

Obesitas & COVID-19 op de IC

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Disclosure spreker

Geen (potentiële) belangenverstrengeling

Voor bijeenkomst mogelijke relevante relaties

- Sponsoring of onderzoeksgeld
- Honorarium of andere (financiële) vergoeding
- Aandeelhouder
- Andere relatie, namelijk...

Bedrijfsnamen

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-
-
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Introductie

COVID-19

Risicofactoren

hogere leeftijd
man
BMI ↑
diabetes mellitus
hypertensie
coronairlijden



Introductie

COVID-19

Risicofactoren

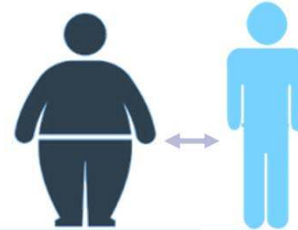
hogere leeftijd

man

BMI ↑

diabetes mellitus

hypertensie



Vatbaarder

Ernstiger beloop

Leademing

Mortaliteit

IC-populatie?

Immunologische verschillen?

Mechanische oorzaak?

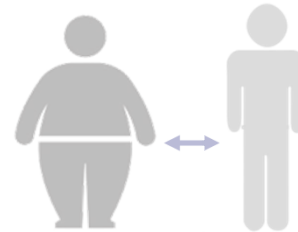


Introductie

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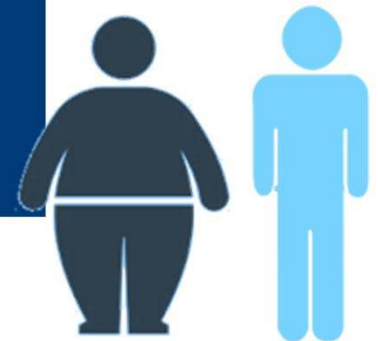
Mechanische oorzaak?

Doel

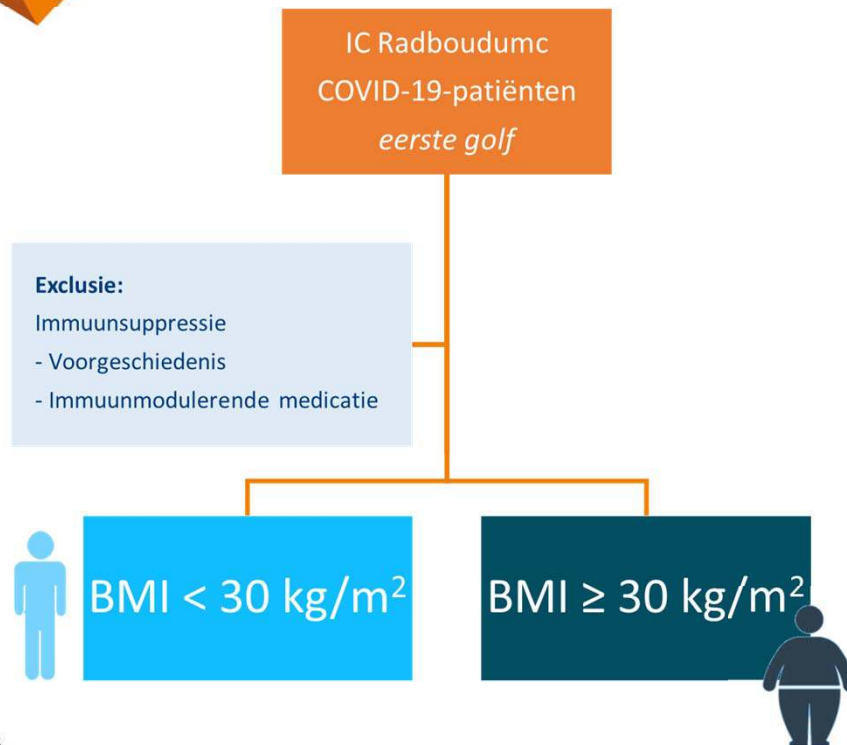
COVID-19 op de IC

Versillen in..

