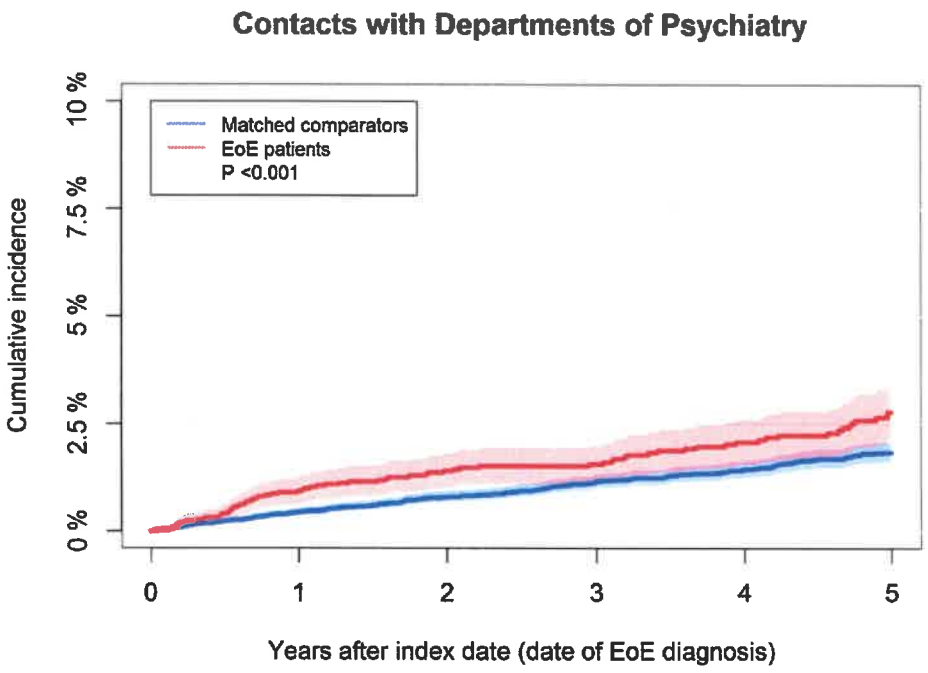
Anxiolytics



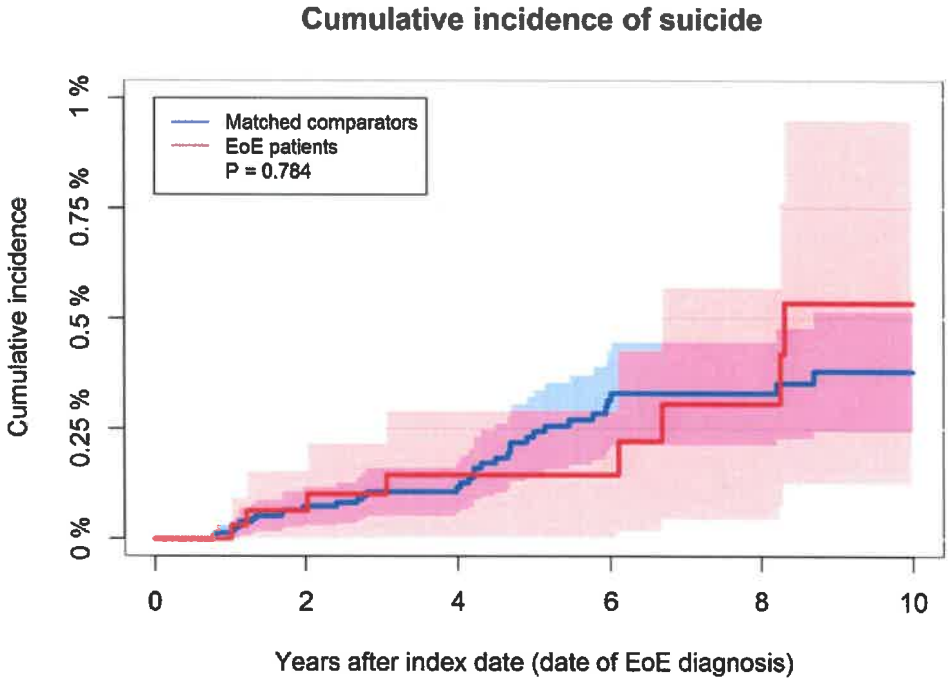


Hazard ratios (HRs) with matched comparators as reference group identified using Cox proportional hazard regression analysis for patients with EoE. Presented in a Forest plot.

EoE (**2.8%**; 95% CI 2.1-3.4) vs. the matched comparators (**1.8%**; 95% CI 1.6-2.1), p<0.001



EoE (**0.5%**, 95% CI 0.1-0.9) vs. the matched comparators (**0.4%**, 95% CI 0.2-0.5)



Opsummering

- Øget forbrug af psykofarmaka efter diagnosetidspunktet
- Hyppigste præparat var antidepressiva
- Øget risiko for at indløse recept på psykofarmaka – selv 5 år efter diagnosen
- Flere kontakter med psykiatrien
- Ikke i øget risiko for selvskade eller selvmord

Resultaterne indikerer, at EoE patienter er i øget risiko for psykiatrisk komorbiditet sammenlignet med baggrundsbefolkningen i Danmark

MEN

Vi mangler stadig mere forskning indenfor området!

5

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ZEALAND UNIVERSITY HOSPITAL

UNIVERSITY OF COPENHAGEN
DEPARTMENT OF CLINICAL MEDICINE

Prævalensen af galdesyrediarré ved mikroskopisk colitis
MC BAD

Ruben D. Lorentsen, Anja Poulsen, Ellen Marie Jørgensen, Ulrich Rohde, Svend Høime Hansen,

Lars Kristian Munck, Christian Borup

Zealand Køge, Bispebjerg and Hillerød University Hospitals and Department of Clinical Medicine, Copenhagen University

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ZEALAND UNIVERSITY HOSPITAL

DISCLOSURES

Personlige

Ingen

Acknowledgement

Budesonid doneret af Tillotts Pharma som 'unrestricted scientific grant'

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Mikroskopisk Colitis (MC)

- Kronisk/intermitterende vandig imperiøs diarré
- Makroskopisk normal slimhinde
- Aktivitet: ≥ 3 tarmtømninger/dag eller ≥ 1 vandtynd (Bristol type 6/7), som gennemsnit over 7 dage (Hjortswang *et al.*, IBD 2009)
- God effekt af budesonid behandling, men ofte recidiv
- Kronisk recidiverende aktivitet

Galdesyrediarré (BAD)

- Kronisk, ublodig diarré

- SeHCAT scanning -guldstandard for diagnose
  - < 10% retention efter 7 dage

- Fastende C4 - biokemisk diagnose
  - > 46 ng/mL: sensitivitet 47%, specificitet 92% (Borup et al, AJG 2020 + AP&T subm 2023)
  - 20-46 ng/mL : Gråzone
  - < 20 ng/mL : Ej galdesyrediarré (negativ pred værdi 88%, Borup et al, subm AP&T 2023)

- Behandling
  - Sequestranter, C4 > 46: 65% remission på colesevelam (Borup et al. Lancet G&H 2023)
  - Liraglutid (Kårhus et al. Lancet G&H 2022)

Hvorfor lede efter BAD ved MC?

- MC og BAD co-eksisterer i retrospektive opgørelser hos ca. 15%
- Behandling af MC med sequestranter i retrospektive opgørelser
- Kronisk recidiverende MC giver langvarig eller gentagne budesonidbehandlinger
- Behov for alternative behandlinger
- Klinisk er MC og BAD uadskillelige

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Design

- Prospektivt, eksplorativt studie
- Patienter med aktiv MC undersøgt før, under og efter behandling med budesonid i 6 uger
- Estimeret 15% prævalens. Powerberegning giver 49 patienter
- Primære endepunkt: prævalens af C4 defineret BAD ved T0
- Design

T -1 uge	**T0**	**T+6 uger**	T+10 uger
Inklusion	Behandlingsstart	Behandlingsophør	Follow-up: Recidiv? Budesonid?
Baseline	C4	C4	C4

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In- og eksklusionskriterier

Inklusionskriterier

- Aktiv MC
- CC, LC eller MCi i biopsier indenfor de sidste 5 år

Eksklusionskriterier (vigtigste)

- Graviditet
- Tarmresektion (fraset appendektomi)
- Cholecystektomi
- Gastrointestinal infektion

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Resultater

Patienter

49 patienter: 38 (78%) kvinder 60 år (55-72)

9 mg budesonid/dag i 6 uger

Totalt antal afføringer/dag	mean (95% CI)
• Før budesonid:	4.1 (3.0-6.0)
• Uge 6 på budesonid:	1.7 (1.1-2.1)

Vandtynde afføringer/dag	
• Før budesonid:	3.9 (2.3-5.6)
• Uge 6 på budesonid:	0.1 (0.0-0.4)

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C4 defineret BAD

MC+BAD

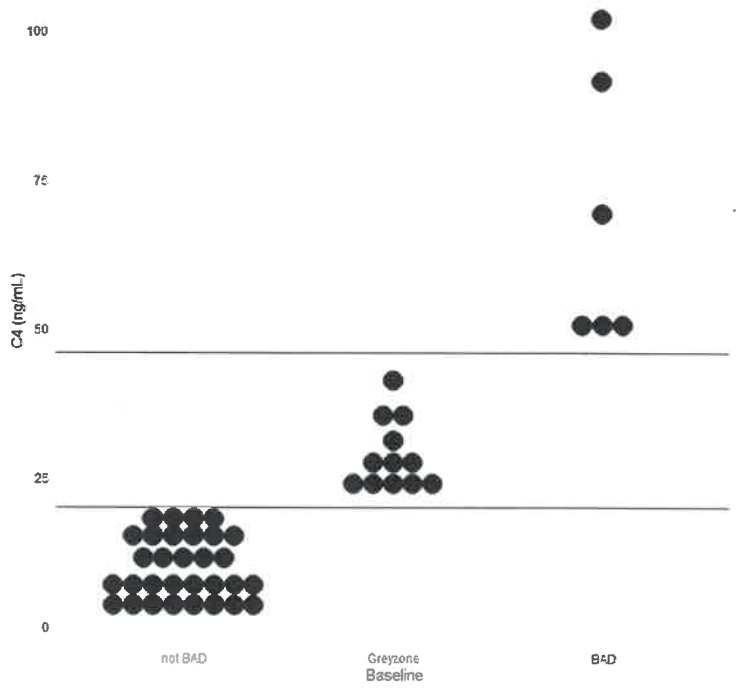
Prævalens af C4-defineret BAD

6 af 49: 12 % (95%CI, 5–25%)

- C4 geometric mean 66 ng/mL
- 95%CI 48-92 ng/mL

MC-BAD (inkl gråzone)

- C4 geometric mean 12 ng/mL
- 95%CI 9-15 ng/mL

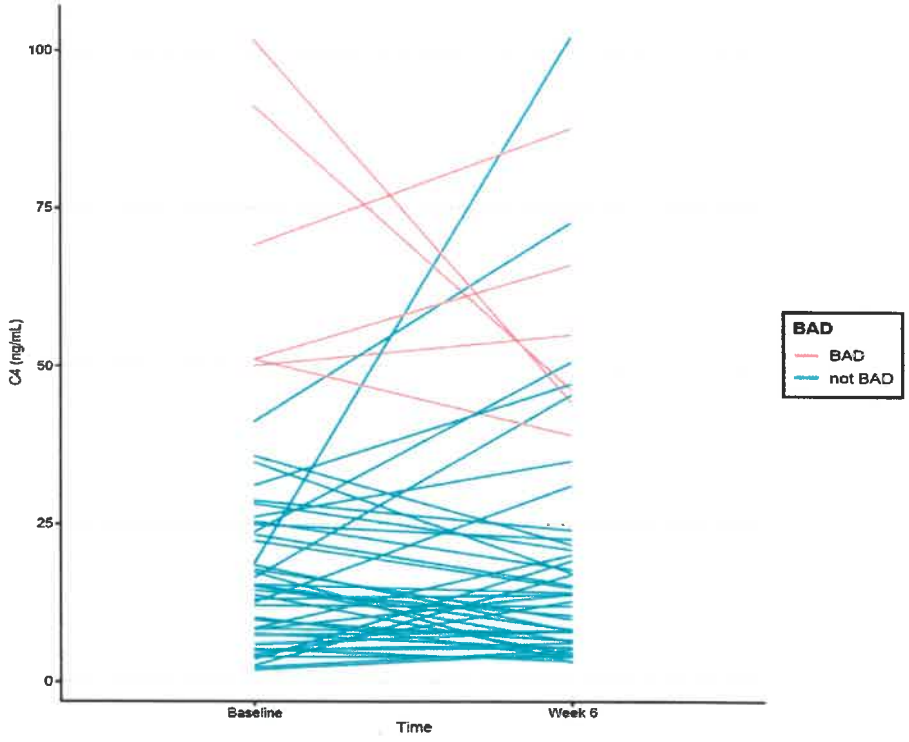


C4 dynamik: baseline – uge 6

Enkelte store udsving

Overordnet var C4 uændret under budesonid behandling

- BAD synes ikke sekundært til inflammatorisk aktivitet



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Opfølgning 4 uger efter budesonid

- 29/47 patienter fik recidiv (62%)

BAD defineret som C4 > 46 ng/mL			
	+BAD	-BAD	
N (%)	6 (12%)	43 (88%)	
Relaps efter 4 uger	5/6 (83%)	26/43 (61 %)	$p = 0.24$

Recidiv i C4-gråzonen 6/12: 50%

Styrker

- Prospektiv kohorte

- C4 prøve umiddelbart ved inklusion før behandling
  ikke muligt med SeHCAT (ventetid)

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Svagheder

- Ingen SeHCAT data ved inklusion

- Få patienter med MC + BAD
  - Bredt konfidensinterval på prævalensestimat
  - Risiko for type 1 fejl

Konklusion

- 6 patienter (12%; 5–25%) af 49 med aktiv MC havde C4-verificeret BAD
- Formentlig minimumsestimat, idet C4 har 47% sensitivitet vs SeHCAT
  - 12 patienter havde grå-zone C4 (20–46 ng/mL)

Perspektiv

- BAD bør overvejes hos patienter med recidiv af MC
- Behandle BAD hos pt med MC+BAD og svigt af budesonid?

Fokus for fremtidige forsøg

ENACT

7. Validation of Deep Learning-Based Real-Time Video Analysis for Disease Severity Classification in Ulcerative Colitis

Bobby Lo[1,2] & Bjørn Møller[3], Christian Igel[3], Signe Wildt[1,2], Ida Vind[1,2], Flemming Bendtsen[1,2], Johan Burisch[1,2] & Bulat Ibragimov[3]

[1] Gastro Unit, Medical Section, Copenhagen University Hospital – Amager and Hvidovre, Hvidovre, Denmark

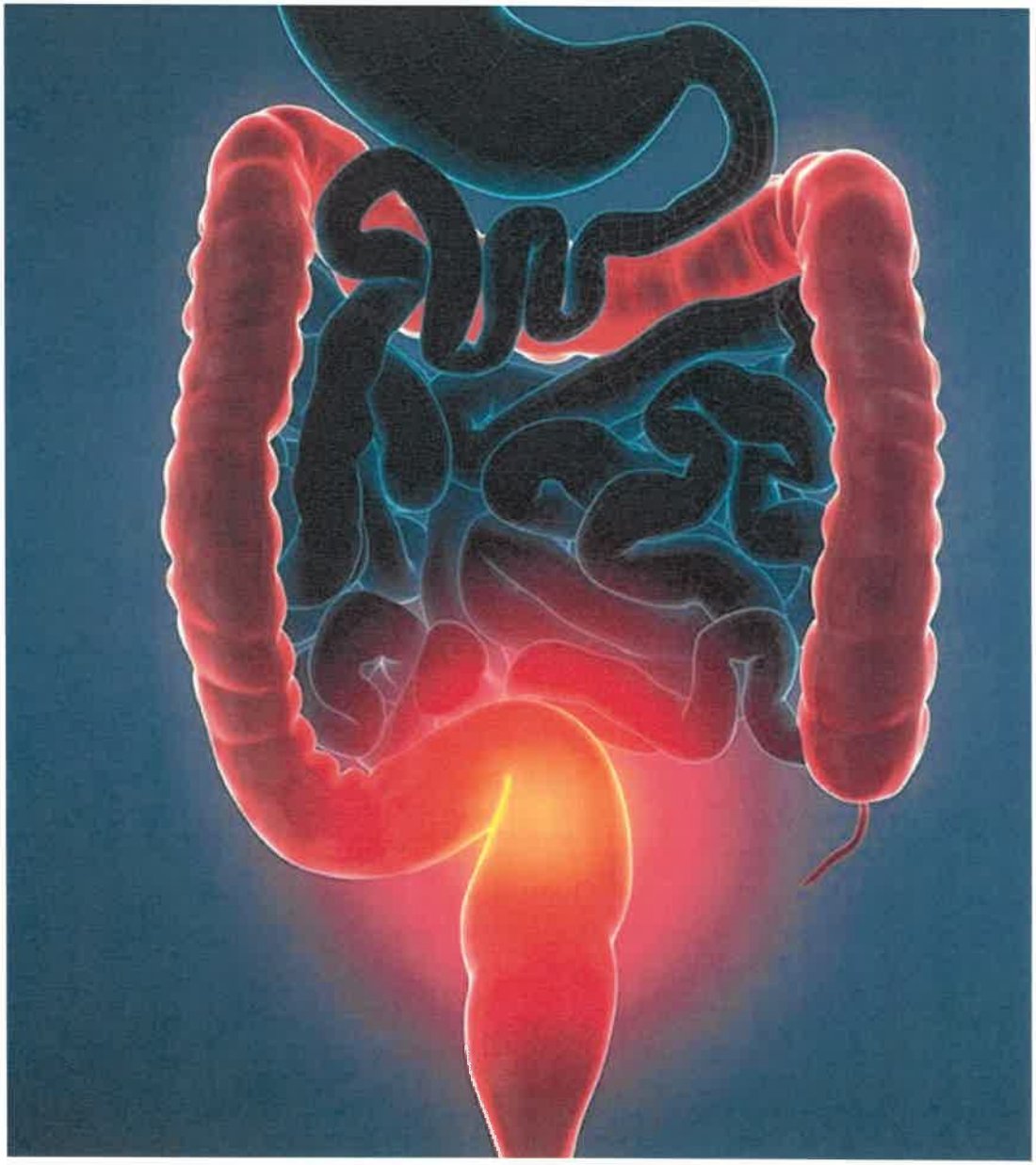
[2] Copenhagen Center for Inflammatory Bowel Disease in Children, Adolescents and Adults, Copenhagen University Hospital, – Amager and Hvidovre, Hvidovre, Denmark

[3] Department of Computer Science, University of Copenhagen

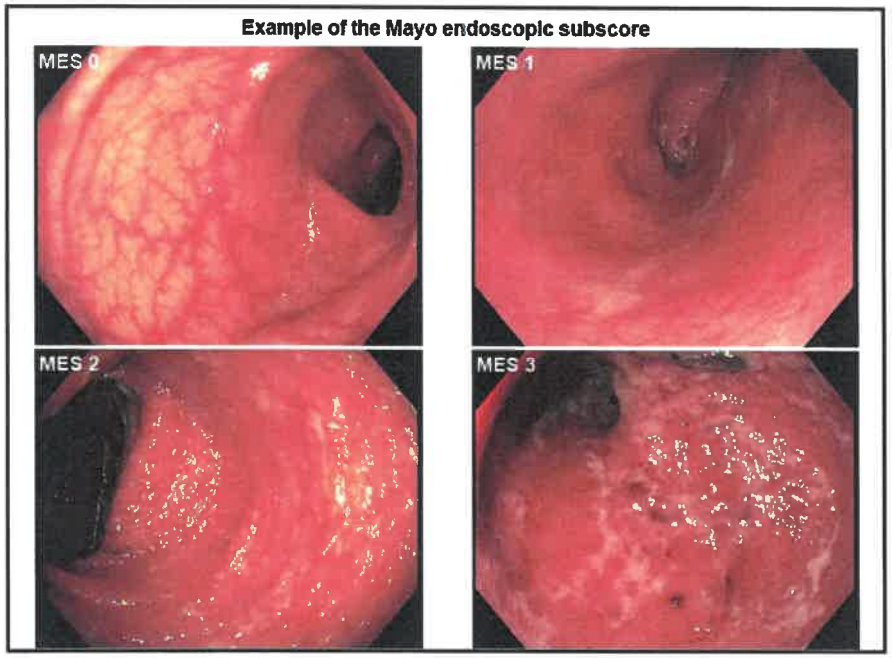
WHAT'S THE PROBLEM?