1. Inflammatie
2. Klinische uitkomsten



Methode



Dataverzameling

Tijdens IC-opname:

Dagelijks

- klinische inflammatie- en respiratoire parameters

3x per week

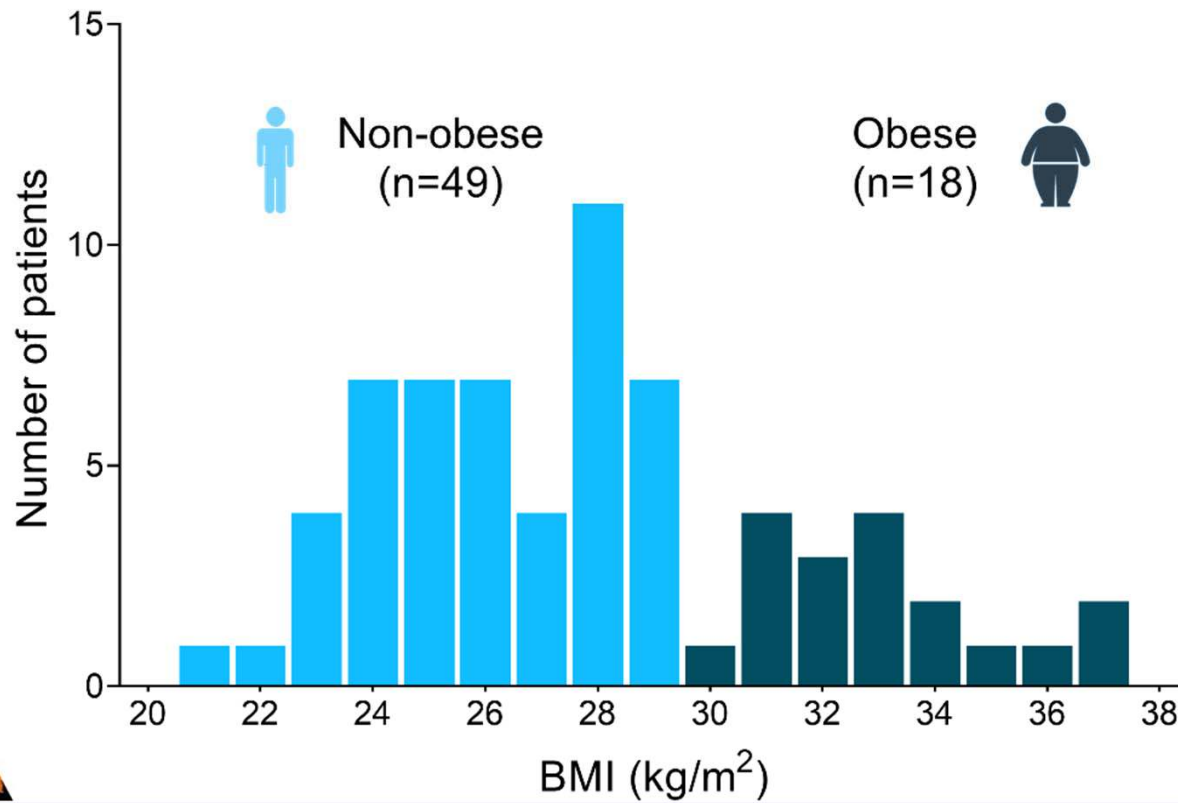
- cytokineconcentraties

40 dagen

- klinische uitkomsten

Resultaten

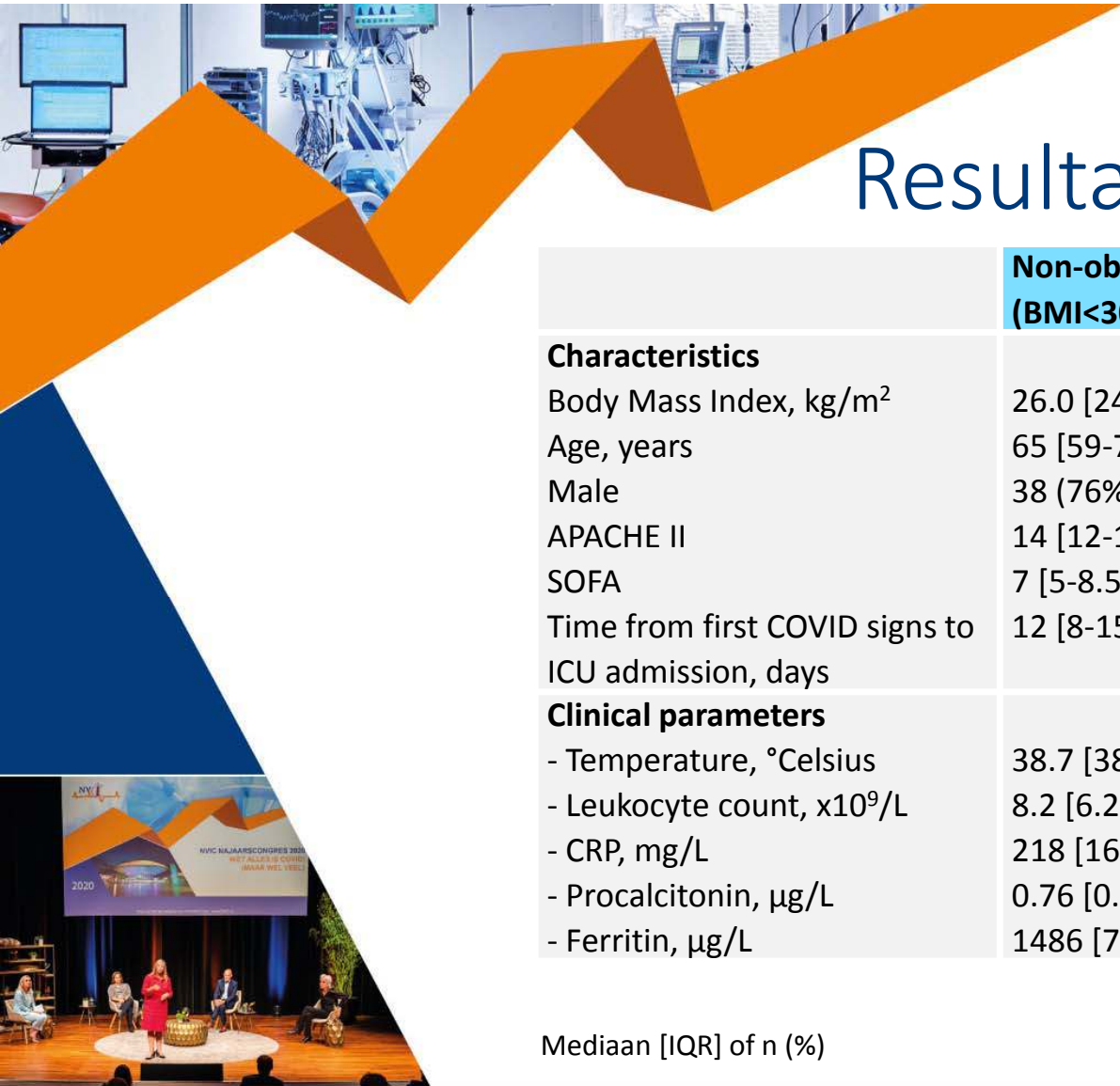
Distribution of BMI



Resultaten

	Non-obese (BMI<30, n=49)	Obese (BMI≥ 30, n=18)	p-value
Characteristics			
Body Mass Index, kg/m ²	26.0 [24.4-27.7]	32.6 [31.2-34.5]	<0.0001
Age, years	65 [59-72]	66.5 [57-72]	0.99
Male	38 (76%)	12 (24%)	0.36
APACHE II	14 [12-19]	17 [9-23]	0.54
SOFA	7 [5-8.5]	4 [4-9]	0.72
Time from first COVID signs to ICU admission, days	12 [8-15.75]	10 [7-13.5]	0.35
Clinical parameters			
- Temperature, °Celsius	38.7 [38.0 -39.5]	38.1 [36.9-38.9]	0.02
- Leukocyte count, x10 ⁹ /L	8.2 [6.2-10.8]	8.8 [0.7-10.0]	0.63
- CRP, mg/L	218 [169-291]	245 [136-327]	0.43
- Procalcitonin, µg/L	0.76 [0.39-1.99]	0.53 [0.28-1.56]	0.52
- Ferritin, µg/L	1486 [720-2265]	1129 [724-2404]	0.74

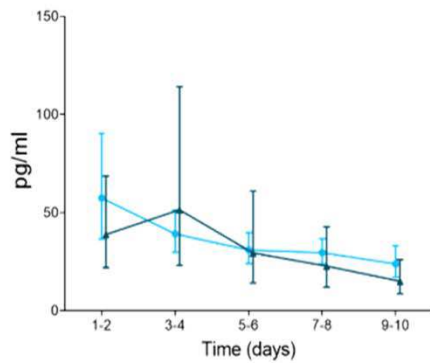
Mediaan [IQR] of n (%)



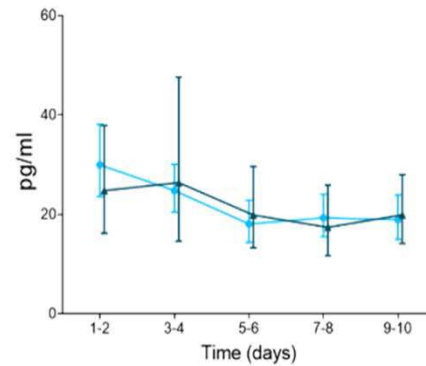
Resultaten cytokines

— non-obese (n=49)
— obese (n=18)

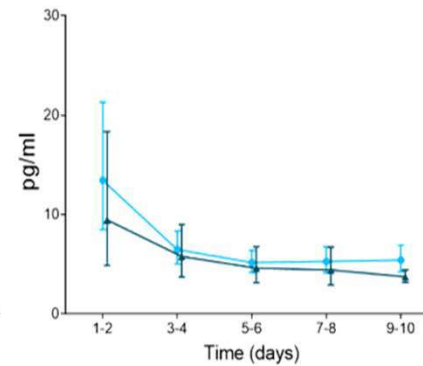
IL-6



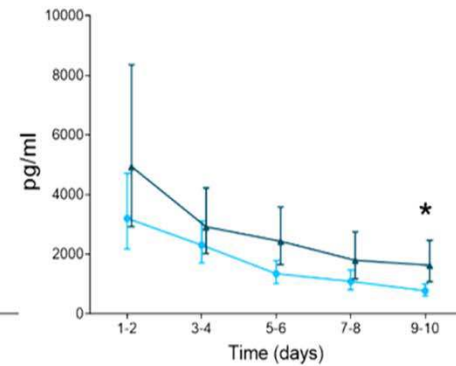
IL-8



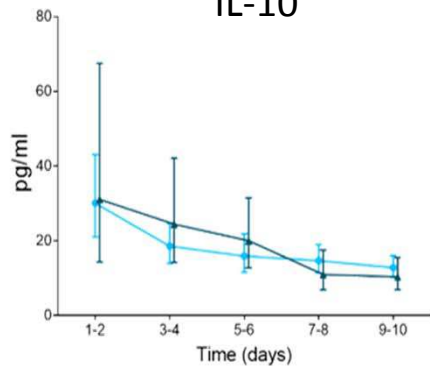
IFN- γ



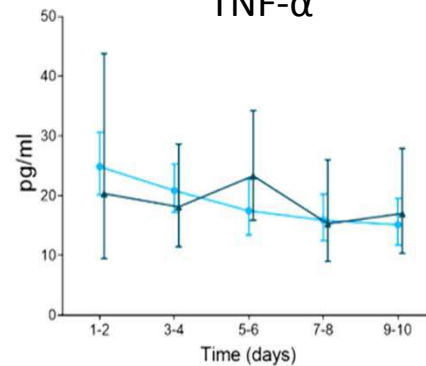