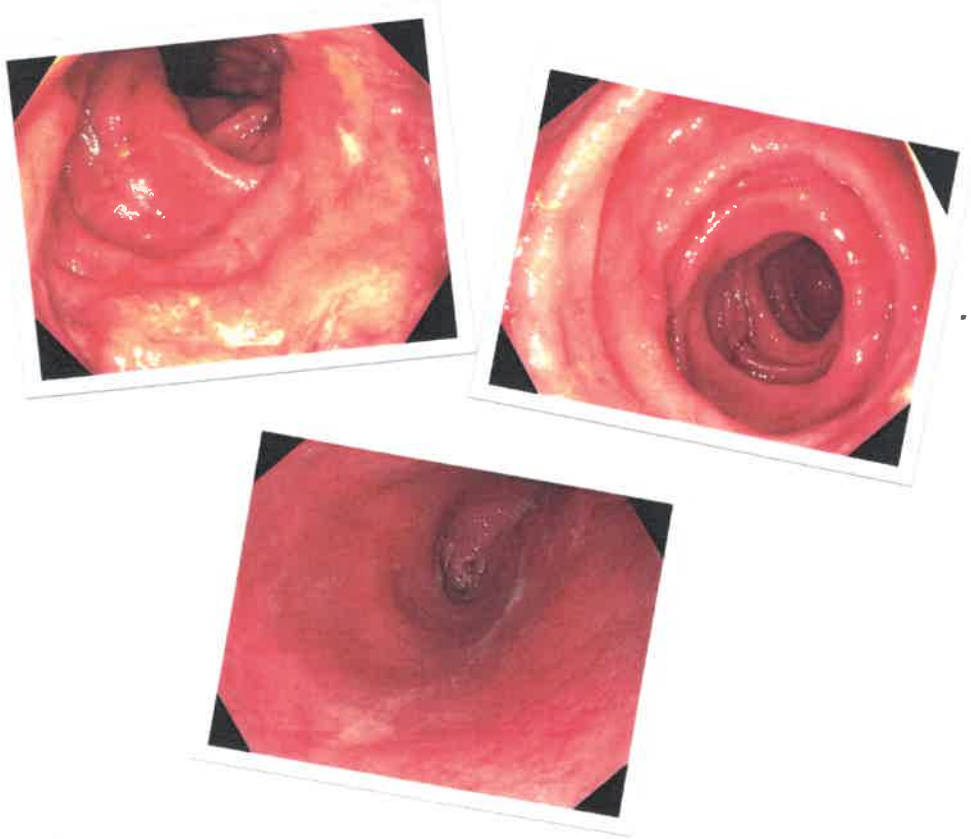
ULCERATIVE COLITIS

- Roughly 35.000 people currently living with UC in Denmark and 1% worldwide.
- The disease is lifelong and is diagnosed in the youth.
- Symptoms include bloody diarrhoea, stomach pain, fatigue and, worst case, bowel removal.
- And the disease course is characterised by flare-ups despite treatment



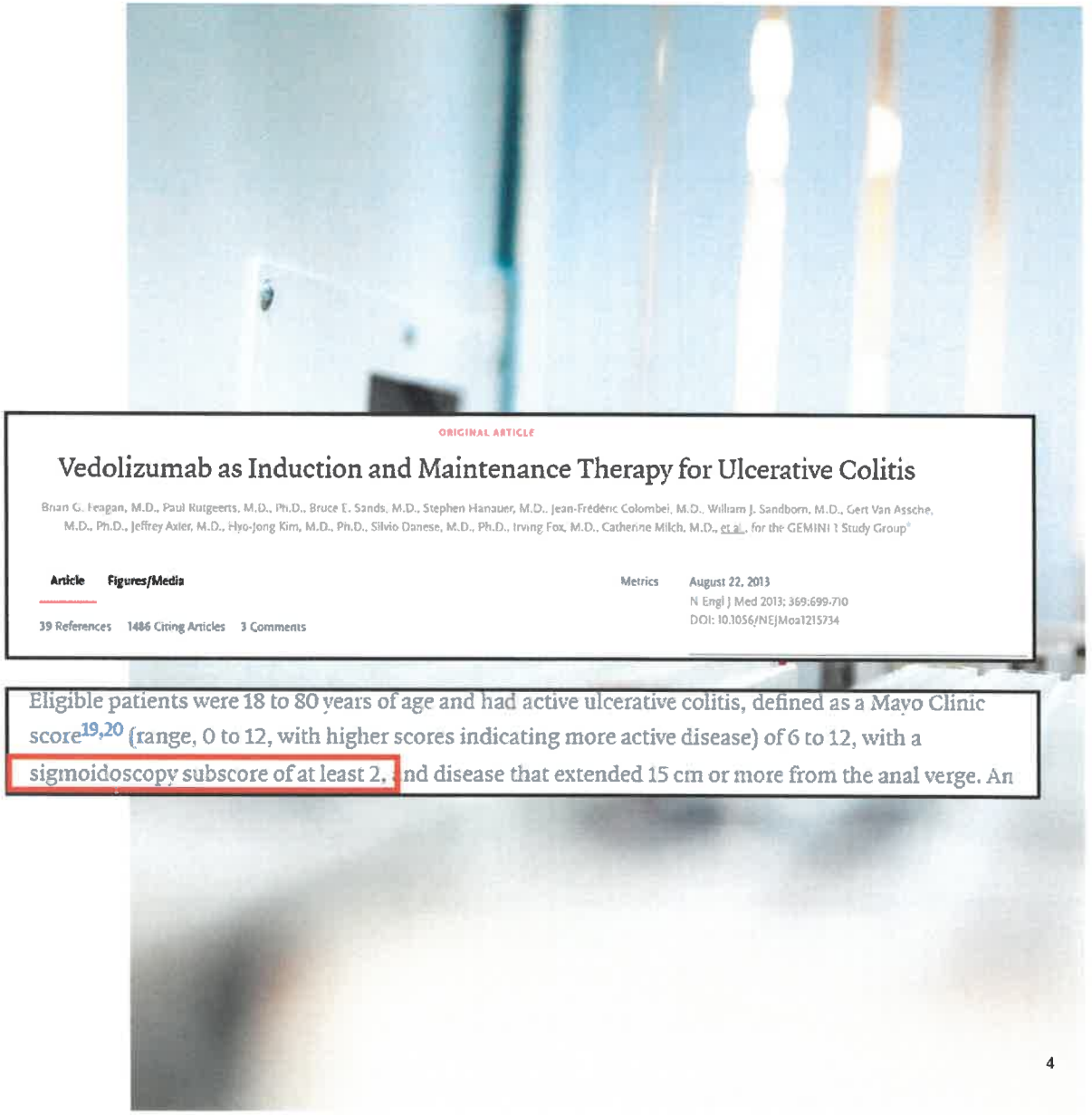
WHAT'S THE PROBLEM?





WHY DOES IT MATTER?

- Correct classification of severity determines the treatment
- And furthermore, the classification determines eligible patients for large RCT studies



ORIGINAL ARTICLE

Vedolizumab as Induction and Maintenance Therapy for Ulcerative Colitis

Brian G. Feagan, M.D., Paul Rutgeerts, M.D., Ph.D., Bruce E. Sands, M.D., Stephen Hanauer, M.D., Jean-Frédéric Colombel, M.D., William J. Sandborn, M.D., Gert Van Assche, M.D., Ph.D., Jeffrey Axler, M.D., Hyo-Jong Kim, M.D., Ph.D., Silvio Danese, M.D., Ph.D., Irving Fox, M.D., Catherine Milch, M.D., et al., for the GEMINI 1 Study Group*

Article Figures/Media Metrics

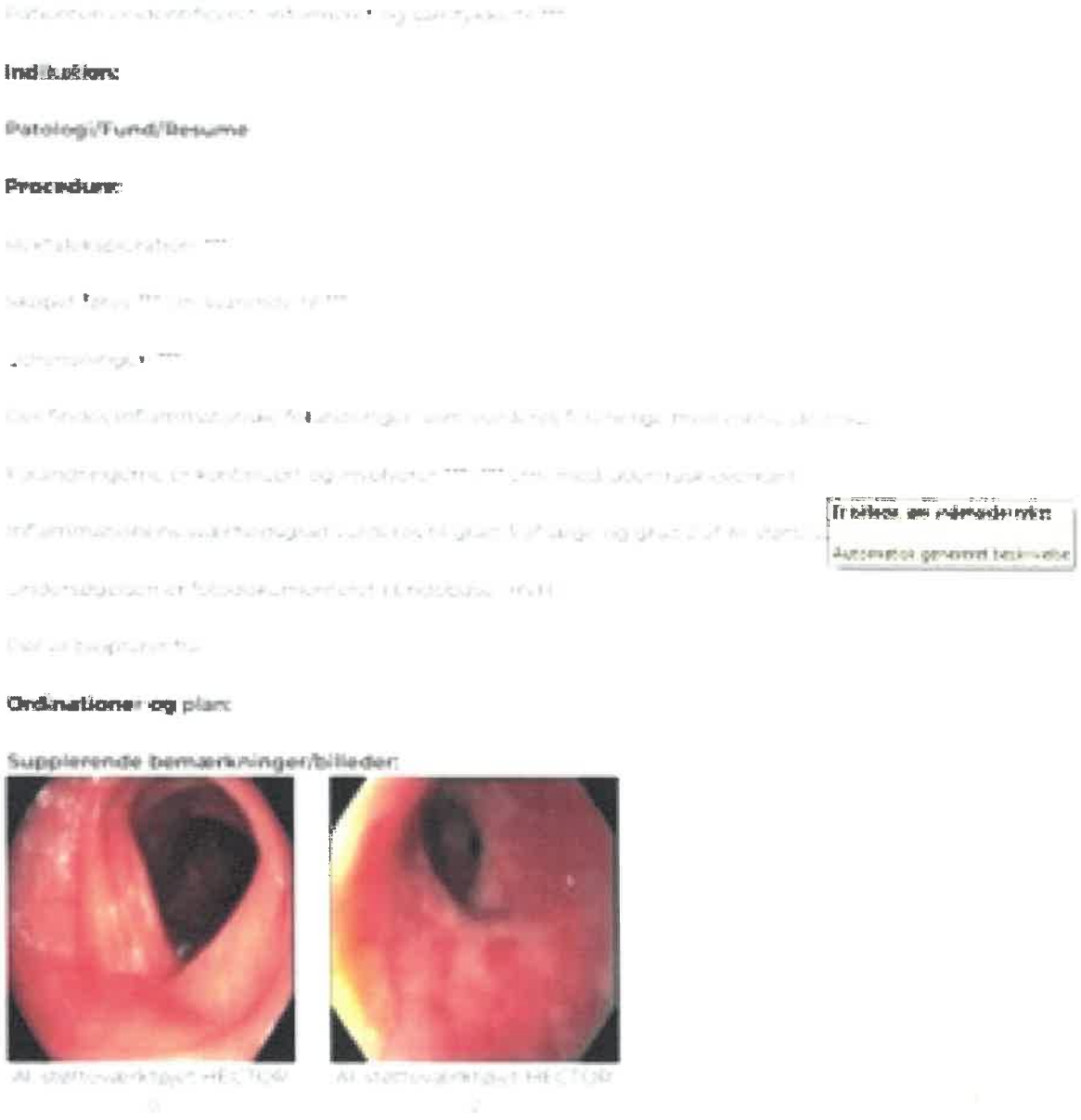
39 References 1486 Citing Articles 3 Comments

August 22, 2013
N Engl J Med 2013; 369:699-710
DOI: 10.1056/NEJMoa1215734

Eligible patients were 18 to 80 years of age and had active ulcerative colitis, defined as a Mayo Clinic score[19,20] (range, 0 to 12, with higher scores indicating more active disease) of 6 to 12, with a sigmoidoscopy subscore of at least 2, [illegible]nd disease that extended 15 cm or more from the anal verge. An

WHAT HAVE WE DONE?

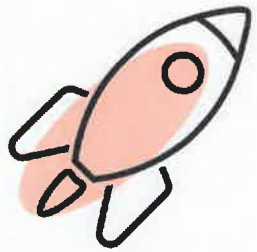
- Developed an AI model capable of classifying MES on still images
- Deployed it on an online service for post-procedure analysis



CALL TO ACTION

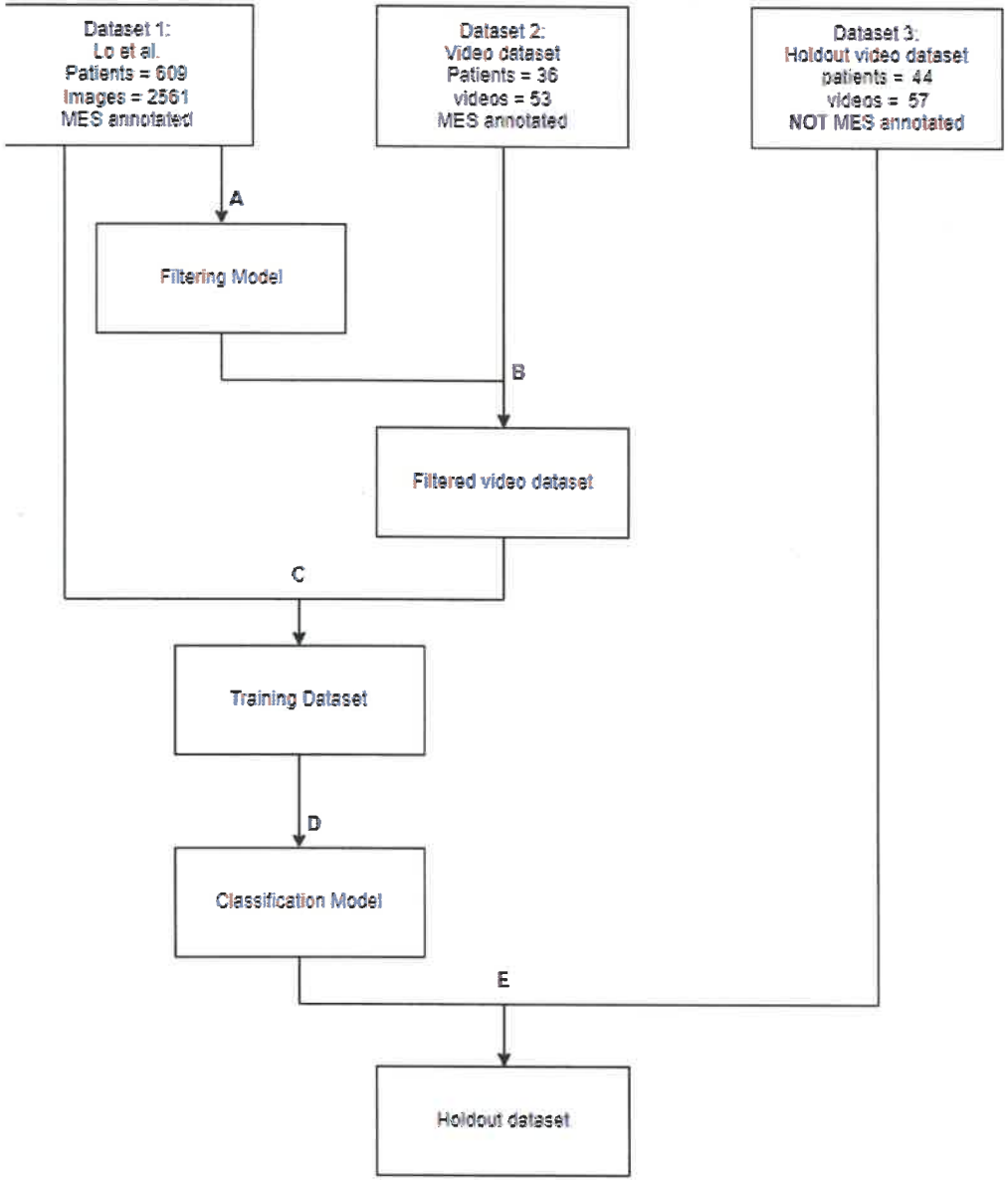
PROBLEM:

- STILL IMAGES NOT REPRESENTATIVE
- WILL IT IMPROVE DOCTORS' PERFORMANCE?
- CURRENT PUBLISHED MODELS NOT FEASIBLE



AIM:

- CREATE AN AI MODEL FOR VIDEO AND REAL-TIME ASSESSMENT
- EVALUATE THE SUPPORTIVE VALUE OF THE AI MODEL
- EVALUATE FEASIBILITY



METHODS

MODEL

- CONVNEXTV2 ARCHITECTURE

PARTICIPANTS

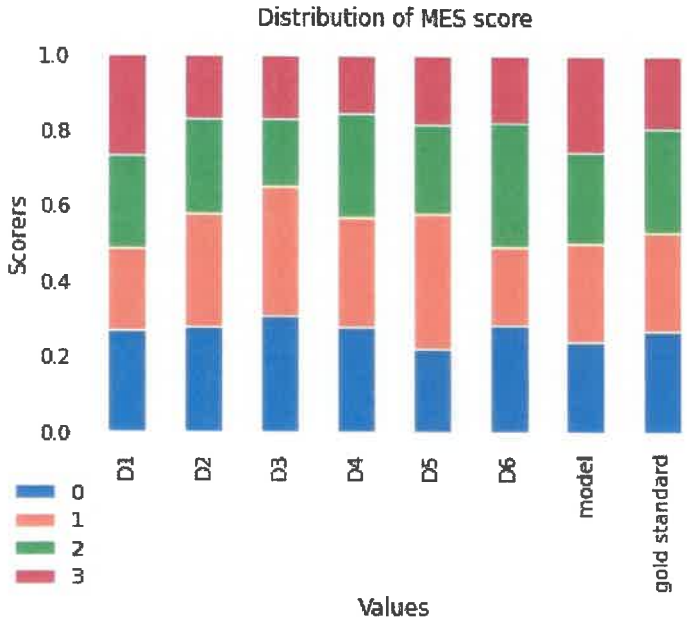
- 6 IBD EXPERTS (GOLDEN STANDARD)
- 2 NON-IBD GASTROENTEROLOGISTS,
- 11 GASTROENTEROLOGY RESIDENTS
- 3 MEDICAL STUDENTS

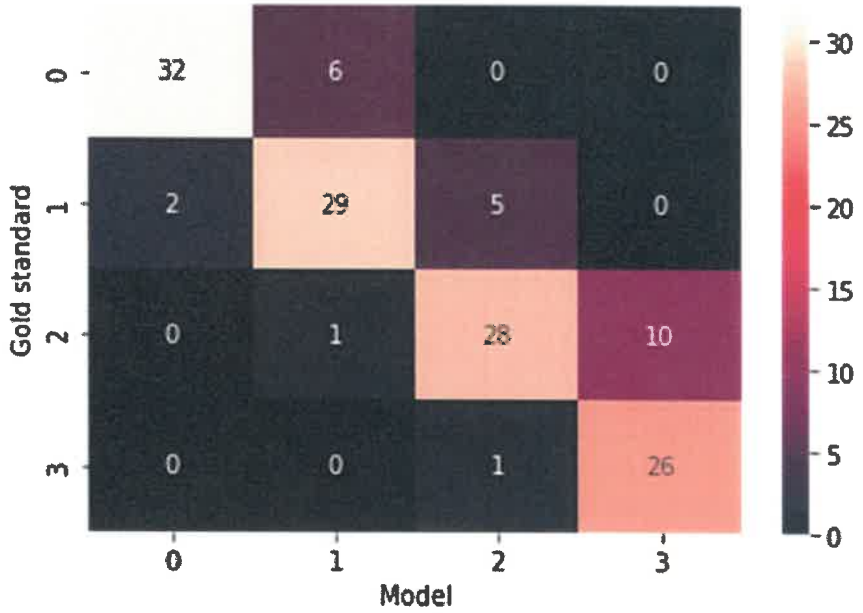
EVALUATION

- AI VS GOLDEN STANDARD
- AI VS EXPERT (LEAVE-ONE-OUT)
- SIMULATION; TRIGGER FOR SECOND OPINION


RESULTS

EVALUATION OF VIDEO PERFORMANCE

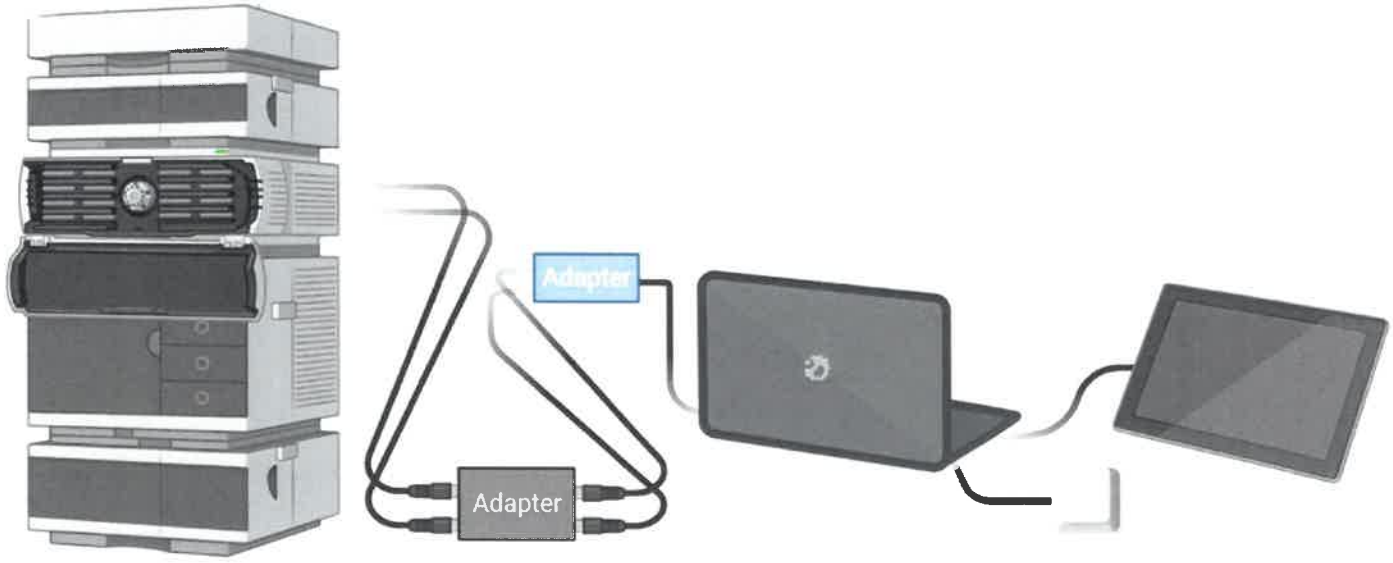




AS TRIGGER FOR SECOND OPINION

Clinician level	Clinician multiclass accuracy	Clinician unweighted Cohens kappa	Assisted multiclassaccuracy	Assisted unweighted Cohens kappa	Statistical improvement (P value)
Medical student	0.755	0.673	0.845	0.793	< 0.001
Gastroenterology residents	0.773	0.698	0.850	0.800	< 0.001
Non-IBD specialised gastroenterologists	0.779	0.705	0.836	0.782	0.003

PRACTICALLY HOW DOES IT LOOK?



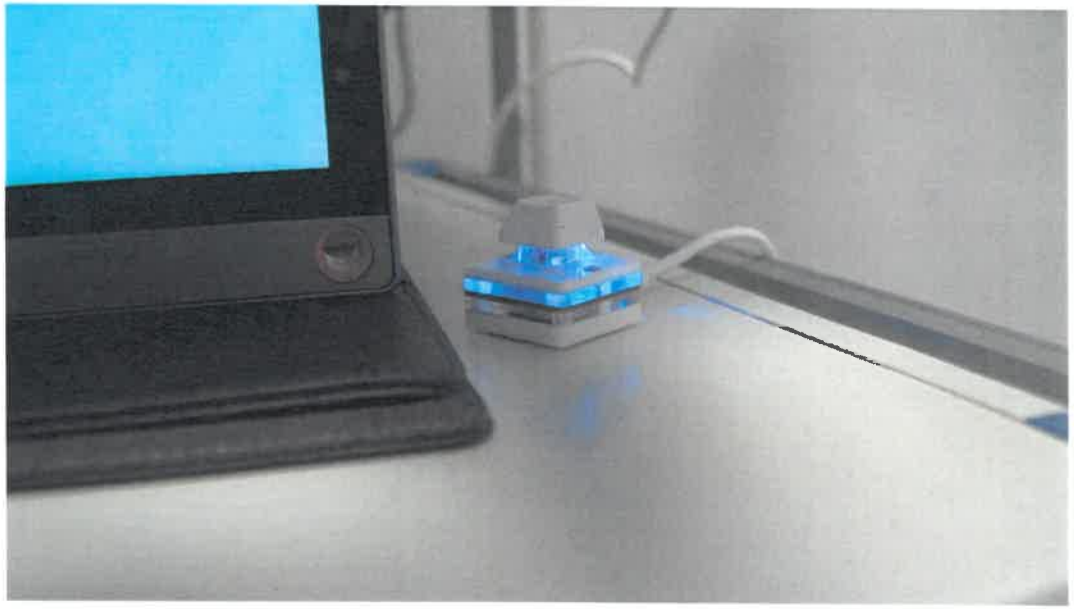
HOW DOES THE SOLUION WORK SOLUTION?

CLASSIFICATION HAPPENS ON 3 LEVELS:

1. FRAME LEVEL CLASSIFICATION

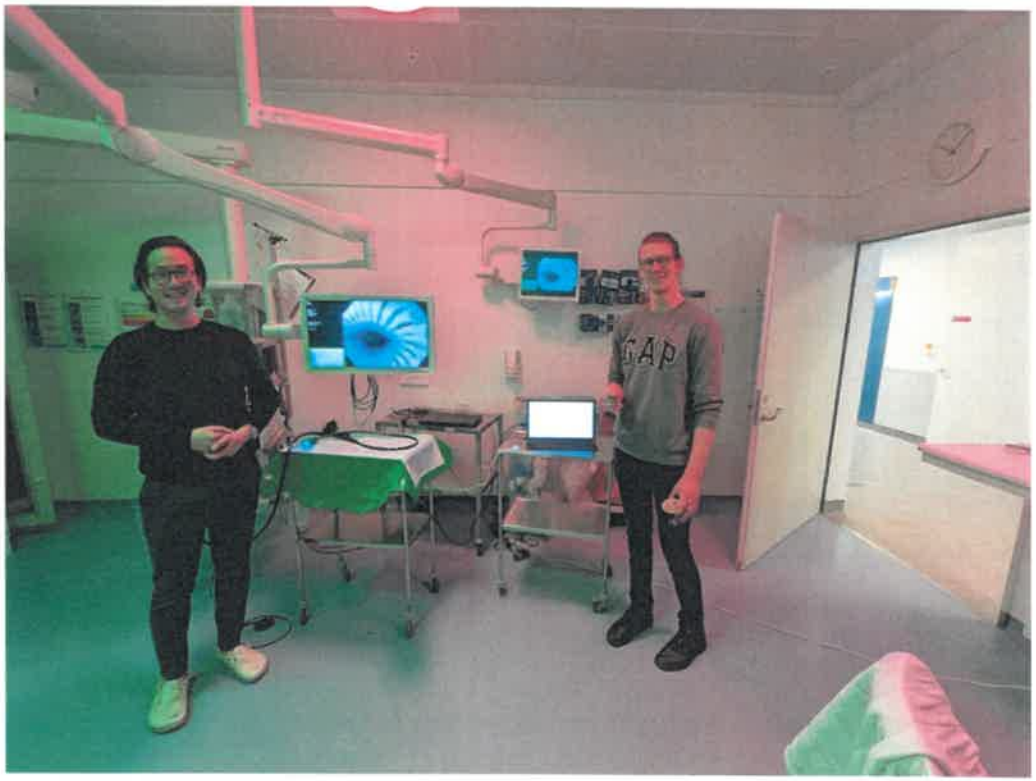
2. ROLLING AVERAGE CLASSIFICATION WITH A FIVE-SECOND DURATION

3. OVERALL SCORE FOR THE ENTIRE PROCEDURE



CONCLUSION

- AI MODEL ON PAR WITH IBD EXPERTS
- IMPROVES NON-SPECIALISTS' PERFORMANCE
- READY TO BE TESTED IN A REAL-WORLD SETTING



Adverse health outcomes in offspring of parents with alcohol-related liver disease compared to controls – a nationwide Danish cohort study

- Gro Askgaard, Joe West, Colin Crooks, Anna Emilie Kann, Joanne Morling, Frederik Kraglund, Peter Jepsen
- Department of Hepatology and Gastroenterology, Aarhus University Hospital, Denmark
- Section of Gastroenterology and Hepatology, Medical Department, Zealand University Hospital, Denmark
- Nottingham University Hospitals NHS Trust and the University of Nottingham, NIHR Nottingham Biomedical Research Centre (BRC), Nottingham, UK

Genetisk disposition til leversygdom?

Alkoholafhængighed går i arv fra forælder til barn

Leversygdom er ofte akut og prognosen dårlig – belastende for de pårørende

Børn af patienter med alkoholrelateret leversygdom

Bør de screenes for leversygdom?

Skal de tilbydes anden hjælp?

Registerstudie: børn af patienter versus kontroller

Risiko for alkoholrelateret leversygdom

- ✓ Fandt patienter med debut af alkoholrelateret leversygdom 1996-2018
- ✓ Patienternes børn identificeret via CPR-register
- ✓ Udtrukket 20 kontroller per barn fra befolkningen

Hospitalskontakter:
forgiftninger, ulykker, psykisk sygdom, misbrug

Ændres børnenes risiko omkring forælders diagnosetidspunkt?

Data fra Landspatientregisteret og dødsårsagsregister

Der var 60,000 børn af patienter med alkoholrelateret leversygdom

Median alder 31.8 år på forælders diagnosetidspunkt


Far havde leversygdom: 40,020 (65.9%)


Mor havde leversygdom: 19,744 (32.5%)


Begge forældre: 943 (1.6%)

Matchet med 1.2 million kontroller

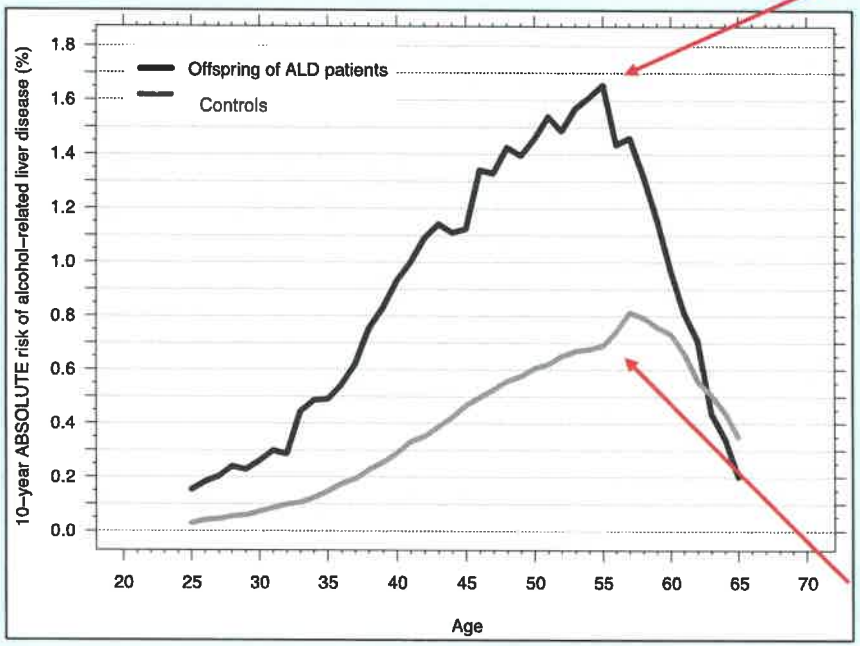
Lav absolut risiko for alkoholrelateret leversygdom hos børn af patienter med alkoholrelateret leversygdom

Børn af patienter:
385 ALD tilfælde blandt 0.7 million personår

Kontroller:
2.413 ALD tilfælde blandt 1.213.357 kontroller efter 14.0 million personår

= Incidence rate ratio på 2.7 (95% CI 2.4–3.0)

10-års risiko var knap 1.7% ved 55 år blandt børnene af patienter



10-års risiko var 0.7% ved 55 år blandt kontrollerne

ALD: alkoholrelateret leversygdom

Børn af patienter med alkoholrelateret leversygdom havde mange flere hospitalskontakter end kontrollerne

Forgiftninger
IRR of 1.74
(1.70–1.78)

Alkohol
IRR of 2.29
(2.26–2.32)

Frakturer og skader,
IRR of 1.23
(1.22–1.23)

Psykisk sygdom,
IRR of 1.45
(1.44–1.46)

Andet misbrug end alkohol,
IRR of 2.13
(2.02-2.17)

Død,
IRR of 1.53
(1.45–1.62)

60,000 Børn af patienter med alkoholrelateret leversygdom sammenlignet med 1.2 million controls; IRR: Incidence rate ratio

Særligt udsatte børn af patienter med alkoholrelateret leversygsom

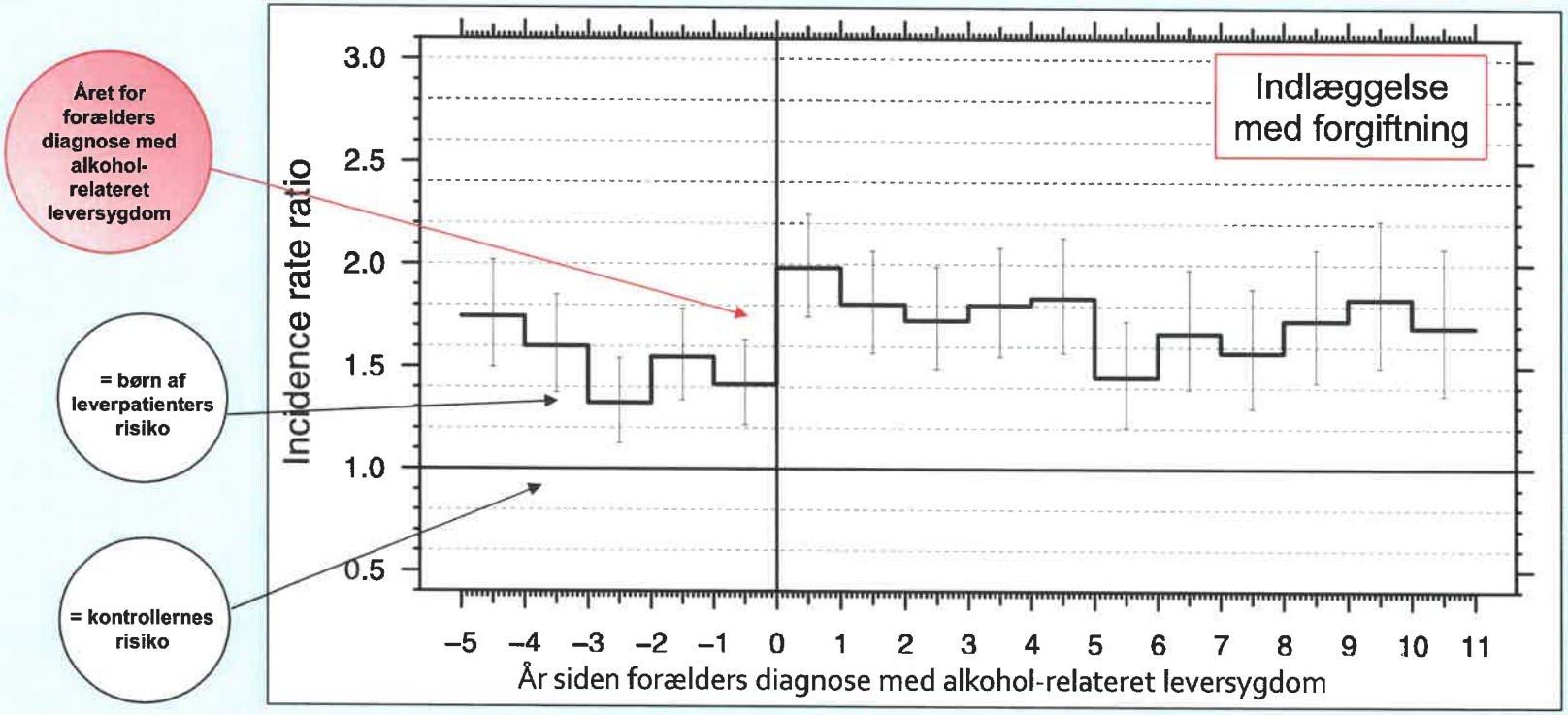
I alt havde børnene 22.388 hospital kontakter med alkoholafhængighed, alkoholisk pankreatitis etc.

Værre hvis mor (2,7 gange øget risiko) var leverpatient end far (2,1 øget risiko)

men risikoen var højest hvis mor+far havde leversygdom (4,4 gange øget risiko)

Værre hvis forælder havde kort uddannelse end lang (2,6 versus 1,6 øget risiko)

Er børnene særligt belastede omkring forælders diagnosetidspunkt?



Self-controlled case series design:
RR of 1.25 (1.01–1.55)

Voksne børn af forældre med alkohol-relateret leversygdom

- Har en lav absolut risiko for leversygdom
- Har mange hospitalskontakter for alkohol, ulykker, psykisk sygdom..
- Særlig hyppighed af kontakter omkring forælders diagnose – krisereaktion?
- Forskning bør undersøge muligheder for at hjælpe

9

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Risk factors for acute myocardial infarction in patients with alcohol-related liver cirrhosis - a nationwide nested case-control study

Emma Celia Herting[1], Konstantin Kazankov[1], Peter Jepsen[1]
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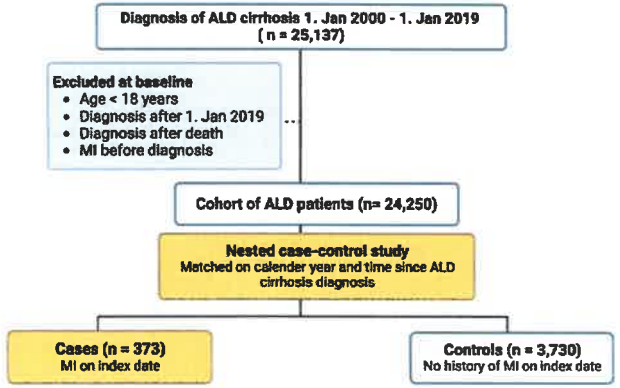
1 What is the issue?

- Alcohol-related cirrhosis (ALD cirrhosis) increases the risk of thrombosis
- The effect of ALD cirrhosis on acute myocardial infarction (MI): weaker than on other thromboses – patterns unclear!
- Aim: to describe risk factors of MI among patients with ALD cirrhosis

2 How did we investigate?

- Study design: nationwide Danish registry-based nested case-control study
  - Index date: date of MI
- Conditional logistic regression: study association between risk factors and incidence rate ratio (IRR) of MI



3 What did we find?

- Median time from ALD cirrhosis diagnosis to MI was 2.0 years
- Incidence rate of MI: 4.1 per 1,000 person-years

Association between risk factors and MI	Adjusted IRR	95% CI
Male, yes	1.63	1.25 - 2.21
Age, pr 10 years	1.31	1.15 - 1.48
Events in the previous 30 days		
Hospitalization for ascites	1.17	0.68 – 1.98
Hospitalization for gastrointestinal bleeding	1.50	0.78 – 2.85
Infection requiring hospitalization	2.21	1.35 - 3.62
Prescribed Antibiotics	1.33	0.89 - 2.01
Surgery	1.82	1.17 - 2.78
Comorbidities		
Atherosclerosis	1.83	1.35 - 2.48
Ischemic heart disease	6.07	4.25 – 8.70
Heart failure	2.64	1.78 – 3.93
Chronic obstructive pulmonary disease	2.26	1.61 – 3.15
Diabetes	1.15	0.85 - 1.54

Incidence rate of risk factors in the cohort of ALD cirrhosis patients

- Infection 442 per 1,000 person-years
- Surgery 522 per 1,000 person-years

Baseline characteristics of ALD cirrhosis patients	Cases (_n=373)	Controls(_n=3,730
Age, years (IQR)	59.0 (53-66)	56.0 (49-62)
Sex, male	76 %	65 %
Events in the previous 30 days		
Hospitalization for ascites	24 %	26 %
Gastrointestinal bleeding	22 %	17 %
Infection requiring hospitalization	8 %	3 %
Prescribed Antibiotics	9 %	6 %
Surgery	10 %	4 %
Comorbidities		
Atherosclerosis	27 %	11 %
Cardiac ischemia	23 %	3 %
Heart failure	15 %	3 %
COPD	17 %	7 %
Diabetes	24 %	16 %

4 What is the key message?

- Risk factors for MI:
  - Infection
  - Surgery
  - Atherosclerosis, ischemic heart disease and heart failure
  - Chronic obstructive pulmonary disease

Decompensation events were not risk factors for MI

Acknowledgements

This study was funded by Independent Research Fund Denmark.

10.Changing prescription patterns of first line biologic in IBD in Denmark 2019-2023 – a quality control study from Gastrobio

Background and aim

Anti-TNF therapy for inflammatory bowel diseases (IBD), is still the backbone of the biological treatment algorithm. However, with new biologics and small molecules being introduced, a change in prescription patterns for first line biologics is likely to take place. We aimed to describe the first line biologic in IBD patients from 2019-2022 at four IBD centers in Denmark.

Methods

The clinical database, Gastrobio, containing biologic treatments from Bispebjerg, Odense, Hvidovre and Aalborg, was used to examine the number of bio-naïve patients initiating biological or small molecule therapy from January 2019 to December 2022. In addition, the numbers of terminated treatments during the same period were calculated.

Authors: Lone Larsen[1,2], Anja Poulsen[3], Ida Vind[4], Johan Burisch[4], Niels Steen Krogh[5], Mark Ainsworth[6], Jens Kjeldsen[6]

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Gastrobio

Firstline therapy from 2019 to May 2023

Start year	IFX	ADA	CTZ	GOL	VED	UST	TOF	FIL	OZA	UPA	Total
2019	255	27	<5	<5	17	5	<5				309
2020	291	20	<5	<5	16	10	<5				343
2021	315	44	<5	<5	22	10	<5				393
2022	202	145	<5	<5	19	10	<5				380
2023	58	81	<5	<5	8	<5	<5	<5	<5	<5	151

Terminated therapies per year; from 2019 to May 2023.

Stop year	IFX	ADA	CTZ	GOL	VED	UST	TOF	FIL	OZA	UPA	Total
2019	244	59	<5	8	45	12	<5				372
2020	200	57	<5	11	61	13	<5				346
2021	204	48	<5	19	57	17	10				356
2022	230	85	<5	11	72	41	<5				443
2023	64	38	<5	<5	27	8	<5	<5	<5	<5	142

Results

Of the 309 initiated treatments in 2019 and 380 in 2022, 83% (255) and 53% (202) were infliximab. Of the 372 and 443 terminated therapies in 2019 and 2022, respectively, 66% (244) and 52% (230) were infliximab. For adalimumab there was a substantial increase in the proportion of this drug as first line therapy (9% in 2019 and 38% in 2022), while the proportion of termination of therapy for this drug was almost the same (16% and 19% in 2019 and 2022, respectively).

Conclusion

In this quality control study from Gastrobio, the distribution of drugs used as first-line biologic or small molecules in IBD patients shows that infliximab is still widely used, but there is an increase in the use of adalimumab as first line therapy. Reflecting current Danish guidelines, other biologics as first-line therapy are still not widely used.

Region Hovedstaden · Region Nordjylland · Region Syddanmark

PRO-C6 er associeret med kardiovaskulære events i patienter med alkohol-relateret lever sygdom.

Forfattere: Ida Ziegler Spedtsberg[1,2], Ida Falk Villesen[1], Stine Johansen[1,2], Johanne Kragh Hansen[1,2], Katrine Lindvig[1,2], Peter Andersen[1], Nikolaj Torp[1,2], Mads Israelsen[1], Camilla Dalby Hansen[1,2], Katrine Holtz Thorhauge[1,2], Katrine Tholstrup Bech[1], Emil Deleuran Hansen[1,2], Sönke Detlefsen[2,3], Diana Julie Leeming[4], Morten Karsdal[4], Aleksander Krag[1,2], Maja Thiele[1,2].

Formål

- At undersøge risikofaktorerne associeret med udviklingen af kardiovaskulær sygdom (CVD) hos patienter med alkohol-relateret leversygdom (ALD).
- At undersøge den prædiktive værdi af fibrose stadier samt kollagen-biomarkørerne, PRO-C3 og PRO-C6, på udviklingen af CVD.

Introduktion

- ALD patienter har en fordobling af CVD og CVD-relateret dødelighed når sammenlignet med den generelle befolkning.
- CVD er (udover lever-relaterede events) en af de hyppigste dødsårsager hos ALD patienter.
- Grundet en heterogen sygdomsudviklingen for denne patientgruppe, er det svært at vurdere risikoen for progression.

- Biomarkører PRO-C3 og PRO-C6 har vist relation til fibrosedannelse i leveren.
- PRO-C6 har tidligere vist prognostisk værdi for CVD i andre patientgrupper.

Metode

Design: Undersøgende opfølgnings-studie af elektronisk indsamlede outcome data for 459 patienter med ALD

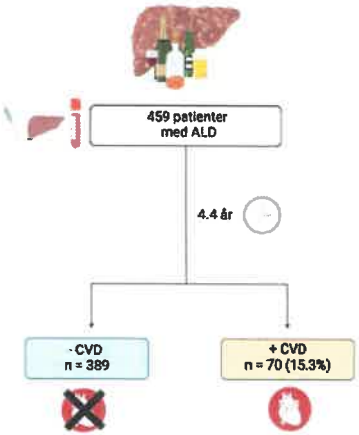
Patienter og data

- Patienter med tidligere eller aktivt alkoholforbrug og biopsi verificeret ALD, men uden dekompensering.
- Lever biopsi, sygdomshistorik og blodprøver blev indsamlet ved baseline.

Outcome: Nye Kardiovaskulære events

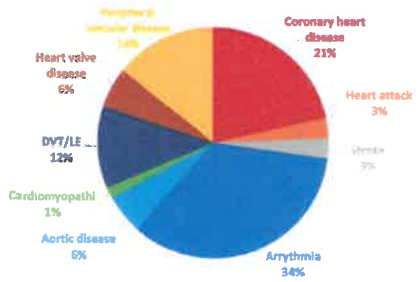
Resultater

Figur 1: Opdeling af patienter og antal CVD



Figur 1: 106 fik ikke foretaget biopsi. 98 grundet fibroscanning med TE under 6 kPa. 8 grundet sikker cirrose, og 1 var uegnet til biopsi.

Figur 2: Fordelingen af CVD



Figur 2: Procentvise forekomst af CVD type hos de 70 patienter. DVT (Deep vene trombose), LE (Lunge emboli)

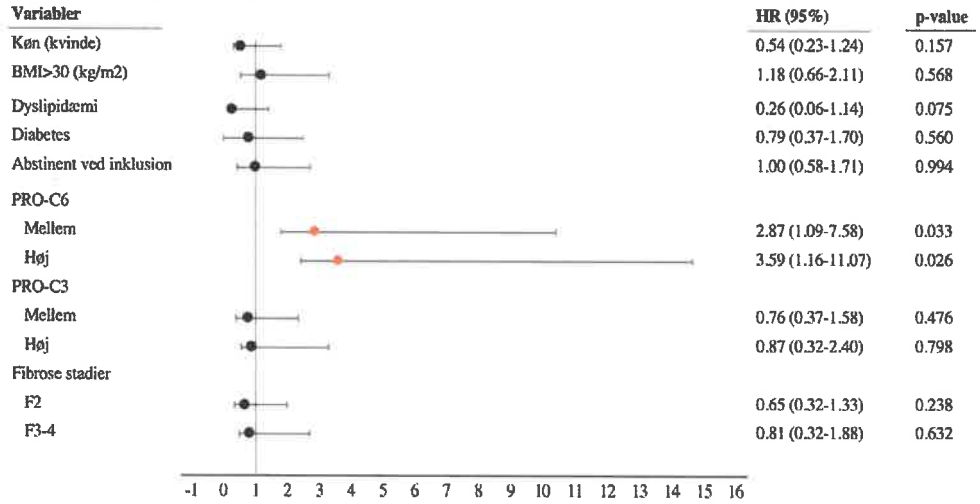
Tabel 1: Baseline karakteristika

Patienter	Total N=459	Kardiovaskulære events under opfølgning: Nej N=389	Ja N=70	p-værdi
Alder (år)	56.5 (10.4)	55.6 (10.4)	61.5 (8.8)	<0.001
Køn (mand)	347 (75.6%)	285 (73.3%)	62 (88.6%)	
BMI >30 (kg/m2)	137 (30.1%)	114 (29.6%)	23 (34.8%)	0.57
Abstinent ved inklusion	191 (41.6%)	161 (41.4%)	30 (42.9%)	0.79
Bivirkninger				
ALAT (U/L)	31.0 (22.0-48.0)	31.0 (21.0-49.0)	31.0 (23.0-42.0)	0.60
Bilirubin (µmol/L)	10.0 (7.0-14.0)	10.0 (7.0-14.0)	11.0 (8.0-14.0)	0.37
GGT (U/L)	71.0 (34.0-190.0)	71.0 (33.0-186.0)	71.0 (39.0-198.0)	0.75
INR	1.0 (0.2)	1.0 (0.2)	1.0 (0.1)	0.34
Biomarkører				
PRO-C3 (ng/mL)	13.4 (9.7-21.3)	13.0 (9.7-22.9)	14.6 (10.8-20.1)	0.47
PRO-C6 (ng/mL)	9.4 (7.3-12.9)	9.2 (7.2-12.7)	9.9 (8.7-13.9)	0.055
Histologi				
Fibrose stadier				0.89
F0-1	260 (56.8%)	220 (56.7%)	40 (57.1%)	
F2	107 (23.3%)	92 (23.7%)	15 (21.4%)	
F3-4	91 (19.9%)	76 (19.6%)	15 (21.4%)	

Tabel 2: Død og leverrelaterede events under opfølgningsperioden.