IP-10



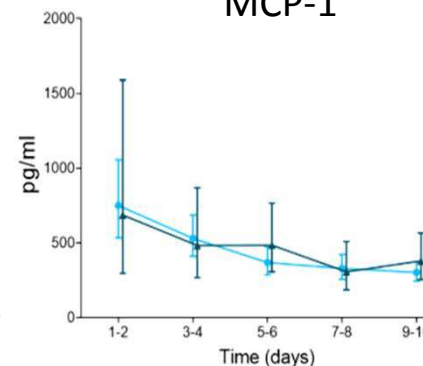
IL-10



TNF- α



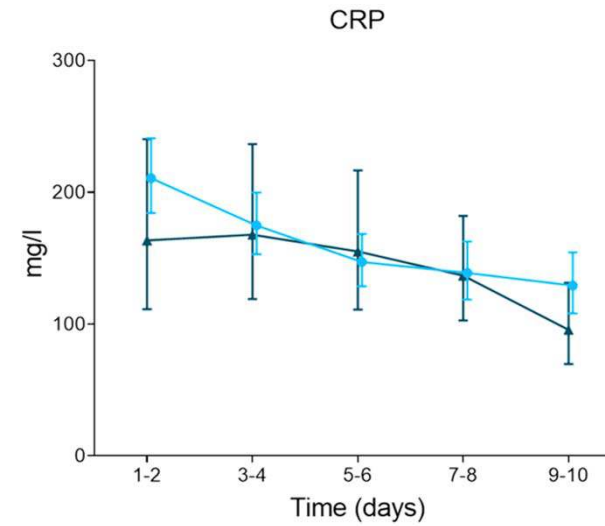
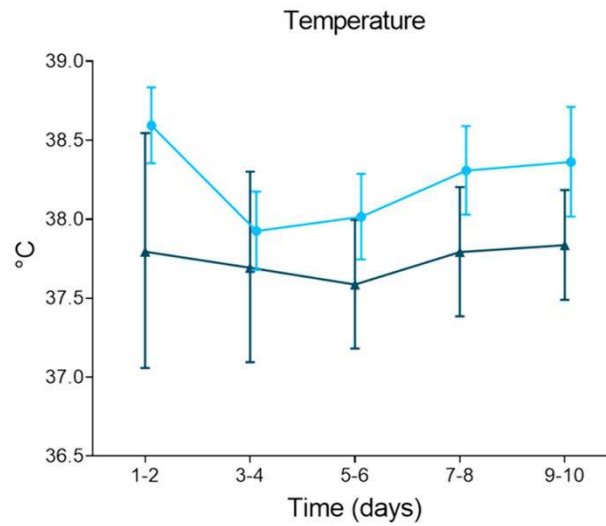
MCP-1



Resultaten

klinische inflammatie

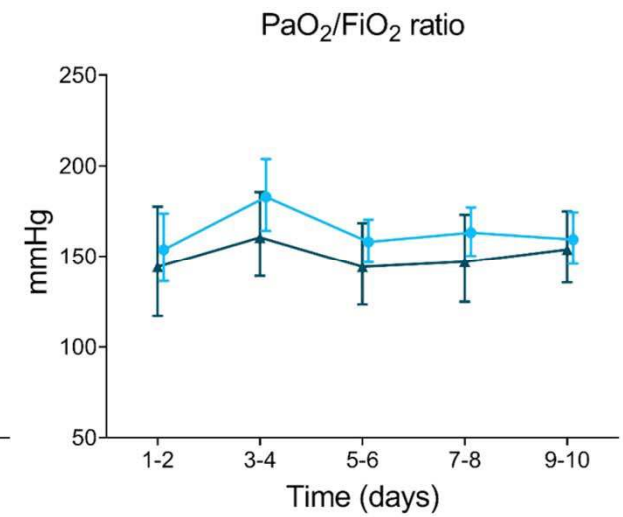
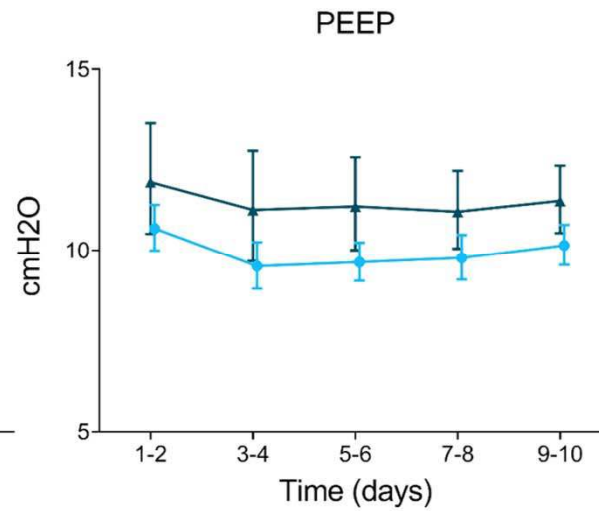
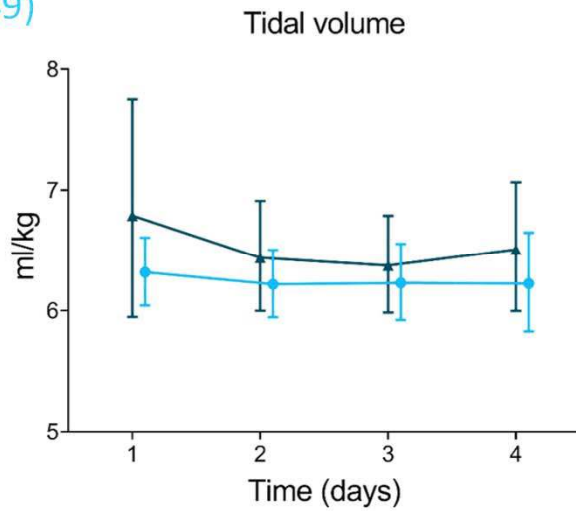
— non-obese (n=49)
— obese (n=18)