Død og Lever-relaterede events under opfølgningsperioden				
Lever-relaterede events	56 (12.20%)	43 (11.05%)	13 (18.57%)	0.62
Død	75 (16.33%)	62 (15.93%)	13 (18.57%)	0.60

Figur 3: Multivariable Cox-regression



Figur 3: multivariable Cox regression korrigeret for: alder, køn, vægt, dyslipidæmi, diabetes, abstinens, kollagen-markører og fibrosegrader. Kollagen markørerne PRO-C3 og PRO-C6 blev inddelt efter deres øvre og nedre percentiler i kohorten.

Konklusion

Forhøjede PRO-C6 niveauer er associeret med **udvikling af CVD, hvilket understreger PRO-C6's** potentiale som en prædiktive biomarkør for udvikling af **CVD** i patienter med ALD.

12.

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Lactulose use among patients with alcohol-related liver cirrhosis: prevalence and association with mortality - a Danish nationwide cohort study

Emma Celia Herting[1,2], Morten Daniel Jensen[1,2], Peter Jepsen[1,2,3]

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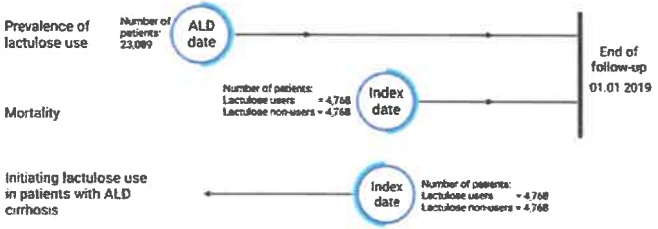
1 What is the issue?

- Hepatic encephalopathy (HE) is one of the most serious prognostic factors in alcohol-related liver cirrhosis
- HE is not recorded in Danish Health care registries
- Lactulose, the treatment of HE, is easily assessable through data on filled prescriptions

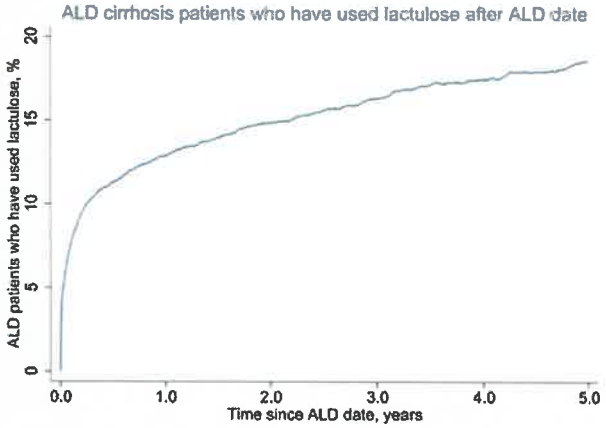
Hypothesis: Lactulose can be used as a surrogate marker of HE

2 How did we investigate

- Prevalence of lactulose use: number of lactulose users on a given day divided by total number of patients in the cohort
- Initiation of lactulose: association between sex, age and index date variables and incidence rate ratio of initiating lactulose treatment
- Mortality: association between usage of lactulose and all-cause mortality, adjusted for sex, age and index date variables



3 What did we find?



- Prevalence of lactulose usage after diagnosis of ALD cirrhosis rose rapidly to 11% and then climbed slowly to reach 19% within five years

Table 2: Predictors of initiation lactulose use among patients with ALD cirrhosis

	Adjusted OR	95% CI
Sex, male	1.05	0.96 - 1.15
Age, per 10 years	1.11	1.06 - 1.16
Diabetes	1.12	1.01 - 1.25
Cardiovascular disease	1.09	0.99 - 1.20
Chronic obstructive pulmonary disease	1.22	1.07 - 1.38
Severe liver disease	2.00	1.83 - 2.18
Hepatocellular carcinoma	1.73	1.32 - 2.27
Cancer, others	1.13	0.99 - 1.29

Table 3: Hazard ratios for mortality in patients with alcohol-related cirrhosis

	Adjusted HR	95% CI
Lactulose usage versus non-use	1.61	1,53 - 169
Sex, male	1.20	1.13 - 1.27
Age, per 10 years	1.23	1.19 - 1.26
Diabetes	1.09	1.02 - 1.16
Cardiovascular disease	1.03	0.98 - 1.10
Chronic obstructive pulmonary disease	1.22	1.13 - 1.32
Severe liver disease	1.17	1.11 - 1.24
Hepatocellular carcinoma	2.46	2.14 - 2.83
Cancer, others	1.32	1.22 – 1.43

4 Key message

Lactulose are used by 10-20 % of patients with ALD cirrhosis and is used to treat patients with severe liver disease

Lactulose users have higher mortality than nonusers

The prevalence of lactulose usage reflect the prevalence of patients with HE

AARHUS UNIVERSITY HOSPITAL

AARHUS UNIVERSITY

13. Second line biologics in IBD in Denmark 2019-2023, a quality control study from Gastrobio

Background and aim

In the early years of biological therapy for inflammatory bowel diseases (IBD), treatment strategies and possibilities of changes in the therapy were limited. However, with the numerous new biologics and small molecule therapy, treatment options and possible second line therapies have increased. In this quality control study, we aimed to evaluate the trends in choice of second line therapy from January 2019 to May 2023 at four large Danish centres.

Methods

Patients treated with biologics from 2019-2023 at four centers in Denmark (Bispebjerg, Hvidovre, Odense, Aalborg) and registered in the clinical treatment database, Gastrobio, were included in this quality control study. For all changes in therapy, we calculated proportions of different drugs as second line therapy.

Ida Vind[1], Johan Burisch[1], Anja Poulsen[2], Niels Steen Krogh[3], Lone Larsen[4,5], Jens Kjeldsen[6], Mark Ainsworth[6]

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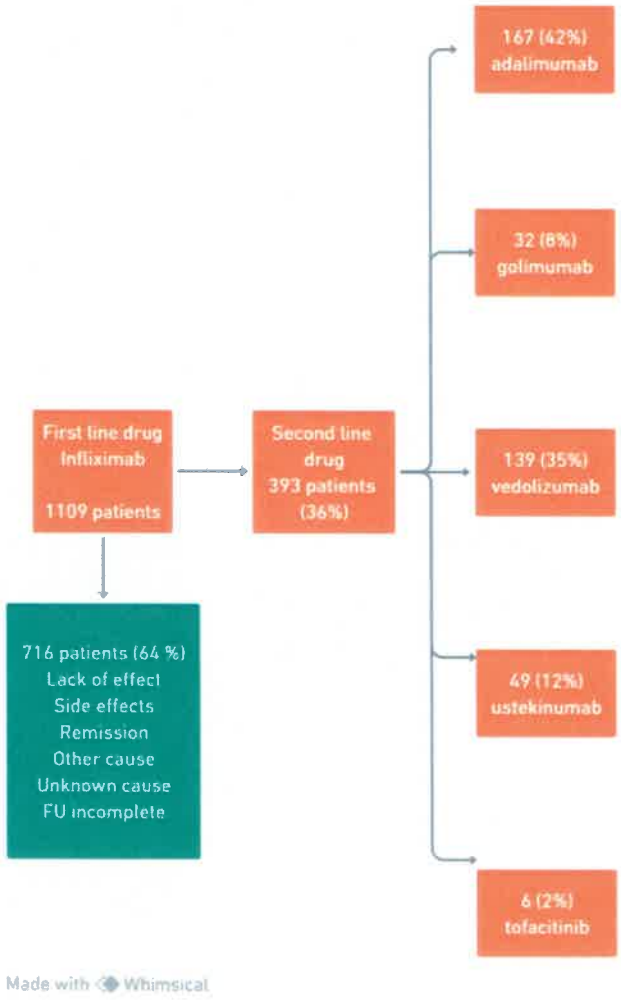

Results

Of the 1102 patients treated with infliximab as first line therapy from 2019 to 2023, 393 (36%) received a second biologic agents. Of those, 42% (167) received adalimumab, 8% (32) received golimumab, 35% (139) received vedolizumab, 12% (49) received ustekinumab, and 2% (6) received tofacitinib.

Conclusion

In this quality control study from four large university centers in Denmark, we found that the majority of patients remained on infliximab as first line therapy during a five-year period. The preferred second line drugs were adalimumab and vedolizumab. This reflects current official Danish treatment recommendations.

Gastrobio

Region Hovedstaden · Region Nordjylland · Region Syddanmark

OUH Svendborg Sygehus

Region Syddanmark

IBD-IUS

An Evaluation of the Utilization of IUS in IBD patients over 5 years

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SDU

Introduktion

- Stigende incidens og prævalens af IBD over de sidste 20 år
- Øget behov for non-invasive POC-test
- Tarmultralyd (IUS) udføres bedside, og kræver ingen forberedelse eller sedering
- Tarmultralyd kan afkorte tiden til behandlingsstart eller –ændringer
- Tarmultralyd bruges primært til påvisning af recidiv

Studiets formål er at undersøge anvendelsen af tarmultralyd i gastroenterologisk regi blandt IBD-patienter over en 5 årig periode.

Metode og materialer

191 patienter identificeret med mulig IBD og tarmultralyd.
1/1-18 - 31/12-22, Gastroenterologisk sektion, Svendborg Sygehus.
179 patienter inkluderet (12 ekskluderet):
- 130 ptt. med Mb. Crohn (CD)
- 49 ptt. med colitis ulcerosa (UC)

Journalerne blev systematisk gennemgået for:
- Patientkarakteristika, sygdomsvarighed og –udbredelse, tidl. kirurgi
- IBD medicin forud for tarmultralyd.
- Indikation og fund ved tarmultralyd
- Konsekvens af tarmultralyd: medicinændringer, evt. yderligere undersøgelser og/eller kirurgi.

Undersøgelser

Alle tarmultralyd blev udført af to IBUS-certificerede IBD-læger.

Fund ved tarmultralyd, der viser sygdomsaktivitet:
- Bowel wall thickness (BWT) >3 mm
- Øget color-doppler signal (CDS)
- Proliferation af mesenterisk fedt
- Ophævet stratifikation af tarmvæg (BWS)
- Stenose +/- præstenotisk dilatation

Resultater

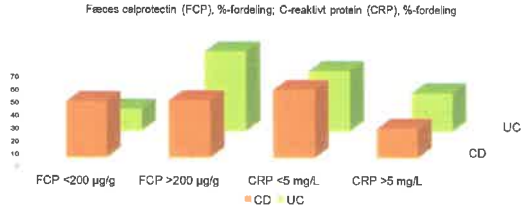
Patientkarakteristika

	CD (*n*= 130 ptt.)	UC (*n* = 49 ptt.)
Antal IUS (total 256)	198	58
Antal mænd	57 (43.8%)	27 (55.1%)
Gns. alder ved IUS	46 år (18-89)	48 år (20-91)
Ileocoecal resektion forud for IUS	27 (20.8%)	-
Antal i medicinsk behandling ved IUS	83 (63.8%)	40 (81.6%)
Biologisk	22 (16.9%)	6 (12.2%)
Immunmodulatorer	16 (12.3%)	-
Kortikosteroider (oral/topikal)	30 (23.1%)	4 (8.2%)
5-ASA	-	16 (32.7%)
Kombinationsterapi	15 (11.5%)	14 (28.6%)

Indikation for tarmultralyd

Klinisk mistanke om recidiv af CD eller UC hhv. 71.7% og 79.3% af de udførte tarmultralyd.

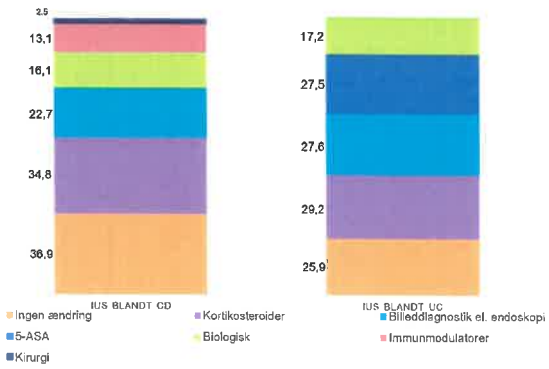
Biokemi forud for tarmultralyd blandt patienter med mistanke om recidiv



Fund ved tarmultralyd

- 49.5% af alle tarmultralyd hos CD ptt. viste tegn på aktiv sygdom
  - 39% hos ptt. med klinisk recidiv
  - 10.5% hos asymptomatiske ptt.
- 50% af alle tarmultralyd hos UC ptt. viste tegn på aktiv sygdom
  - 41% hos ptt. med klinisk recidiv
  - 9% hos asymptomatiske ptt.

Behandlingsændringer efter tarmultralyd



Blandt CD ptt. med klinisk mistanke om recidiv, med normal tarmultralyd, blev der lavet medicinændringer og/eller foretaget yderligere undersøgelser i 48.1%
Blandt UC ptt. var det 77.8%

Diskussion

- 54.4% af undersøgelser hos CD ptt. mistænkt for klinisk recidiv havde abnorm tarmultralyd
- 52.2% af undersøgelser hos UC ptt. mistænkt for klinisk recidiv havde abnorm tarmultralyd
- 21.4% af tarmultralyd med sygdomsaktivitet hos asymptomatiske CD ptt.
- 17.2% af tarmultralyd med sygdomsaktivitet hos asymptomatiske UC ptt.

Antallet af abnorme tarmultralyd stemmer overens med den sparsomme litteratur.

Bots S, De Voogd F, De Jong M, Ligtvoet V, Lowenberg M, Duijvestein M, et al. Point-of-care Intestinal Ultrasound in IBD Patients: Disease Management and Diagnostic Yield in a Real-world Cohort and Proposal of a Point-of-care Algorithm. J Crohns Colitis. 2022;16(4):606-15.

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Dissektion af truncus coeliacus med miltinfarkt associeret til øget intraabdominalt tryk og methylphenidat

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--- Introduktion---

Dissektion af truncus coeliacus er en sjælden erkendt tilstand med symptomatologi fra asymptomatisk til akut abdomen. Diagnosen stilles ved CT-abdomen med kontrast.

Risikofaktorer er mandligt køn, arteriosklerose, hypertension, rygning, overvægt, graviditet, vaskulitis, bindevævssygdomme, traume, tidligere operative abdominale indgreb og øget intraabdominalt tryk.

--- Cases---

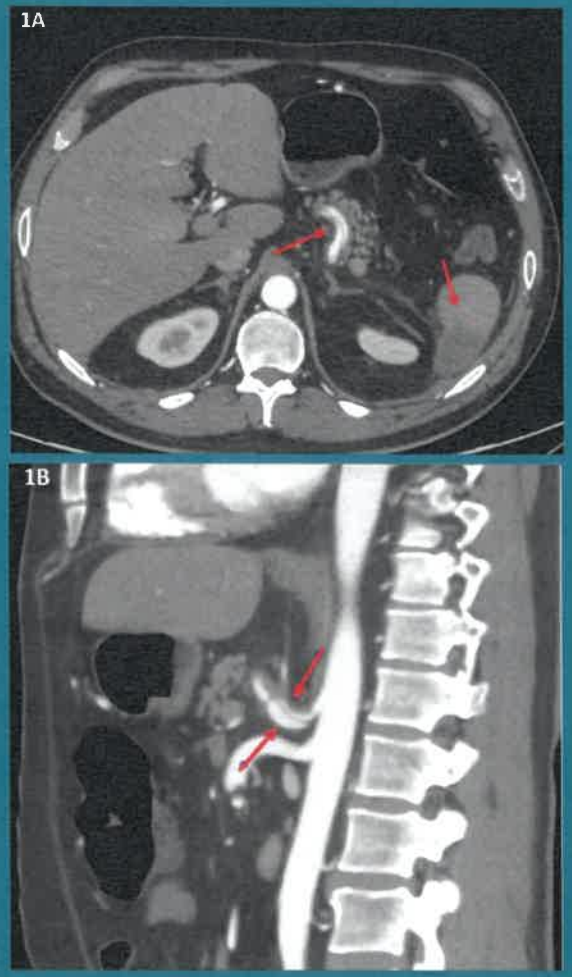
Case 1
43 årig mand med mb. Crohn og hæmokromatose.
Indlagt med akut indsættende øvre mavesmerter, opstået I forbindelse defækation.

En akut CT-scanning viste et stort miltinfarkt og et mindre leverinfarkt i segment 6. Der var perifokal fortætning omkring truncus coeliacus (TC) og a. hepatica communis med udtalt stenosering af TC.

På grund af primær mistanke om vaskulit, blev der lavet en PET-CT, hvor der blev påvist en trombose svarende til a. lienalis.
En fornyet CT-scanning udført to uger efter viste, at det drejede sig om en dissektion af TC og videre ud i a. lienalis.

Case 2
39-årig mand med ADHD. Indlagt på grund af akut indsættende nedre mavesmerter. Var ugen forinden startet behandling med methylphenidat.

CT-abdomen og angiografi viste miltinfarkt og dissektion i TC (figur 1A) med yderligere dissektion ud i a. hepatica communis og a. lienalis med trombe (figur 1B).



Figur 1A viser dissektion af truncus coeliacus med følgende miltinfarkt i aksialt snit. Figur 1B viser dissektion i truncus coeliacus med udstrækning i a. hepatica communis samt a. lienalis i sagitalt snit.

--- Diskussion ---

Case 1 beskriver en klassisk årsag til TC-dissektion.

Case 2 en mere atypisk årsag.

I forbindelse med amfetaminbrug er det velbeskrevet, at der kan opstå dissektioner i koronararterier, aorta og ekstracerebrale arterier.

Patofysiologien herfor er en formodning om at det øgede arterielle tryk amfetamin inducerer, giver anledning til dissektionerne.

Methylphenidat har en virkningsmekanisme, der ligner amfetamins og det er derfor nærliggende at tro, at dette præparat kan have været medvirkende årsag til at case 2 udvikler sin TC-dissektion.

Der findes ingen fast behandlingsalgoritme for dissektion af truncus coeliacus, ej heller i kombination med miltinfarkt. Konservativ behandling er ofte den initiale behandling ved dissektion, og omfatter smertebehandling, antikoagulerende og antihypertensiv behandling.

Der findes indikation for endovaskulær terapi ved cirkulatorisk ustabile patienter eller ved manglende effekt af konservativ behandling

I begge cases blev patienterne konservativt behandlet først med lav-molekylært heparin og efterfølgende skiftet til acetylsalicylsyre.

Der er risiko for miltblødning ved miltinfarkter. Brugen af lav-molekylært heparin tidligt i forløbet ville kunne have kompliceret en miltblødning. Imidlertid skønnes den mulige gevinst i form af hæmning af yderligere trombosering større end risikoen for forværring af en blødning . Vi så ingen komplikationer til hverken lav-molekylært heparin eller acetylsalicylsyre.

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16.

Helkrops clearance og produktion af ammonium kvantificeret ved ammoniuminfusion – effekterne af skrumpelever og "ammoniumsænkende" behandling

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AARHUS UNIVERSITY
AARHUS UNIVERSITY HOSPITAL

CONCLUSIONS

The constant ammonia infusion technique quantifies whole-body ammonia metabolism.

The technique measures pathophysiological changes in ammonia metabolism and the effects of ammonia-targeting therapies.

Key findings:
In cirrhosis patients, ammonia clearance is decreased by 20% and ammonia production is three-fold increased.

Treatment with glycerol phenylbutyrate increases clearance in healthy persons (12%).

Treatment with lactulose + rifaximin decrease production in patients with cirrhosis (20%).

INTRODUCTION

Hyperammonaemia is a key pathological feature of liver disease and the primary driver of hepatic encephalopathy[1].

The clinical utility of blood ammonia sampling remains questionable and provide only a time-point result of the balance between ammonia production and removal[2,3].

This is a limitation to our understanding of the pathophysiology in cirrhosis and the mode of action of ammonia targeting therapeutic interventions.

AIM

To quantify whole-body ammonia metabolism in healthy persons and patients with cirrhosis and to validate our method by examining the effects of glycerol phenylbutyrate and lactulose + rifaximin treatment.

RESULTS

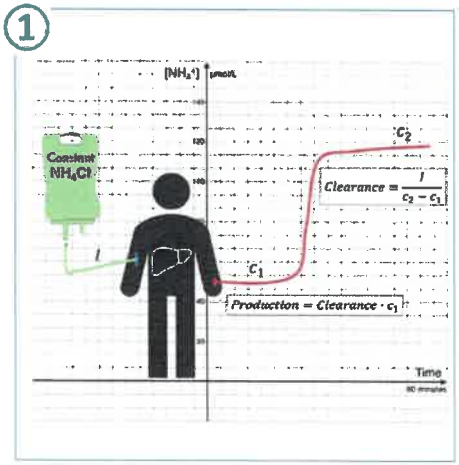
① The constant ammonia infusion technique.

② Basic characteristics and ammonia metabolism.

③ Ammonia concentration profiles (healthy persons: white circles ; patients: black circles).

④ Effect of glycerol phenylbutyrate on ammonia clearance in healthy persons.

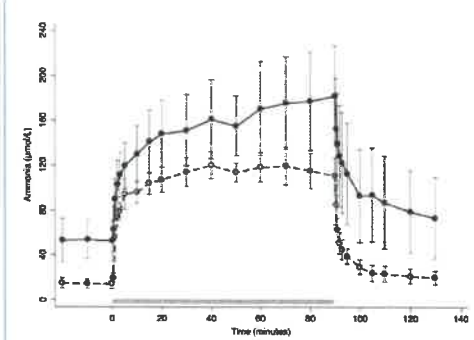
⑤ Effect of lactulose in combination with rifaximin on ammonia production rate in cirrhosis patients.

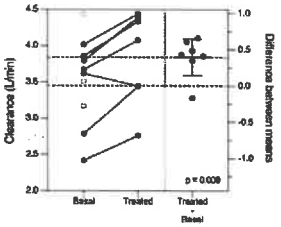
① 

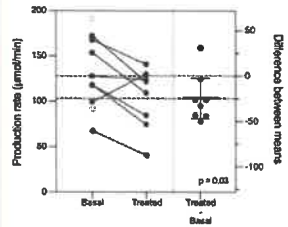
② Basic characteristics and ammonia metabolism.

	Healthy persons (n = 10)	Cirrhosis patients (n = 10)	p
Cirrhosis parameters			
Child-Pugh score*		7 (6–9)	
MELD-Na score		12 (10–14)	
Ascites (0 / 1 / 2 / 3)		8 / 0 / 2 / 0	
Body composition			
Body weight (kg)	84.6 (78.6–90.6)	77.0 (66.9–87.3)	0.17
Total muscle mass (kg)	31.4 (29.0–33.8)	25.8 (21.0–30.6)	0.02
Total body water (L)	47.1 (44.1–50.1)	42.9 (37.0–48.8)	0.15
Biochemistry			
Alanine aminotransferase (U/L)	20 (14–26)	33 (23–43)	0.02
Bilirubin (µmol/L)	12 (8–17)	23 (15–31)	0.02
Albumin (g/L)	40 (38–42)	28 (23–34)	0.0002
Creatinine (µmol/L)	75 (67–84)	66 (55–77)	0.16
Haemoglobin (mmol/L)	8.5 (8.3–8.7)	7.1 (6.0–8.2)	0.02
Thrombocytes (x10⁹/L)	236 (195–277)	87 (58–116)	<0.0001
C-reactive protein (mg/L)*	4 (4–4)	4.2 (4–8.2)	0.01
Ammonia levels (µmol/L)			
Arterial, baseline	14 (10–19)	53 (32–74)	<0.0001
Arterial, infusion	117 (101–133)	160 (127–233)	0.007
Whole body ammonia metabolic parameters			
Ammonia clearance (L/min)	3.5 (3.1–3.9)	2.7 (2.1–3.3)	0.02
Ammonia production rate (µmol/min)	49 (35–63)	131 (102–159)	<0.0001

Values are given as mean (95% CI).
6. Given as median (range).
Independent sample t-test was used for comparisons between the groups. For skewed data, Wilcoxon–Mann–Whitney test was used.

③ 

④ 

⑤ 

METHODS

90-minute constant ammonia infusion to achieve steady-state plasma ammonia:
- 10 healthy men
- 10 male cirrhosis patients

Infusion rate of 0.25 mmol/kg/h was based on previous studies that used twice the infusion rate[4,5].

Ammonia clearance calculated as: infusion rate divided by steady-state ammonia concentration increase.
Ammonia production calculated as: clearance times baseline ammonia concentration.

Participants were re-investigated after ammonia targeting interventions:
1) Glycerol phenylbutyrate in healthy persons
2) Lactulose + rifaximin in cirrhosis patients.

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ARTICLE INFORMATION

Eriksen PL et al. Clearance and production of ammonia quantified in humans by constant ammonia infusion - the effects of cirrhosis and ammonia targeting treatments. J Hepatol 2023, DOI: 10.1016/j.jhep.2023.03.042

CONTACT INFORMATION

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The risk of developing **interstitial nephritis** during treatment with **5-ASA**

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Background

- 5-ASA can cause interstitial nephritis (IN)
- Frequent monitorering of the kidney function is recommended
- The value of monitoring the kidney function for preventing development of IN is unknown

Aim

- To estimate the frequency of 5-ASA induced IN among 5-ASA patients in a Danish cohort

Method

- Retrospective study, 2010 – 2022, Department of Gastroenterology and Hepatology, AUH

Results

126/2440 patients developed affected kidney function during treatment with 5-ASA

14 (11%) did not normalize kidney function

10 other causes than IN

+

4 had 5-ASA induced interstitial nephritis = 0,16 %

111 (88%) normalized kidney function irrespective of continued 5-ASA treatment

+

1 did not have follow up blood samples

Patients	1	2	3	4
Sex	M	M	M	F
Age	23	24	33	25
Dose in mg	4800	2400	4800	4800
Time from initiation to rise in creatinine	3 m	2 y + 10m	6 y+ 2 m	3 y + 4 m
Peak creatinine	147	171	282	140
Reversibility	120	110	180	130

Conclusion/Discussion

- IN due to 5-ASA is rare, but occurs at any time during treatment with 5-ASA
- Monitoring the kidney function during 5-ASA treatment may not be cost-effective.

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18.

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An improved guideline adherence and PPI efficacy has been accompanied by a decrease in diagnostic delay, and strictures before diagnosis of eosinophilic oesophagitis in the North Denmark Region - a retrospective registry study of the DanEoE cohorts

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Conclusion
Comparisons of the DanEoE cohorts showed a decrease in diagnostic delay, a decrease in stricture formation before diagnosis, and an improved guideline adherence after 2017. Future studies are needed to assess if symptomatic or histological remission on PPI treatment is more capable of predicting a patient's risk of developing complications.

Introduction

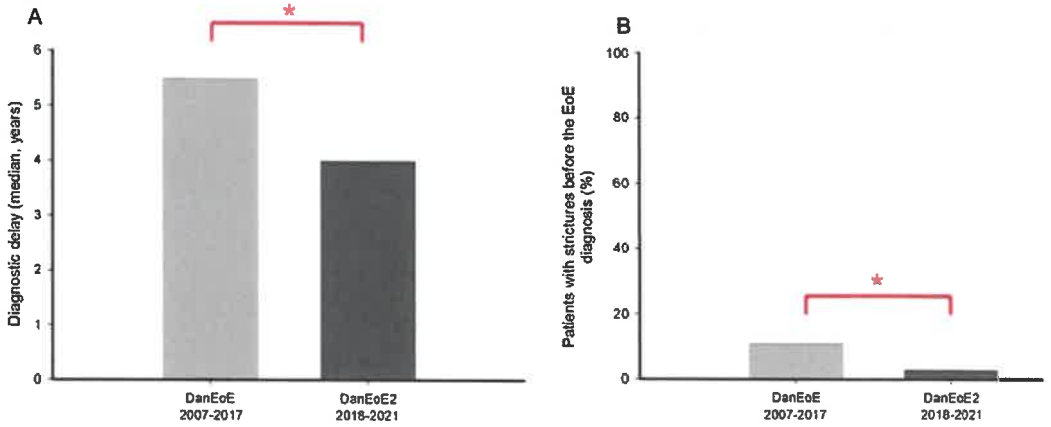
In the North Denmark Region an increased awareness of eosinophilic oesophagitis (EoE) was observed after 2011 where a regional biopsy guideline was implemented. This resulted in an increased awareness of EoE and a 50-fold increase in the incidence of EoE patients between 2007-2017.

Aims

The aims of this study were to:

1) examine the progress in diagnostic delay,
2) complications,
3) PPI treatment, and
4) follow up since 2017 in Danish patients with eosinophilic oesophagitis.

Figure 1



Method

This was a retrospective registry- and population-based cohort study (DanEoE2 cohort) including 346 adult patients with oesophageal eosinophilia diagnosed between 2018-2021 in the North Denmark Region. The DanEoE2 cohort included all possible EoE patients by using the Danish Patho-histology registry based on the SNOMED-system. The data was analysed and compared to the DanEoE cohort (2007-2017).

Results

The diagnostic delay of EoE patients diagnosed between 2018-2021 in the North Denmark Region had decreased to a median of 1.5 (5.5 (2.0;12) versus 4.0 (1.0;12), p=0.03) years (Figure 1A). Strictures before diagnosis had decreased (12% versus 4%, p=0.003), Figure 1B. The number of patients started on high-dose PPI increased (56% versus 88%, p<0.001, Figure 2). An intensified awareness regarding national guidelines and follow-up was observed as an increase in the number of histological follow up (67% versus 74%, p=0.05, Figure 3).

Figure 2

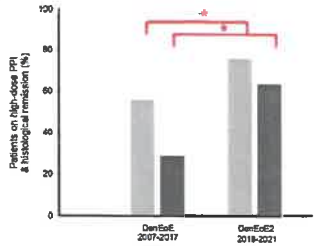
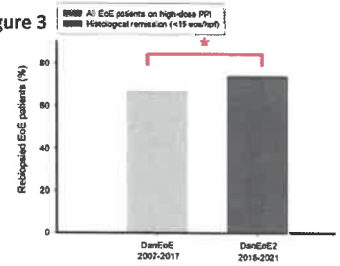


Figure 3



2.1

Hyperuricemia as a prognostic factor in alcohol-related cirrhosis

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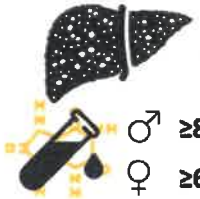
BACKGROUND

- Alcohol-related cirrhosis (ALD cirrhosis) is associated with hyperuricemia.
- Hyperuricemia is a risk factor for progression of non-alcoholic fatty liver disease and other inflammatory conditions, but its role in cirrhosis is unclear.

AIM

- To investigate hyperuricemia as a prognostic risk-factor in patients with ALD cirrhosis.

METHODS



n = 92

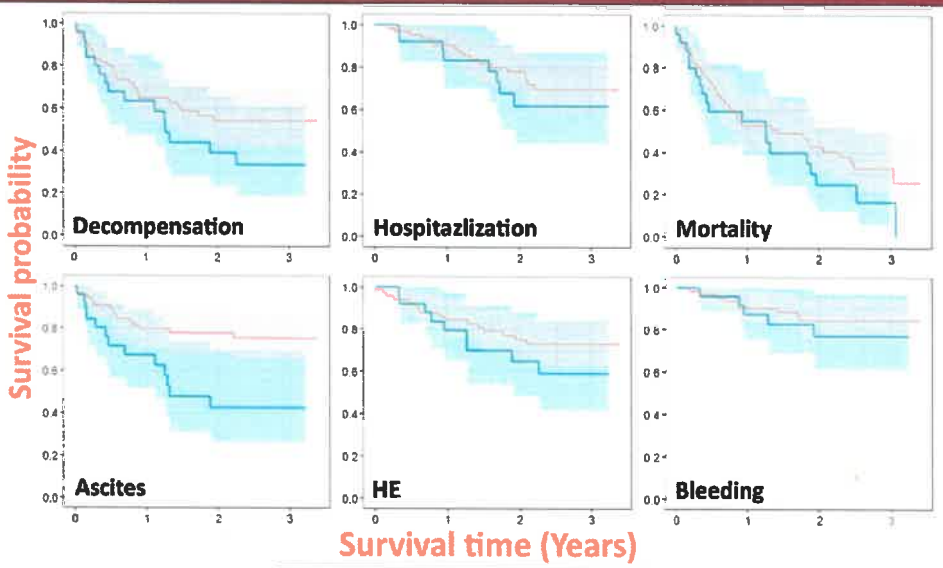
♂ ≥8.07mg/dL

♀ ≥6.62mg/dL

Decompensations
Hospitalizations
Death

Kaplan-Meier Curves
Cox-proportional Hazard model
Cumulative Incidence function

RESULTS



	Adjusted HR			
	HR	*p-value*	Lower bound (95% CI)	Upper bound (95% CI)
Decompensation	1.01	>0.9	0.44	2.34
Mortality	1.26	0.7	0.42	3.82
Hospitalization	1.50	0.2	0.79	2.86
Only Ascites	2.4	0.07	0.93	6.18
Only HE	0.83	0.7	0.28	2.48
Only Bleeding	1.57	0.5	0.42	5.89

CONCLUSIONS

- Hyperuricemia was not associated with a poor clinical outcome in patients with ALD cirrhosis when adjusting for sex, age, alcohol consumption and kidney function.
- Hyperuricemia may increase the risk of ascites but needs confirmation in larger cohorts.

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22.

REGION ZEALAND
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Low-dose liraglutide with pragmatic dose escalation achieves remission in more than half of 28 patients with sequestrant-refractory bile acid diarrhoea: a case series (Poater #22)

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Zealand University Hospital Køge and Dept. Clinical Medicine, University of Copenhagen, Denmark

BACKGROUND

- Bile acid diarrhoea (BAD) is a common cause of chronic watery diarrhoea
- SeHCAT test is diagnostic gold standard
- BAD occurs in >90% of pt's with ileal resection
- Low fat diet has some effect
- Sequestrants are efficacious as first choice
- Cholestyramine can cause nausea
- Cholesevelam has less side effects
- Liraglutide is non-inferior to colesevelam and has a different mode of action.

AIM

- Describe the effect of second-line liraglutide on remission of sequestrant-refractory BAD.

METHODS

- Consecutive case series of patients with BAD refractory or intolerant to sequestrants
- Bristol stool charts at baseline and during second week on each dose
- Means and 95%-CI of binary data calculated with Clopper-Pearson
- Stool data compared with paired t-test
- Liraglutide 0.6 mg/day s.c. for 2 weeks, increased every other week to 1.2 and 1.8 mg until remission
- **Diarrhoea defined** as ≥ 3 stools /day or ≥ 1 watery stools/day (Bristol 6/7; mean of 7 days)
- **Remission defined** as < 3 total stools/day and
- < 1 watery stools/day

RESULTS

- 27 patients with BAD
  - 21 had SeHCAT (4%, range 0-11%)
  - 6 had a history of ileum resection (30-170 cm)
- Remission in 16/27 (59%, 95% CI: 39-78%) (Table 1)
- Liraglutide reduced number of bowel movements (Table 1)
- Two patients not in remission on 1.8 mg liraglutide/day obtained remission on combination therapy with colestyramine
- One patient stopped liraglutide due to nausea, and two due to constipation

Table 1 Effect of liraglutide in patients with sequestrant refractory BAD

	Baseline	Liraglutide			Last obs carried forward
		0.6 mg	1.2 mg	1.8 mg	
N	27	27	22	14	
Final dose *		5	8	14	
Remission		4	7	5	16
Stools, total	6.5 (5.1–8.3)				2.8 (2.2–3.5)
Stools, watery	5.1 (3.7–7.0)				0.8 (0.6–1.1)

*1 patient stayed on dose 0.6 mg after # watery stools reduced from 3.5 to 1.0;
1 patient stayed on dose 1.2 mg after total stool number reduces from 10.4 to 3.0.

CONCLUSION

- Second line treatment with liraglutide achieved remission in about half of patients with BAD intolerant or refractory to sequestrants
- It remains to decide the therapeutic algorithm in patients with BAD and to explore the effect of combining treatments with different modes of action

23.

Faecal Microbiota transplantation against chronic diarrhea in patients with Systemic Sclerosis

Nanna Sutter Rolighed
MD, Phd-Student 2023-2026

Supervisor group:
Klaus Krogh, Christian Lodberg Hvas, Simon Mark Dahl Baunwall

AIM

To evaluate the feasibility, safety, and pilot efficacy of capsule faecal microbiota transplantation as treatments against chronic diarrhea and faecal incontinence in patients with Systemic sclerosis.

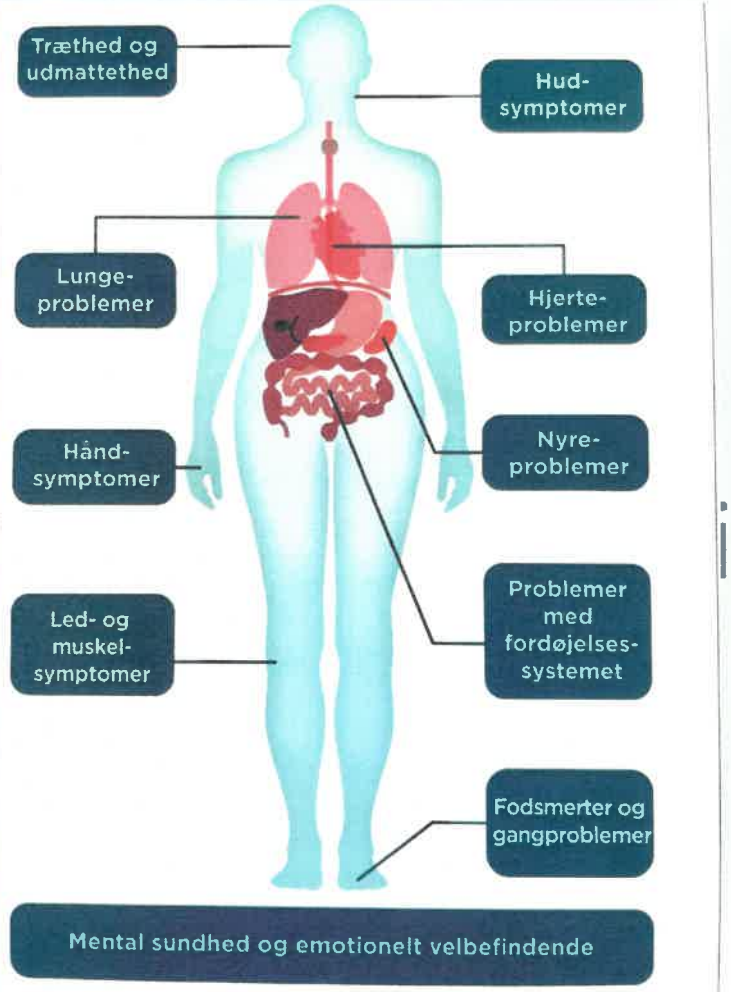

Træthed og udmattethed
Hud-symptomer
Lunge-problemer
Hjerte-problemer
Hånd-symptomer
Nyre-problemer
Led- og muskel-symptomer
Problemer med fordøjelses-systemet
Fodsmerter og gangproblemer
Mental sundhed og emotionelt velbefindende

Table 1. The American College of Rheumatology/European League Against Rheumatism criteria for the classification of systemic sclerosis (SSc)*

Item	Sub-item(s)	Weight/score†
Skin thickening of the fingers of both hands extending proximal to the metacarpophalangeal joints *(sufficient criterion)*	–	9
Skin thickening of the fingers *(only count the higher score)*	Puffy fingers	2
	Sclerodactyly of the fingers (distal to the metacarpophalangeal joints but proximal to the proximal interphalangeal joints)	4
Fingertip lesions *(only count the higher score)*	Digital tip ulcers	2
	Fingertip pitting scars	3
Telangiectasia	–	2
Abnormal nailfold capillaries	–	2
Pulmonary arterial hypertension and/or interstitial lung disease *(maximum score is 2)*	Pulmonary arterial hypertension	2
	Interstitial lung disease	2
Raynaud's phenomenon	–	3
SSc-related autoantibodies (anticentromere, anti–topoisomerase I [anti–Scl-70], anti–RNA polymerase III) *(maximum score is 3)*	Anticentromere	3
	Anti–topoisomerase I	
	Anti–RNA polymerase III	

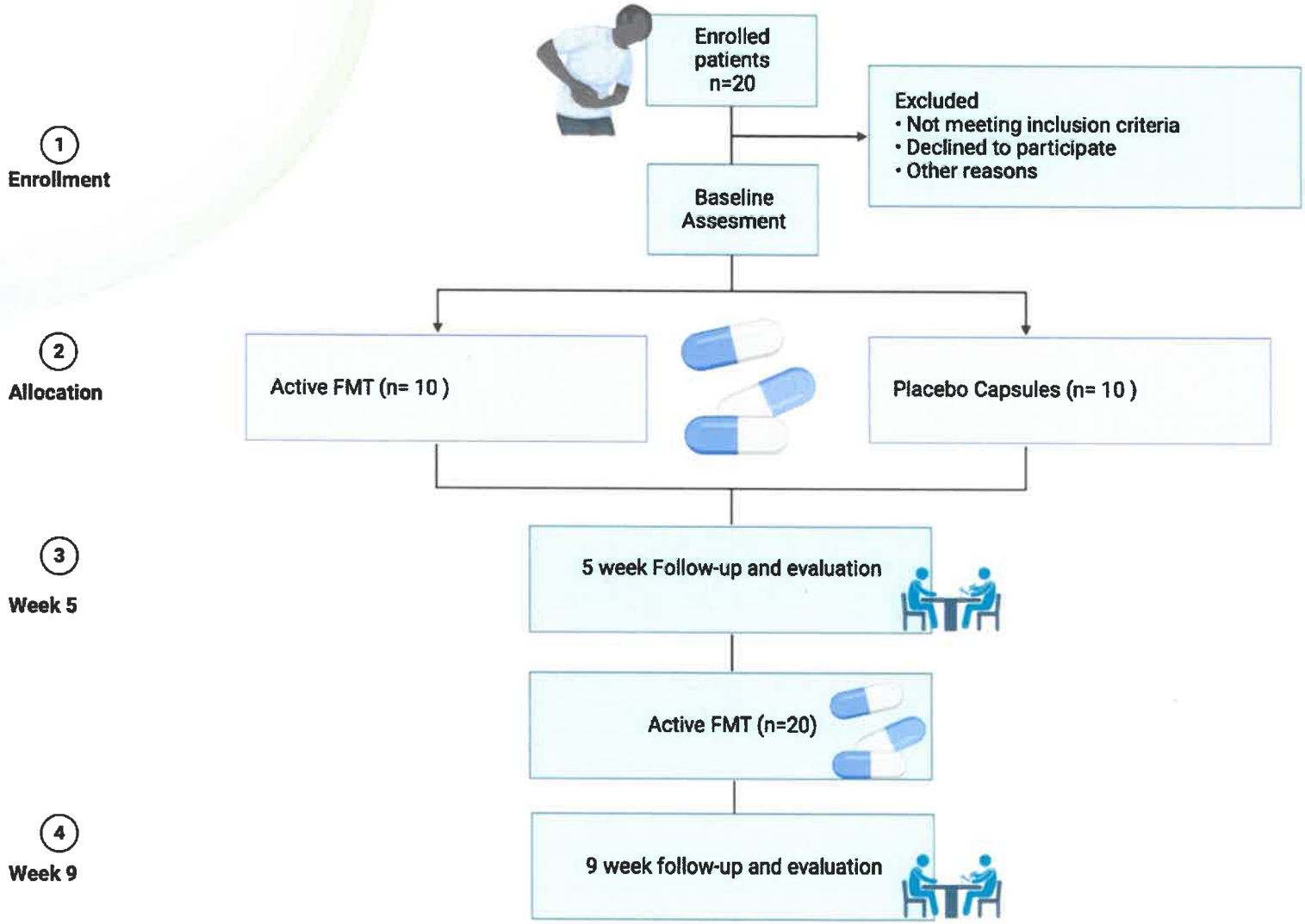
* These criteria are applicable to any patient considered for inclusion in an SSc study. The criteria are not applicable to patients with skin thickening sparing the fingers or to patients who have a scleroderma-like disorder that better explains their manifestations (e.g., nephrogenic sclerosing fibrosis, generalized morphea, eosinophilic fasciitis, scleredema diabeticorum, scleromyxedema, erythromyalgia, porphyria, lichen sclerosis, graft-versus-host disease, diabetic cheiroarthropathy).

† The total score is determined by adding the maximum weight (score) in each category. Patients with a total score of ≥9 are classified as having definite SSc.


CEFTA
BATCH:
FMT DATO:
PROD.-DATO:
UDLØBSDATO:

Hypothesis

1. Oral intake of capsule FMT is safe and well tolerated in patients with SSc.
2. Oral intake of capsule FMT is superior to placebo in reducing episodes of diarrhea and faecal incontinence in patients with SSc
3. Oral intake of capsule FMT is effective irrespective of gastric emptying and small intestinal transit times.
4. Oral intake of capsule FMT changes the colonic microbiome in patients with SSc towards the donor microbiome.
5. Oral intake of capsule FMT has influence on patients primary disease SSc
6. A second treatment of FMT maintains symptom relief and alterations in faecal microbiota more than a single component.


1
Enrollment
Enrolled patients n=20
Excluded
• Not meeting inclusion criteria
• Declined to participate
• Other reasons
Baseline Assesment
2
Allocation
Active FMT (n= 10)
Placebo Capsules (n= 10)
3
Week 5
5 week Follow-up and evaluation
Active FMT (n=20)
4
Week 9
9 week follow-up and evaluation

Inclusion

- Participants between 18 and 70 years of age
- Fulfilling and previously diagnosed with SSc according to the 2013 American college of rheumatology/European league against rheumatisms SSs classification criteria[23] by rheumatologist or dermatologist.
- Chronic diarrhea with or without faecal incontinence. Symptom severety is evaluated clinically but also by questionnaire: Gastrointestinal Syndrome Rating Scale – irritable bowel syndrome version (GSRS-IBS).

Exclusion

- Inability to understand Danish spoken or written and/or Trial procedures.
- Known or anticipated pregnancy (excluded by male sex, postmenopausal women, or
- otherwise negative U-HCG)
- Known or anticipated pregnancy (excluded by male sex, postmenopausal women, or
- otherwise negative U-HCG)
- Treatment with antibiotics within the past 6 weeks
- Changes in morphine treatment within the past 4 weeks
- Ongoing infection with *Clostridioides difficile* or pathogenic intestinal bacterial or par-
- asites (negative PCR test)
- Known serious gastrointestinal disease or GI-infection (diagnosed with celiac disease,
- Mb Crohn, Ulcerative colitis, infection, and gastrointestinal cancer)
- Patients with dysregulated thyroid disease (TSH) blood sample from previous consultations maximum 6 months old from

Exclusion

- Patients with diagnosed intestinal stricture
- Patients with planned MR scan within study period
- Patients with Pacemaker/ICD
- Previous abdominal surgery (minor surgical procedures ex. appendectomy is allowed)
- Changes in medicine that affects the GI-tract with the past four weeks.
- Severe end organ disease
  - Lung disease with forced vital capacity (FVC)<50% and/or diffusing lung ca- pacity for carbon monoxide (DLCO) <40%
  - Severe heart failure with ejection fraction<30%
  - End stage kidney disease with glomeration rate<30 ml/min

Visit 1
Information and Inclusion

Information
Informed consent
In- & exclusion criteria
Medical anamnesis
Randomisation
Bowel Habit diary

Visit 2
Baseline investigations I

Questionaires
Wireless motility capsule
Equipment hand out
Blood samples
Stool samples

Visit 3
Baseline investigations II

Low-dose CT-scan
Breath tets

Visit 4+5
Intervention 1- FMT or Placebo

FMT or Placebo
Bowel Diary

Visit 6
Investigation I after 1. intervention

Questionaires
Blood samples
Stool samples

Visit 7
Investigation II after 1 intervention

Low-dose CT-scan
Breath tets

Visit 8
Intervention 2 - FMT

FMT
Bowel Diary

Visit 9
Investigation after 2. intervention

Questionaires
Blood samples
Stool samples

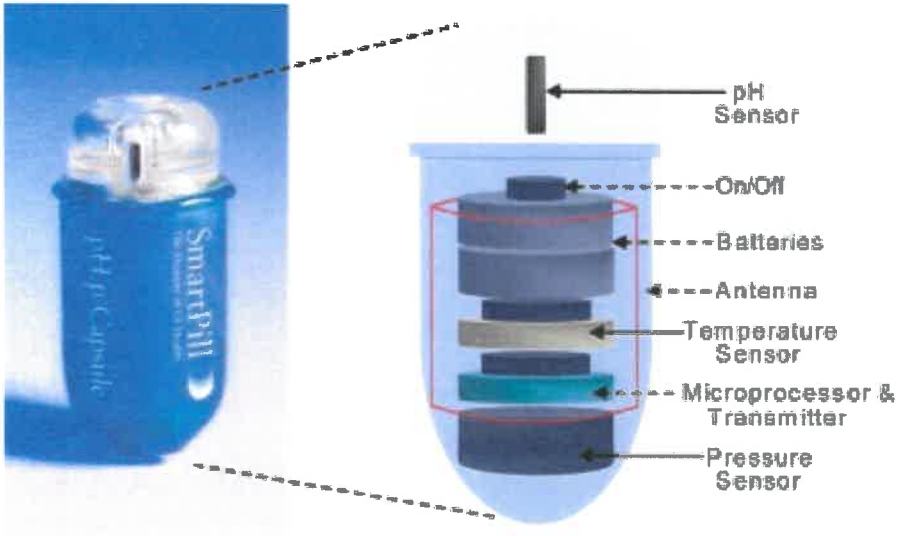
Visit 9+
Follow-up/post study

Further FMT treatment if symptom relapse
Follow up every two months

End points

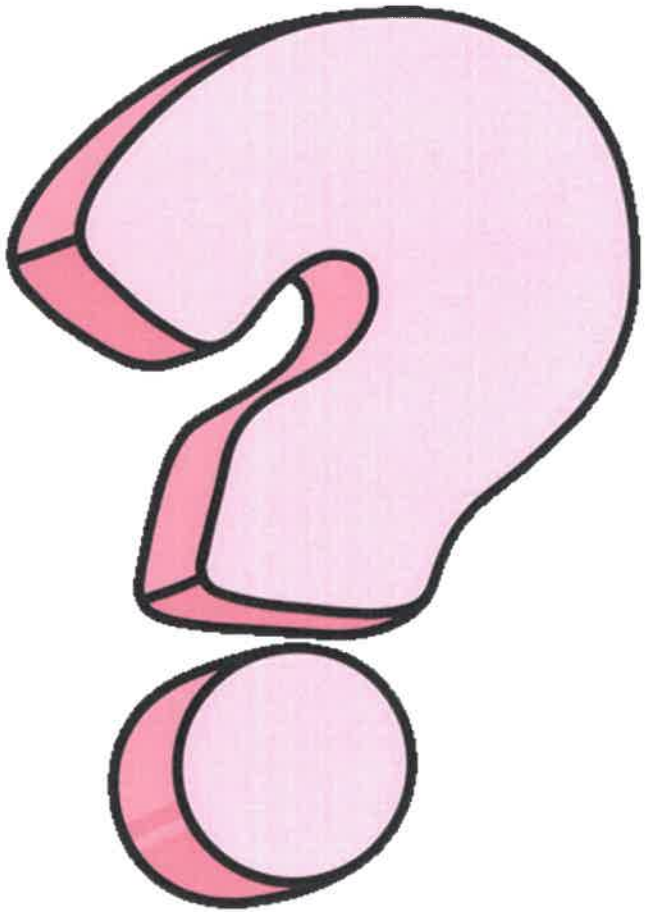
- Bowel diary
- UCLA SSc Git score 2.0
- Wexner faecal incontinence score
- GSRS IBS
- EQ5D-5L

Secondary out comes & Investigations



- SmartPill
- Breath Test
- Low dose CT-scan

Whats Next?



24

Prevalence of hyperuricemia in patients with alcohol-related liver cirrhosis

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[2]Hepato-Neuro lab, Centre de recherche du Hospitalier de l'Université de Montréal (CRCHUM), Université de Montréal, Canada
[3]Hôpital du Sacre-Cœur de Montréal Research Center, Canada

BACKGROUND

- Uric acid (UA) has proinflammatory effects, and hyperuricemia is associated with the metabolic syndrome and progression of non-alcoholic fatty liver disease.
- Patients with alcohol-related cirrhosis (ALD cirrhosis) exhibit many risk factors for hyperuricemia, but its prevalence is unclear.

AIM

- To determine the prevalence of hyperuricemia in patients with ALD cirrhosis
- To investigate known risk-factors for hyperuricemia.

METHODS

n = 86

Child-pugh A/B

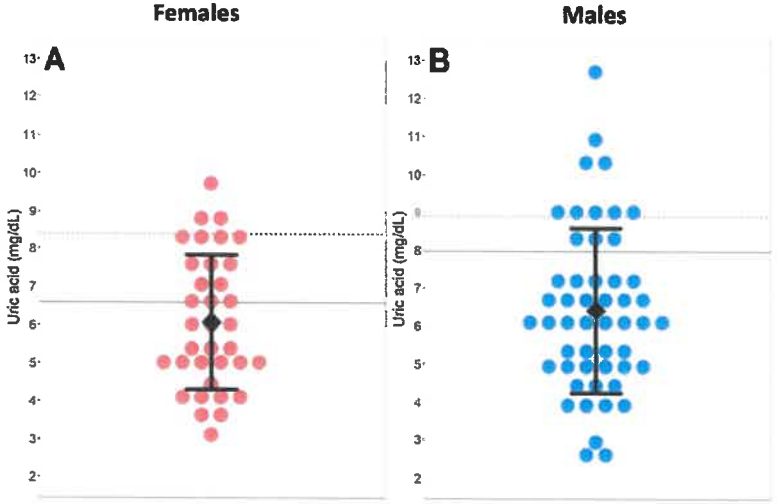
n = 35 ♀ ♂ n = 51

Nordic Reference Interval Project 2000 (NORIP)

National Health and Nutritional Examination Survey 2017-2020 (NHANES)

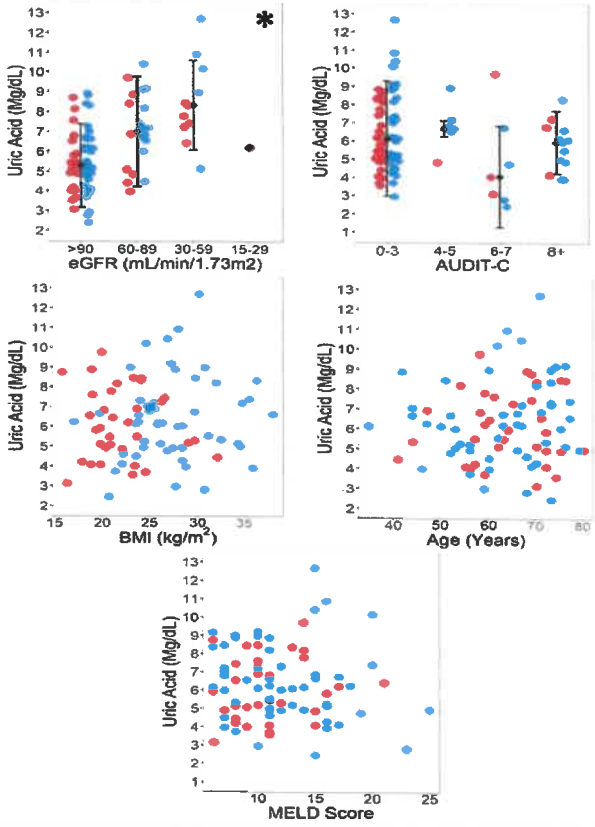
RESULTS

URIC ACID LEVELS



NHANES: 17.4 % **NHANES: 10.5 %**

NORIP: 40.7 % **NORIP: 17.4 %**



CONCLUSIONS

- ALD Cirrhosis is associated with hyperuricemia, especially in women.
- eGFR was the only known risk-factor associated with hyperuricemia.

CONTACT

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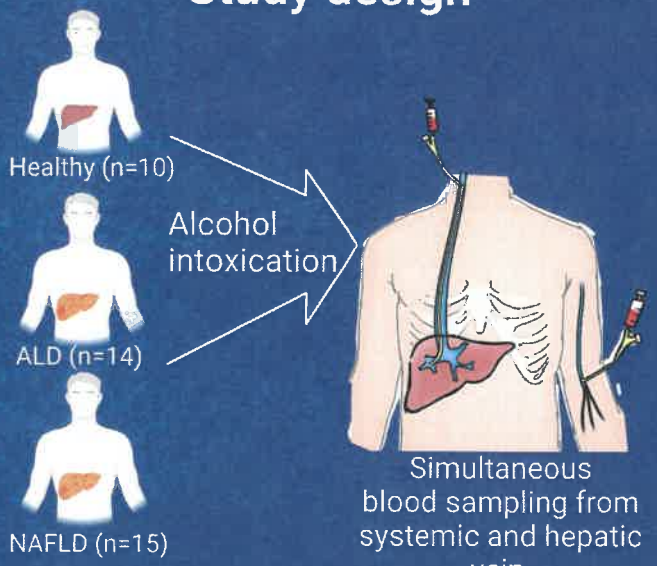
25.

Alcohol induces rapid degradation of Type VII collagen (C7M) indicating gut damage in steatotic liver disease

Study design



Type VII collagen degradation biomarker (C7M): a new marker of alcohol-induced gut injury and bacterial translocation in steatotic liver disease

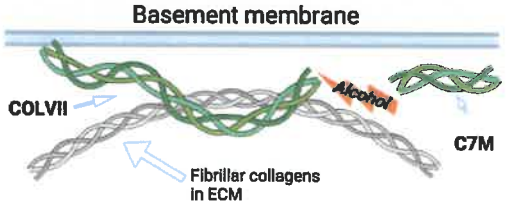
Emil Deleuran Hansen[1,2], Nikolaj Torp[1,2], Ida Lønsmann[2,3], Evelina Stankevic[3], Stine Johansen[1,2], Camilla Dalby Hansen[1,2], Bjorn S. Madsen[1,2], Helene Bæk Juel[2], Katrine Prier Lindvig[1,2], Katrine Thorhauge[1,2], Katrine Tholstrup Bech[1,2], Ellen Lyngbeck Jensen[1,2], Peter Andersen[1], Ida Spedtsberg[4], Johanne Kragh Hansen[1,2], Charlotte Wernberg[2], Ida Falk Villesen[1,2], Morten Karsdal[3], Maja Thiele[1,2], Torben Hansen[3], Diana J. Leeming[3], Mads Israelsen[1], Aleksander Krag[1,2]

1) Department of Gastroenterology and Hepatology, Odense University Hospital, Odense, Denmark 2) Institute of Clinical Research, University of Southern Denmark, Odense, Denmark 3) Hepatic research Nordic Bioscience A/S, Herlev Hovedgade, Herlev, Denmark 5) Novo Nordisk Foundation Center for Basic Metabolic Research, University of Copenhagen, Copenhagen, Denmark

@emil_deleuran

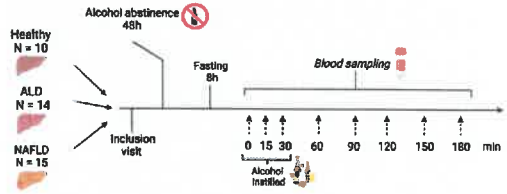
BACKGROUND

- The gut barrier is a treatment target for steatotic liver diseases.
- Leaky gut is a known driver of liver disease, but its molecular mechanisms are not fully understood.
- Collagen type VII is an anchoring fibril connecting the interstitial matrix with the basement membrane and present in the gut wall.
- IL-6 is secreted by the Kupffer cells in response to microbial products.
- Our aim is to investigate the effect of acute alcohol intake on C7M and PRO-C7 levels in hepatic and systemic venous blood over a three-hour period in relation to alcohol induced gut damage.



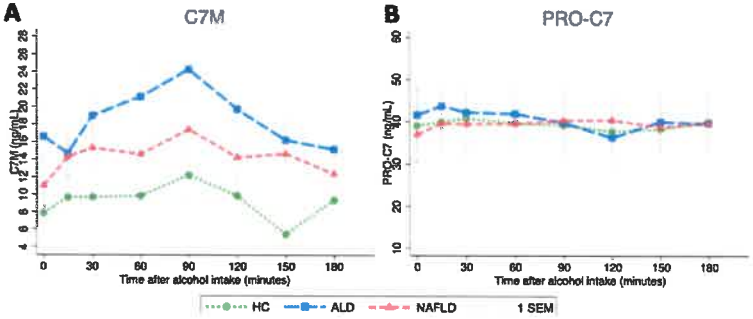
METHODS

- We performed a pathophysiological intervention study including 39 patients with three different hepatic phenotypes; healthy controls (HC), ALD and NAFLD.
- 2.5 mL/kg of 40% ethanol in 9 mg/mL NaCl was administrated through a nasogastric tube over 30 minutes.
- Blood samples were collected simultaneously through the hepatic vein at eight-time points.
- Markers of type VII collagen degradation (C7M) and formation (PRO-C7) were measured using competitive ELISA.
- IL-6 was measured using O-link technology.



RESULTS

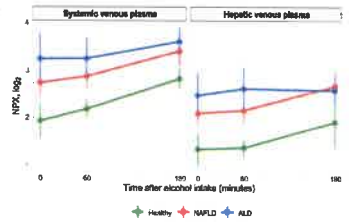
Baseline
* *P* < .05 between HC and ALD and *P* < .05 between NAFLD and HC.
** C7M was 14.2 ng/mL (9.4-16.5) for NALFD 6.5 times higher than HC (p = .0257) and 1.5 times higher than ALD (p = .114)



Change in hepatic A) C7M and B) PRO-C7 after alcohol intervention in patients with alcohol-related liver disease, non-alcoholic fatty liver disease and healthy controls

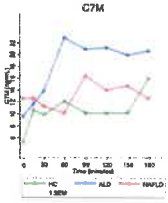
The AUC for C7M was **1,659 (±1,225) / 3,330 (±1,460) / 2,456 (±1729)** ng/mL (HC / ALD / NAFLD) during the 180 minutes. AUC^{ALD} for C7M was **significantly higher than** AUC^{HC} **(p = 0.0074, 95% CI: 495 - 2846)** but **not** AUC^{NAFLD} **(p = 0.15, 95% CI: -350 - 2098)**. The difference between AUC^{NAFLD} and AUC^{HC} was not significant (p = 0.22, 95% CI: -513 - 2107).

IL-6

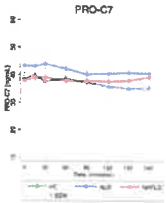


Change in systemic and hepatic IL-6 after alcohol intervention in patients with alcohol-related liver disease, non-alcoholic fatty liver disease and healthy controls

Hepatic and systemic **IL-6 was significantly increased** after 180 min (mean Normalized Protein eXpression (NPX) 0.62, 95% CI: 0.02 - 0.80, p = 0.03 and mean NPX 0.41, 95% CI: 0.24 – 1.01, p < 0.001, respectively).



Changes in C7M at the systemic sample site
Increase in ALD: **+13.6 ng/mL, p = 0.0001**



Changes in PRO-C7 at the systemic sample site

Conclusion

- Acute alcohol intake induces a rapid increase in hepatic type VII collagen degradation assessed by C7M
- Indicative of gut-driven ECM damage
- The associated IL-6 increase, suggests elevated inflammatory activity from a potential increased bacterial translocation

FLASH LIVER RESEARCH CENTRE

SDU

OUH Odense University Hospital Svendborg Hospital
University Hospital of Southern Denmark

26.

Clinical and biochemical characteristics of a Danish and Turkish cohort of incident and prevalent patients with primary biliary cholangitis

Hasan Eruzun[1], Lars Bossen[2], Dilara Turan Gökçe[3], İlkay Ergenç[4], Zekiye Nur Harput[5], Neslihan Güneş Aydemir[6], Meral Akdoğan Kayhan[3], Hasan Basri Yapıcı[7], Yusuf Yılmaz[4], Orhan Sezgin[5], Haydar Adanır[6], Ahmet Bektaş[1], Henning Grønbæk[2]

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Aarhus University Hospital

AARHUS UNIVERSITY

Introduction

Primary biliary cholangitis (PBC) is a progressive chronic inflammatory liver disease. Environmental triggers, individual genetic predisposition, and epigenetic factors influence disease development and progression. Although it is observed in all races and regions, its incidence and prevalence vary. In our study, we compared cohorts of Danish and Turkish PBC patients with different genetic backgrounds.

Methods

We compared basic demographic and biochemical data of four cohorts:

1) 155 Danish prevalent patients
2) 77 Danish incident patients
3) 103 Turkish prevalent patients
4) 101 Turkish incident patients.

We evaluated cirrhosis rates and compared response rates to ursodeoxycholic acid (UDCA) treatment in prevalent PBC patients.

	Danish	Danish	Turkish	Turkish	
Variable	Prevalent = 155	Incident = 77	Prevalent = 103	Incident = 101	p
Female, n (%)	146 (94)	58 (75)	97 (94,2)	94 (93,1)	0,02*
Age years, median (IQR)	62 (51-70)	59 (51-66)	59,1 (51,4-67)	54,4 (46-62)	<0,001**
AMA positive at diagnosis n (%)	110 (75)	67 (88)	95 (92,2)	98 (97,1)	<0,03
ALP I/U, median (IQR)	146 (108-217)	236 (142-354)	176 (101-190)	286 (132-332)	NS
ALT U/L, median (IQR)	32 (22-49)	62 (38-103)	36,6 (19-46)	62 (31-92)	NS
Platelets 10^9/l, median (IQR)	257 (189-309)	272 (218-325)	253 (191-311)	252 (192-303)	NS
Bilirubin µmol/l, median (IQR)	8 (6-12)	10 (6-14)	12,6 (6,8-13,6))	8,2 (6,8-13,8)	NS
INR, median (IQR)	1.0 (1.0-1.0)	1.0 (1.0-1.1)	0,98 (0,98-1,1)	1,02 (0,9-1)	NS
Albumin g/l, median (IQR)	37 (35-39)	37 (35-39)	42,6 (41-46)	41 (40-45)	<0,01
IgM g/L (0,4-2,3)	2.42 (1.43-3.73)	2.97 (1.79-4.31)	3,84 (1,6-5,4)	2,32 (1,06-3,15)	NS
Cirrhosis, n (%)	24 (15.5)	11 (14.3)	16 (15,5)	15 (14,8)	NS
UDCA dose	750 (750-750)	750 (750-750)	13-15 mg/kg	13-15 mg/kg	-
UDCA responders, n (%) 12 m	84 (65.6)		88 (85.4)	-	- <0,001**

P for both prevalent and incident patients, *incident patients, ** prevalent patients.

Conclusion

- Incident patients had similar age but prevalent Danish patients were older than Turkish.
- More Turkish patients were AMA positive.
- More Turkish than Danish patients have a complete response to UDCA treatment.

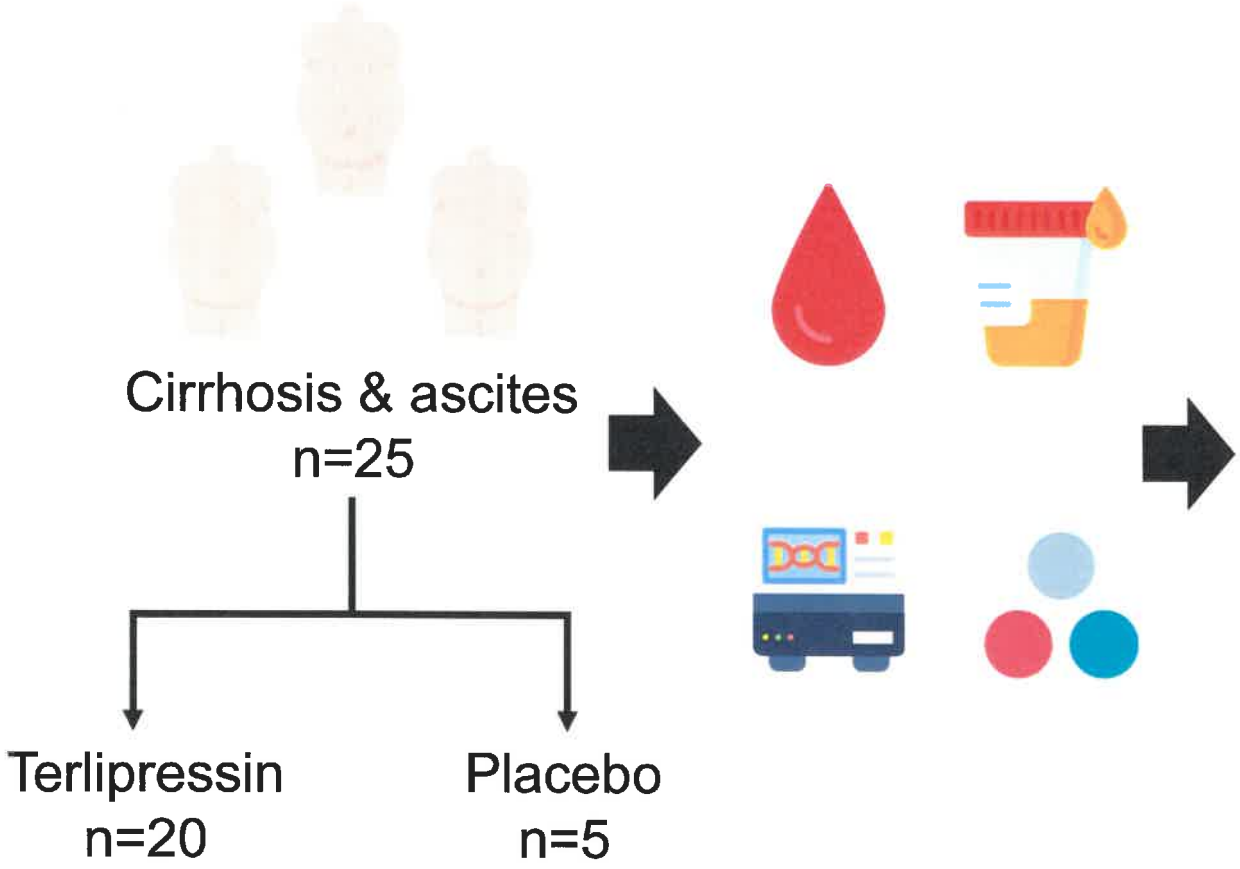
• Contact: Hasan Eruzun, Mail: hasaneruzun@gmail.com

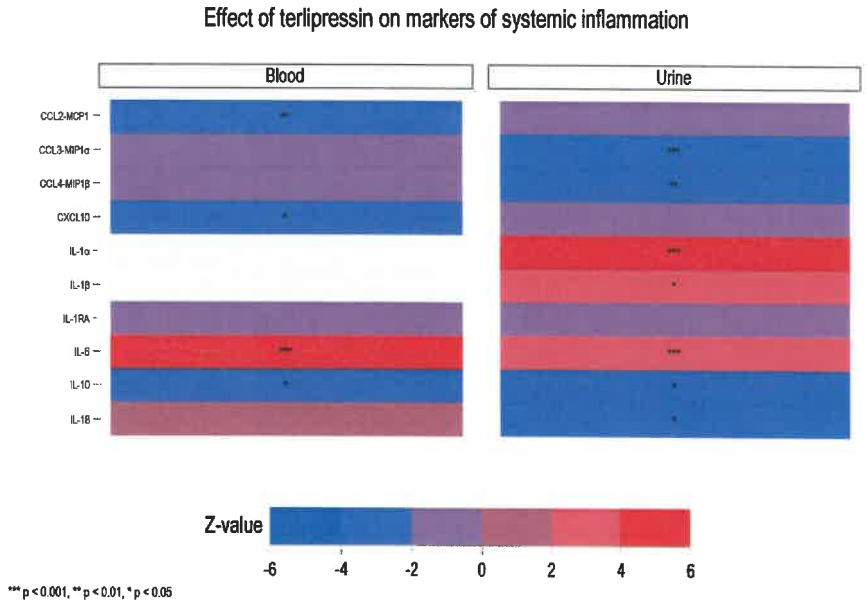
Disclosures: None

27.

The systemic inflammation in patients with cirrhosis and ascites is acutely affected by terlipressin

Nikolaj Torp
Center for Leverforskning, FLASH
Odense Universitetshospital





Conclusion

Terlipressin induces rapid changes in blood and urinary inflammation markers

Metformin Treatment is Associated with Reduced Risk of Hypoglycemia, Major Adverse Cardiovascular Events, and All-Cause Mortality in Patients with **Post-pancreatitis Diabetes Mellitus**: A Nationwide Population-Based Cohort Study

28.

Methods

- Study design: Nationwide Historical Danish Cohort
- Study period: 2009 – 2018

Population

- Adults with incident post-pancreatitis diabetes mellitus
- n = 3781

Exposure

- Metformin treatment: Time-varying exposure
- Covariates: Insulin treatment, age, sex, CCI, smoking and alcohol

Outcomes

- All-cause mortality
- Severe hypoglycemia
- Major adverse cardiovascular events (MACE)

Results

	HR	95% CI	P-value
All-cause mortality			
No metformin	1.00		
Metformin	0.57	0.50–0.65	<.0001
Severe hypoglycemia			
No metformin	1.00		
Metformin	0.42	0.27–0.64	<.0001
MACE			
No metformin	1.00		
Metformin	0.75	0.61–0.93	0.0099

Line Davidsen[1,2], Morten H. Jensen[3,4], Mathias E. Cook[1,2], Peter Vestergaard[2,5], Filip K. Knop[6,7,8], Asbjørn M. Drewes[1,2,5], and Søren S. Olesen[1,2]

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AALBORG UNIVERSITY HOSPITAL

29.

Risk of primary liver cancer in patients with alcohol-related cirrhosis is similar in England and Denmark

Morten Daniel Jensen[1,2], Joe West[2,3,4], Colin Crooks[3,4], Joanne Morling[3,4], Frederik Kraglund[1,2], Tim Card[3,4], Gro Askgaard[1,5,6], Peter Jepsen[1,2,3]

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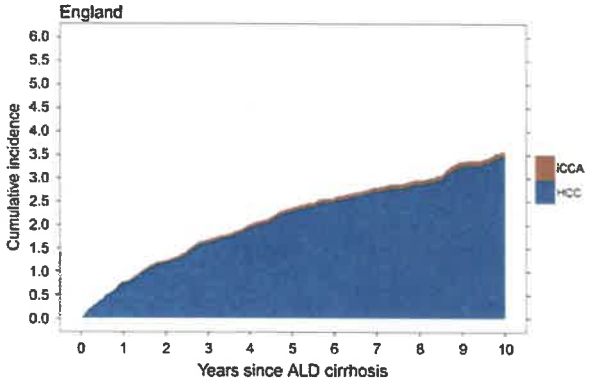
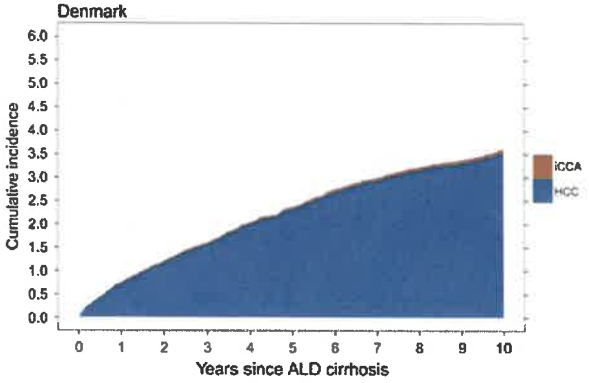
2. Department of Clinical Medicine, Aarhus University, Aarhus, Denmark
3. Lifespan and Population Health, School of Medicine, University of Nottingham, NG5 1Pb, UK
4. NIHR Nottingham Biomedical Research Centre (BRC), Nottingham University Hospitals NHS Trust and the University of Nottingham, Nottingham, United Kingdom
5. Medical Department, Section of Gastroenterology and Hepatology, Zealand University Hospital, Køge, Denmark
6. Center for Clinical Research and Prevention, Frederiksberg University Hospital, Copenhagen, Denmark

Results





5-year risk

Primary liver cancer *(PLC)*
ENG: **2.36%** (95% CI 2.12-2.63)
DK: **2.37%** (95% CI 2.16-2.58)

Intrahepatic cholangiocarcinoma *(iCCA)*
ENG: **0.07%** (95% CI 0.04-0.13)
DK: **0.05%** (95% CI 0.03-0.09)

Hepatocellular carcinoma *(HCC)*
ENG: **2.29%** (95% CI 2.05-2.55)
DK: **2.31%** (95% CI 2.11-2.53)

Highest PLC risk
Male sex *(3.0%)*
Increasing age *(70-79yrs: 4.1%)*

HCC constituted > 97% of PLC

Conclusions

Same risk in Denmark and England

Small risk of overlooking iCCA in HCC specific surveillance

5-year risk < 4.5% in all groups

Aim

Identify risk and **high-risk**-groups of **primary liver cancer**

– among **ALD cirrhosis** patients in **Denmark and England**

Introduction

Status quo!
- Increased risk of primary liver cancer in patients with alcohol-related cirrhosis (ALD cirrhosis)
- Recommendations of HCC surveillance in international guidelines
- Recommendations are based on 1.5% risk per year threshold (Sarasin et al.*)

Challenge!
- Risk exceeding threshold not yet demonstrated in Northern Europe

Motivation!
- Risks might exceed threshold when considering incidental iCCA identification from HCC surveillance

Methods

Danish patients with ALD cirrhosis: 22,121
Danish National Patient Registry, 1994-2022

English patients with ALD cirrhosis: 17,085
Clinical Practice Research Datalink, 2000-2016

Cumulative risks, crude rates and predictions
Combined and separate for HCC and CCA, stratified on sex, age and decompensation.

Contact information

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* Sarasin FP, Giostra E, Hadengue A. Cost-effectiveness of screening for detection of small hepatocellular carcinoma in western patients with Child-Pugh class A cirrhosis. The American Journal of Medicine 1996;101:422-434.

Inflammatorisk respons ved cirrose og styrketræning

Luise Aamann[1,2], Gitte Dam[1], Henning Grønbæk[1], Holger Jon Møller[3], Hendrik Vilstrup[1] & Niels Kristian Aagaard[1]

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BAGGRUND

Patienter med levercirrose er præget af lokal og systemisk inflammation, der er en risikofaktor for udvikling af komplikationer til cirrose.

Fysisk aktivitet inklusive styrketræning styrker immunsystemet og har bl.a. en antiinflammatorisk effekt. På kort sigt øges mængden af flere cytokiner i blodet lige efter træning hos raske personer. Men også på den lange bane ses en gavnlig effekt på immunsystemet ved fast ugentlig træning af moderat intensitet.

FORMÅL

At undersøge effekten af 12 ugers styrketræning på en række inflamma-tionsmarkører inklusive myokiner (IL-6, IL-8, IL-10) blandt cirrose-patienter.

METODE

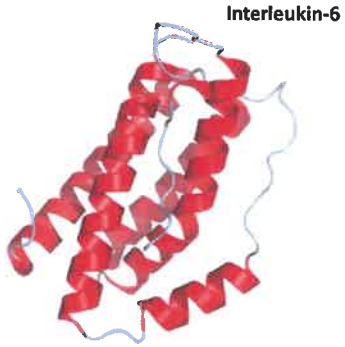
39 personer med cirrose Child-Pugh A/B blev randomiseret til enten en trænings- eller en kontrolgruppe. I 12 uger styrketrænede træningsgruppen 3 x 1 time ugentligt.

Blodprøver blev indsamlet før og efter interventionen.

KONKLUSION

Vi fandt ingen effekt af 12 ugers styrketræning på de undersøgte inflammationsmarkører. Det er fortsat uvist, hvorledes inflammationsmarkørerne påvirkes lige efter en enkelt træningssektion hos cirrosepatienter.

RESULTATER



	Træning (n = 19)			Kontrol (n = 15)			
	Wilcoxon - Median (min.-max.)						Mann-Whitney
	Baseline	Follow-up		Baseline	Follow-up		Δ Grupper
IL-6, pg/mL	2,0 (0,4-9,2)	1,7 (0,4-13,0)	p = 0,85	1,8 (0,6-19,8)	1,4 (0,7-6,1)	p = 0,40	p = 0,66
IL-8, pg/mL	34 (5-118)	36 (9-91)	p = 0,60	26 (6-270)	29 (12 –91)	p = 0,15	p = 0,11
IL-10, pg/mL	0,3 (0,1-1,6)	0,3 (0,1-2,2)	p = 0,14	0,5 (0,2-7,1)	0,4 (0,2-2,3)	p = 0,15	p = 0,84
IL-12p70, pg/mL	0,1 (0,01-0,7)	0,1 (0,02-0,3)	p = 0,38	0,1 (0,02-2,0)	0,2 (0,03-6,0)	p = 0,54	p = 0,52
IL-13, pg/mL	0,7 (0,03-1,3)	0,1 (0,02-0,3)	p < 0,01	1,1 (0,1-4,8)	0,1 (0,0-6,0)	p < 0,05	p = 0,72
TNF-α, pg/mL	2,3 (1,0-5,0)	2,3 (0,8-4,6)	p =0,59	3,6 (1,9-6,1)	2,8 (1,5-6,8)	p = 0,85	p = 0,54
IFN-γ, pg/mL	6,6 (2,4-23,9)	5,3 (1,4-213)	p = 0,62	7,6 (2,3-35,2)	5,4 (2,2-121)	p = 0,15	p = 0,52
CD163 mg/l	4,7 (1,2-14,5)	4,4 (1,4-16,4)	p = 0,19	5,1 (2,6-14,5)	4,6 (2,2-16,0)	p = 0,46	p = 0,78
CD206 mg/l	0,4 (0,2-0,8)	0,4 (0,2-0,7)	p = 0,27	0,4 (0,1-1,9)	0,4 (0,1-0,8)	p = 0,55	p = 0,95

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32.

The Role of NT-proBNP, Chromogranin A, and 5-Hydroxyindoleacetid Acid in Screening for Carcinoid Heart Disease

KKN Johnson[1], T Stemann Lau[1]*, SMD Baunwall[1], GE Villadsen[1], VG Rasmussen[2], H Grønbæk[1], RK Okjoki[2], G Dam[1]*

*Shared first authorship

1. Background

- Carcinoid heart disease (CHD) is a serious fibrotic complication in patients with neuroendocrine tumors (NETs)
- The diagnosis is made with echocardiography
- Current guidelines suggest that NT-proBNP levels should decide whether to refer patients to echocardiography

2. Aim

To investigate the usefulness of the following biomarkers in screening for CHD:

- NT-proBNP
- Chromogranin A (CgA)
- 5-hydroxyindoleacetic acid (5-HIAA)

3. Methods

108 NET patients

Echocardiography for detection of CHD

Measurements of NT-proBNP, CgA, and 5-HIAA

4. Results

	Sensitivity	Specificity	PPV	NPV
NT-proBNP	46 %	79 %	32 %	87 %
CgA	100 %	69 %	41 %	100 %
P-5-HIAA	92 %	85 %	55 %	98 %

Table 1: Cut-off levels: NT-proBNP: 260 ng/l, CgA: 598 pmol/l, P-5-HIAA: 752 nmol/l.

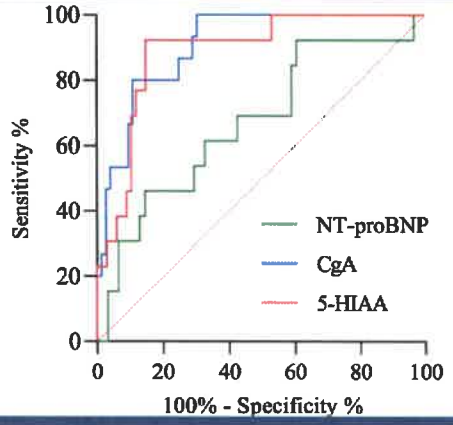

Figure 1: ROC curve for the identification of CHD by NT-proBNP, CgA, and P-5-HIAA.

AUROC for:
NT-proBNP: 0.67 (95% CI: 0.50 – 0.84)
CgA: 0.91 (95% CI: 0.84 – 0.97)
P-5-HIAA: 0.89 (95% CI: 0.80 – 0.98).

5. Conclusion

CgA and 5-HIAA were excellent biomarkers of CHD

These could potentially be used as screening tools

NT-proBNP lacked the necessary diagnostic accuracy as a screening tool

AARHUS UNIVERSITY

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AARHUS UNIVERSITY HOSPITAL

33.

Real-world effectiveness of faecal microbiota transplantation (FMT) for first or second *Clostridioides difficile* infection (CDI)

Sara Ellegaard Andreasen[1,2], Simon Mark Dahl Baumwall[1], Tone Rubak[2,3], Frederik Hyllested Birn[1], Nina Rågård[1], Jens Kelsen[1], Mette Mejlby Hansen[1], Lise Svenningsen[4], Anne Lund Krarup[5], Christa Marie Culmbach Fernis[6], Anders Neumann[7], Anders Bergh Lødrup[8], Henning Glerup[9], Morten Helms[10,11], Jesper Frøjk[12], Lise Tornvig Erikstrup[13], Anne Karmisholt Grosen[2,14], Susan Mikkelsen[14], Christian Erikstrup[2,14], Jens Frederik Dahlerup[1], Christian Lodberg Hvas[1,2]

1 Background

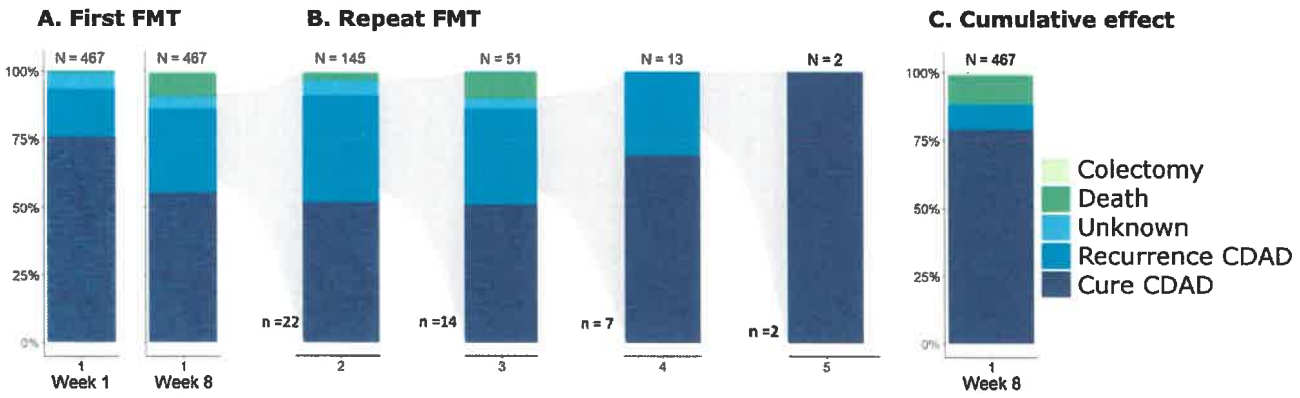
- FMT cures 90% with CDI in randomised studies
- Life-threatening, antibiotics-refractory CDI is common
- 28% 90-day mortality in patients above 60 years
- Guidelines recommend antibiotics in 1. and 2. CDI based on randomised studies on patients with mild CDI

2 Aim

- Assess the effectiveness of FMT for early CDI in a real-world clinical setting

3 Methods

- Multi-site Danish cohort study
- Primary outcome: cure of *Clostridioides difficile* associated diarrhea (CDAD) following repeat FMT
- Secondary outcome: 90-day mortality



4 Results

- Repeat FMT cured 79%
- 10% 90-day mortality

5 Conclusion

- Guidelines should consider early FMT

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AARHUS UNIVERSITETS HOSPITAL

34.

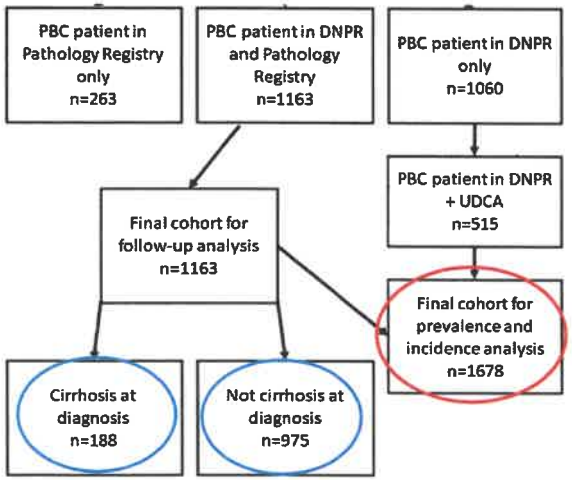
Primær biliær cholangitis øger mortaliteten uafhængigt af histologisk stadie ved diagnosen

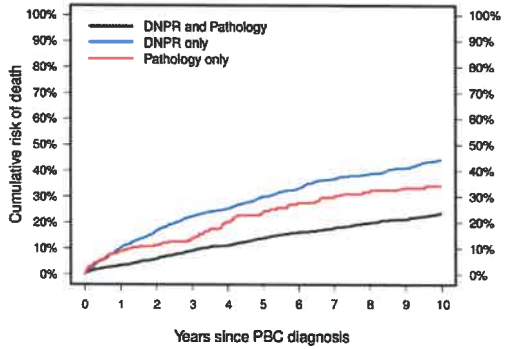
Formål:

- Incidens og prævalens
- Prognose sammenholdt med kontroller

Konklusion:

- Incidens og prævalens ligner andre i Nordeuropa
- Prognosen er dårligere for PBC patienter sammenlignet med kontroller uafhængigt af histologisk stadie ved diagnose

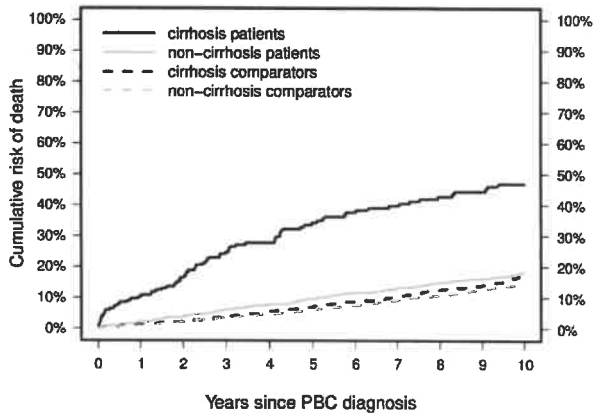




Resultater:

	Cirrose	Uden cirrose
Antal	188	975
Median alder	63.9 (56.1-72.0)	59.0 (49.3-67.2)
Kvinder, n (%)	161 (85.6)	863 (88.5)
Charlson comorbiditet, % (0/1-2/3+)	63.8/28.7/7.5	64.7/29.6/5.6

- Prævalens: 22,3 pr. 100.000 (1/1-21)
- Incidens: 2,8 pr 100.000 personår



Risiko for død	Cirrose patienter	Cirrose kontroller	Relativ risiko
1 år	10.2% (6.4-15.0)	1.2% (0.6-2.1)	4.10 (1.09-15.5)
5 år	34.2% (27.1-41.3)	6.8% (5.2-8.6)	4.10 (2.87-5.86)
10 år	46.9% (38.8-54.5)	17.0% (14.3-20.3)	2.41 (1.89-3.09)
	Patienter uden cirrose	Kontroller	Relativ risiko
1 år	2.0% (1.2-3.0)	0.9% (0.6-1.2)	1.83 (0.79-4.24)
5 år	9.6% (7.7-11.8)	6.0% (5.2-6.8)	1.51 (1.17-1.96)
10 år	18.5% (15.5-21.7)	14.3% (13.0-15.6)	1.22 (1.03-1.47)

EMCG European Microscopic Colitis Group

University of Copenhagen
Department of Clinical Medicine

Region Zealand
Zealand University Hospital

The disease course of microscopic colitis – a 5 years prospective European incidence cohort (Poster 35)

The European Microscopic Colitis Group, presented by Lars Kristian Munck and Bas Verheagh
Fourteen European centers incl. Departments of Gastroenterology, Region of Zealand hospitals, Denmark

BACKGROUND

- Retrospective studies suggest a relapsing or chronic active disease course in 32% (range 7-84%)
- No predictive markers of disease course and disease activity have been identified.

METHODS

- A 5-year prospective follow-up of an European incidence MC cohort at 14 European centres
- Patients were followed prospectively at 3, 6, 12 months and annually up to 5 years
- Active disease defined as ≥ 3 stools /day or ≥ 1 watery stools/day (Bristol 6/7; mean of 7 days)
- Remission defined as < 3 total stools/day and < 1 watery stools/day.
- Definitions of course of disease:
  - *Quiescent*: no disease activity or treatment ever since diagnosis
  - *Sustained remission* after treatment
  - *Relapsing*
  - *Chronic active*: continuous active and/or budesonide.

RESULTS

Patients

- 501 incident cases, 422 patients included
- 220 have completed follow-up
- 73% female, mean age 63 years
- 46% collagenous colitis (CC), 41% lymphocytic colitis (LC) and 13% incomplete MC.

Symptoms: Table 1.

Disease activity: Table 2.

Predictive factors of disease course:

- Neither stool frequency nor histological subtype
- A quiescent disease course since diagnosis or achieving sustained clinical remission during the first or second year, was associated with a 70% chance of being in clinical remission after 5 years ($p<0.001$)
- 57% of cases with a chronic active disease course in the first year had a chronic active or relapsing disease course throughout 5-year follow-up ($p=0.02$)
- 50% of patients with a relapsing or chronic course at year 1 had a relapsing or chronic course at year 5 ($p=0.005$)
- 57% of patients with a relapsing or chronic course at year 2 had a relapsing or chronic course at year 5 ($p=0.001$).

Treatment: Table 3.

TABLE 1 Symptoms	Baseline	Year 1	Year 5
Nightly defecation	44%	6%	5%
Urgency	82%	22%	20%
Abdominal Pain	48%	11%	11%
Active disease	67%	49%	40%

TABLE 2 Disease course	Year 1	Year 5
Quiescent course	11%	5%
Sustained remission	40%	55%
Relapsing course	34%	33%
Chronic active course	15%	7%

TABLE 3 Treatment	Year 1	Year 5
Expectative	44%	48%
Fibers	17%	11%
Budesonide (on demand)	26% (0%)	24% (7%)
Loperamide	40%	21%
Sequestrants	3%	5%
Biologics/immunosuppr.	2%	2%
On demand therapy	19%	21%

CONCLUSIONS

- 5 years after diagnosis, 40% of MC patients had a relapsing or chronic active disease
- Disease activity at 1 and 2 years after diagnosis was predictive of activity after 5 years
- Follow-up of and information to MC patients should reflect the recurrent course of disease
- Randomised trials of alternatives to long time budesonide treatment are warranted.

38. Incidence and disease course of pouchitis in patients with ulcerative colitis and an ileal pouch-anal anastomosis (IPAA)– A Danish population-based cohort study

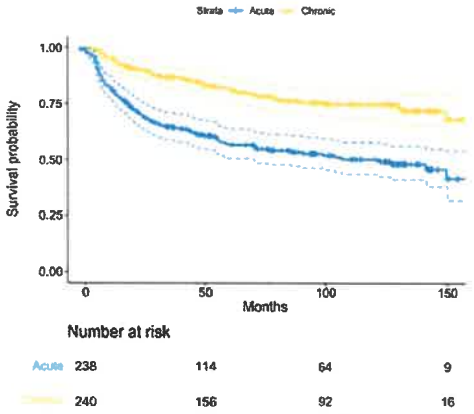
Bobby Lo1,2, Rosalina Bergstrøm1,2, Eva Toft2,3, Orhan Bulut2,3, Johan Bursich1,2

Introduction

Ulcerative colitis (UC) is a chronic inflammatory bowel disease affecting the colon and rectum. In some cases, surgical intervention such as colectomy may be necessary. Following colectomy, the creation of an ileal pouch-anal anastomosis (IPAA) provides an alternative to permanent ostomy. However, pouchitis is a well-recognized complication of IPAA, causing inflammation and symptoms similar to those of ulcerative colitis. Despite its frequency, there remains a paucity of reliable data on the incidence and long-term disease course of pouchitis, especially from population-based cohorts

Aims and methods

We aim to investigate the incidence and disease course pouchitis in UC patients who've underwent an IPAA between 11th November 1993 and 26th April 2021 at Copenhagen University Hospital Hvidovre, Gastrounit. Due to centralization of IPAA, the department covers approx. 46 % of the Danish population. All patients were manually screened through their electronic medical record. All events of pouchitis and the duration was registered.

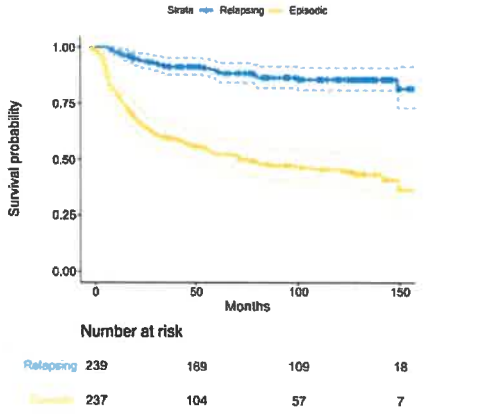


Results

In total, 239 UC patients had ileal pouch-anal anastomosis (IPAA) performed between 11th November 1993 and 26th April 2021. However, 6 patients did not have their relieving ileostomy put back and their constructed pouch taken into usage and were therefore excluded from the analysis. The median follow-up time was 8.36 years (IQR: 4.33 – 11.16) for the 233 patients. During the observation period, a total of 122 (52.36 %) UC patients, experienced 421 events of pouchitis ranging from 1-25 episodes per patient. Of the 421 events, 329 (78.15 %) were defined as acute (≤ 28 days) and 92 (21.85 %) as chronic pouchitis (>28 days). Looking at the frequency of the flares, 311 (73.87 %) of these could be categorised as episodic pouchitis (<3 episodes per year) and 110 (26.13 %) as relapsing pouchitis (≥3 episodes per year). The episodes of relapsing pouchitis were distributed among 31 patients (26.19 %). The mean time from IPAA construction to the first episode of pouchtitis was 27.24 (SD: 36.20) months. The mean length of each episode of pouchitis until remission was 25.69 (SD: 59.70) days. While the time between each pouchitis episode was a mean of 373.53 (SD: 620.14) days.

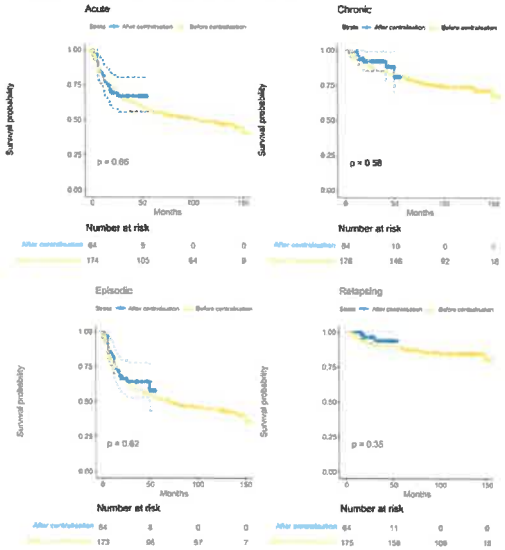
The survival rate, referring to time to pouchitis, at 6 months, 1,2,5, and 10 years

	0	6	12	24	60	120
Episodic	100%	88%	76%	64%	52%	44%
Relapsing	100%	100%	96%	92%	90%	86%



Conclusion

This study highlights the high incidence of pouchitis in UC patients who have undergone an IPAA. Approximately half of the patients experienced at least one episode of pouchitis. The time from IPAA construction to the first episode of pouchitis was around 2 years, with a mean duration of each episode being around 3 weeks. The frequency of relapsing pouchitis was seen in a quarter of the patients. These findings emphasize the importance of identifying preventive and therapeutic strategies for pouchitis in this patient population to improve long-term outcomes.



Affiliations

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3 Gastro Unit, Surgical Section, Copenhagen University Hospital – Amager and Hvidovre, Hvidovre, Denmark

39. The treatment and treatment outcomes of pouchitis in patients with Ulcerative Colitis Following IPAA – A Danish population-based cohort study

Bobby Lo1,2, Rosalina Bergstrøm1,2, Eva Toft2,3, Orhan Bulut2,3, Johan Bursich1,2

Introduction

Ulcerative colitis (UC), a chronic inflammatory bowel disease, may require surgical intervention such as colectomy. Post-colectomy, an ileal pouch-anal anastomosis (IPAA) offers an alternative to a permanent ostomy. However, up to 50% of patients with an IPAA will experience pouchitis, which can cause symptoms similar to UC. More robust data is needed to establish effective treatments and assess their real-world effectiveness, especially in population-based cohorts.

Aims and methods

The aim was to investigate the choice of treatments for pouchitis, their effectiveness, and pouch failure rates in UC patients who underwent IPAA at Copenhagen University Hospital Hvidovre between 11th November 1993 and 26th April 2021. Patients were screened through electronic medical records. Antibiotic treatment responses were defined as antibiotic dependent (needing 4+ courses/year), antibiotic refractory (courses of antibiotics lasting >28 days), and antibiotic responsive (not meeting the other criteria). Continuous or pro necessitate treatments were considered refractory (29 days), while courses without a stop date and no new symptoms were deemed responsive (14 days).

Results

A total of 239 UC patients underwent IPAA. After excluding 6 patients who did not receive ileostomy reversal, 233 were analysed with a median follow-up of 8.36 (IQR: 4.33–11.16) years. 529 pouchitis treatment courses were prescribed to 118 (50.64%) of the UC patients, with 474 (89.6%) being antibiotics. Ciprofloxacin and metronidazole were the most common prescribed antibiotics, while adalimumab and infliximab were the most common used biologics. The median duration of antibiotic treatment was 11 (IQR: 9-19 days) days.

Two-thirds of antibiotic courses were responsive, while one-third were refractory or dependent. This corresponded to, 46.4% of the 233 patients being antibiotic responsive, 14.6% dependent, and 16.3% refractory.

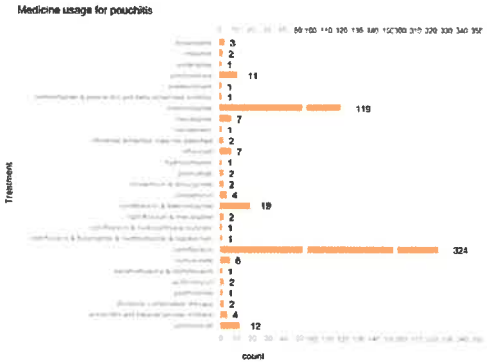
Survival rates for responsive, refractory, and dependent pouchitis treatments were as follows:

For responsive treatments, survival rates were 0.84 at 6 months, 0.77 at 12 months, 0.65 at 24 months, 0.56 at 60 months, and 0.49 at 120 months.

For refractory treatments, survival rates were 0.98 at 6 months, 0.97 at 12 months, 0.95 at 24 months, 0.89 at 60 months, and 0.80 at 120 months.

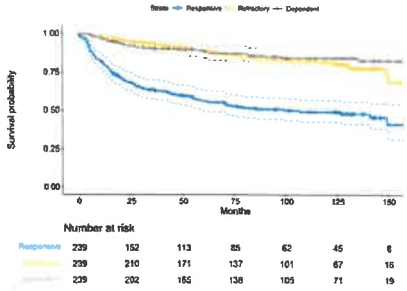
For dependent treatments, survival rates were 0.97 at 6 months, 0.94 at 12 months, 0.91 at 24 months, 0.86 at 60 months, and 0.83 at 120 months.

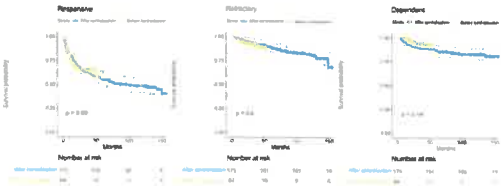
Pouch failure occurred in 13.8% (32) of patients. These patients experienced 36 pouch failures, where 12 (33.33%) were due to acute and chronic sepsis, 19 (52.78%) were caused by poor function for mechanical or functional reasons, 3 (8.33%) resulted from mucosal inflammation (pouchitis), and 2 (5.56%) were attributed to neoplastic transformation. Prior to pouch failure, 50.8% of the 32 patients had at least 1 responsive episode of pouchitis, 21.9% had dependent pouchitis, and 18.8% had refractory pouchitis.



Conclusion

This study provides insights into pouchitis treatment strategies, their effectiveness, and failure rates in UC patients who undergoes IPAA. The majority of pouchitis treatments were antibiotics, with ciprofloxacin and metronidazole being the most common. Antibiotic responsiveness varied among patients, with pouch failure observed in 13.8% of cases. These findings contribute to a better understanding of pouchitis management in real-world settings, emphasizing the need for further research to optimize treatment strategies and improve patient outcomes.





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40. Antibiotic use increases the risk of relapse – A population-based nested case-control study using the Danish National patient registry

Bobby Lo1,2, Luc Biederman3, Gerhard Rogler3, Barbara Dora3, Andrea Kreienbühl3, Ida Vind1,2,4, Flemming Bendtsen1,2,4, Johan Burisch1,2

Introduction

Inflammatory bowel disease is a chronic gastrointestinal disease with unknown causes. Patients experience relapses and symptoms like pain and weight loss. Little is known about environmental factors that trigger flare-ups, including the effects of commonly used medications. Recent studies suggest a link between microbial factors and IBD, making it important to investigate the impact of antibiotics on flare-ups.

Aims and methods

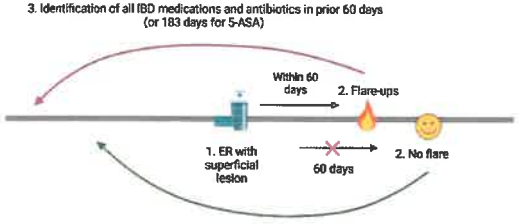
We aimed to investigate whether specific subtypes of antibiotics increase the risk of flare in IBD patients utilizing the Danish Nationwide Patient Registry which register all healthcare related visits, treatments and procedure on an individual level from 1994-2018. Furthermore, we also utilised he socioeconomical data that was available. In a previous study, we identified all IBD since 19741.

Using this cohort of IBD patients, we established two distinct cohorts for the purpose of identifying flares. The first cohort was characterized by having an IBD-related hospital stay. The second cohort was characterized by experiencing a flare of IBD in need of systemic steroids. Patient was matched 1:5 using K-nearest neighbor.

Antibiotics were grouped into the 3rd level according to the Anatomical Therapeutic Chemical (ATC) classification system. Only anthelmintics were grouped into the 2nd level according to the ATC classification. All antibiotics were given within 60 days of the outcome.

A logistic regression model was employed to analyze the risk posed by each antibiotic group on the risk of flare. The risk was presented as odds ratio (OR) with a 95% confidence interval (95% CI).

The following variables were selected as adjusting variables: year of remission/flare, sex, age at diagnosis, year of diagnosis, type of IBD, socioeconomic status, use of 5-ASA, use of budesonide, use of immunosuppressants, and subtypes of biologics



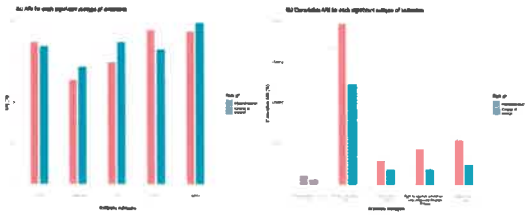
3. Identification of all IBD medications and antibiotics in prior 60 days (or 183 days for 5-ASA)

Results

There were in total 69,908 IBD patients in the original cohort. After applying the abovementioned algorithm, a total of 15,636 and 5,178 patients were included in the cohort for hospitalisation and steroid use, respectively.

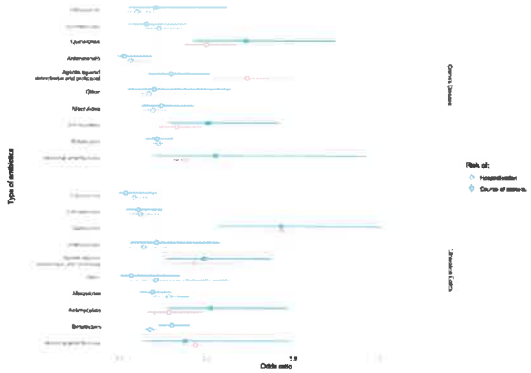
Using a multivariate logistic regression model, both cohorts observed a significant increase in odds ratios (ORs) for certain antibiotics in relation to hospitalization and steroid course. Specifically, for the steroid course, quinolones had an OR of 3.83 (95% CI: 2.73 - 5.35), antimycotics had an OR of 2.30 (95% CI: 1.53 - 3.40), agents against amoebiasis and protozoal had an OR of 2.06 (95% CI: 1.39 - 3.01), betalactam had an OR of 1.35 (95% CI: 1.10 - 1.66), and intestinal anti-infectives had an OR of 2.12 (95% CI: 1.08 - 3.98).

Regarding hospitalization, agents against amoebiasis and protozoal had an OR of 3.48 (95% CI: 2.72 - 4.44), quinolones had an OR of 3.10 (95% CI: 2.48 - 3.86), intestinal anti-infectives had an OR of 2.42 (95% CI: 1.54 - 3.76) and antimycotics had an OR of 1.58 (95% CI: 1.17 - 2.12)



Conclusion

This study provides evidence that certain types of antibiotics increase the risk of flare-ups in patients with IBD. Quinolones, antimycotics, agents against amoebiasis and protozoal, betalactam, and intestinal anti-infectives were all associated with increased odds ratios for hospitalization and steroid use. These findings highlight the importance of carefully considering the use of antibiotics in IBD patients and the need for further research on the effects of different antibiotics on disease progression.



References

1 Lo B, Zhao M, Burisch J. Identifying patients with inflammatory bowel disease in the Danish National Patient Register. Dan Med J. 2023 Mar 27;70(4):A07220458. PMID: 36999818.

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41. Antibiotics are predictive in foreseeing relapse using machine learning methods – A population-based nested case-control study using the Danish National patient registry

Bobby Lo1,2, Luc Biederman3, Gerhard Rogler3, Barbara Dora3, Andrea Kreienbühl3, Ida Vind1,2,4, Flemming Bendtsen1,2,4, Johan Burisch1,2

Introduction

Inflammatory bowel disease is a chronic gastrointestinal disease with unknown causes. Patients experience relapses and symptoms like pain and weight loss. Little is known about environmental factors that trigger flare-ups, including the effects of commonly used medications. Recent studies suggest a link between microbial factors and IBD, making it important to investigate the predictive level of antibiotics on flare-ups.

Aims and methods

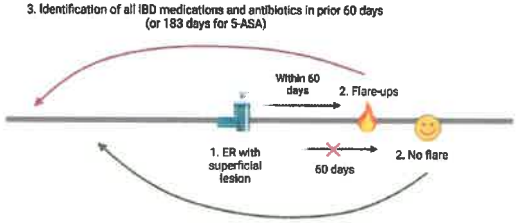
We aimed to utilize the Danish Nationwide Patient Registry (DNPR) to predict flare-up in IBD patients by including the use of antibiotics. The DNPR used in this study have registered all healthcare related visits, treatments and procedure on an individual level from 1994-2018. Furthermore, we also utilised he socioeconomical data that was available. In a previous study, we identified all IBD since 19741.

Using this cohort of IBD patients, we established two distinct cohorts for the purpose of identifying flares. The first cohort was characterized by having an IBD-related hospital stay. The second cohort was characterized by experiencing a flare of IBD in need of systemic steroids. Patient was matched 1:5 using K-nearest neighbor.

Antibiotics were grouped into the 3rd level according to the Anatomical Therapeutic Chemical (ATC) classification system. Only anthelmintics were grouped into the 2nd level according to the ATC classification. All antibiotics were given within 60 days of the outcome.

Cohorts was divided into an 80/20 training/testing set and trained using a 5-fold cross-validation with eXtreme Gradient Boosted decision tree (GBDT) framework. The final model was chosen based on the area under the receiver operating characteristic curve (AUROC). The final model was evaluated on the test set (which is unseen data). Evaluation of the models was reported as accuracy (ACC), positive predictive value (PPV), and negative predictive value (NPV).

The following variables were selected as predicting factors variables: year of remission/flare, sex, age at diagnosis, year of diagnosis, type of IBD, socioeconomic status, subtypes of IBD-medication, subtypes of biologics and subtypes of antibiotics.



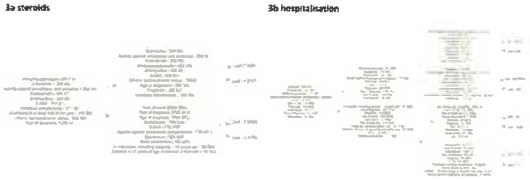
Results

There were in total 69,908 IBD patients in the original cohort. After applying the abovementioned algorithm, a total of 15,636 and 5,178 patients were included in the cohort for hospitalisation and steroid use, respectively.

The GDBT models achieved an AUROC of 0.71 (SD: 0.03) and 0.85 (SD: 0.008) for predicting steroid courses and hospitalization, respectively, on the training set. On the test-set, the models achieved an ACC of 82.72%, with a PPV of 36.36% and a NPV of 83.73% on predicting steroid course and an ACC of 85.23%, with PPV of 60.14% and a NPV of 87.80% on predicting hospitalization. Quinolones and agents against amoebiasis and protozoal were identified as top 10 most important variables for making accurate predictions and for splitting decision trees. Other antibiotics, such as tetracyclines, betalactam, and intestinal anti-infectives, were also useful as splitting variables.

Conclusion

This study demonstrated the importance of antibiotics, particularly quinolones and agents against amoebiasis and protozoal, in predicting IBD-related flares. The GDBT-trained models achieved a high accuracy in predicting hospitalization and steroid courses, with AUROC of 0.85 and 0.71, respectively. These findings highlight the potential use of antibiotics in predicting IBD flare-ups and can guide future research on the role of microbial factors in IBD.



References

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