Resultaten

respiratoire parameters

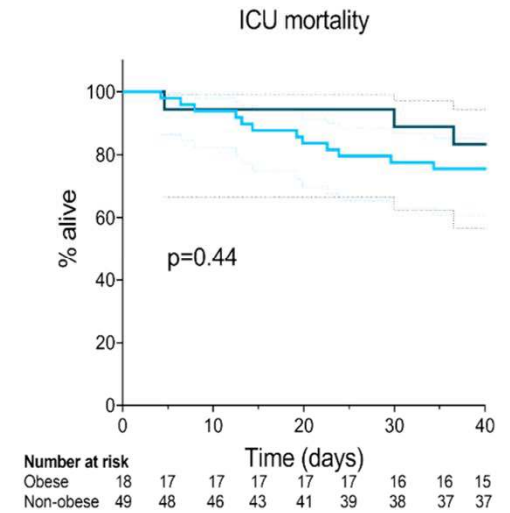
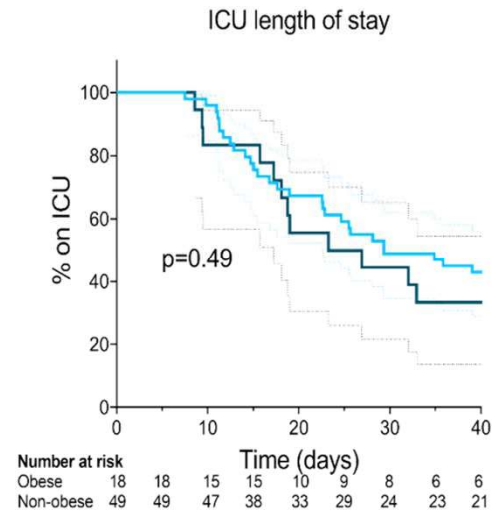
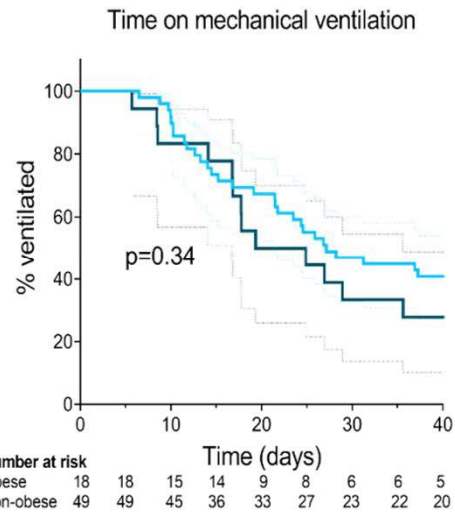
— non-obese (n=49)
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Resultaten

klinische uitkomsten

— non-obese (n=49)
— obese (n=18)



Discussie

Kleine groepen
Single center studie
Geen BMI > 40 kg/m²

Conclusie



COVID-19 patiënten op de IC:

Geen verschil in inflammatie en
klinische uitkomsten

Vervolgonderzoek

Landelijke data (NICE)

- COVID-19 (n=2638)
- Virale pneumonie (n=2987)
- Bacteriële pneumonie (n=14626)



Vervolg...

Odds ratio's 28-dagen mortaliteit

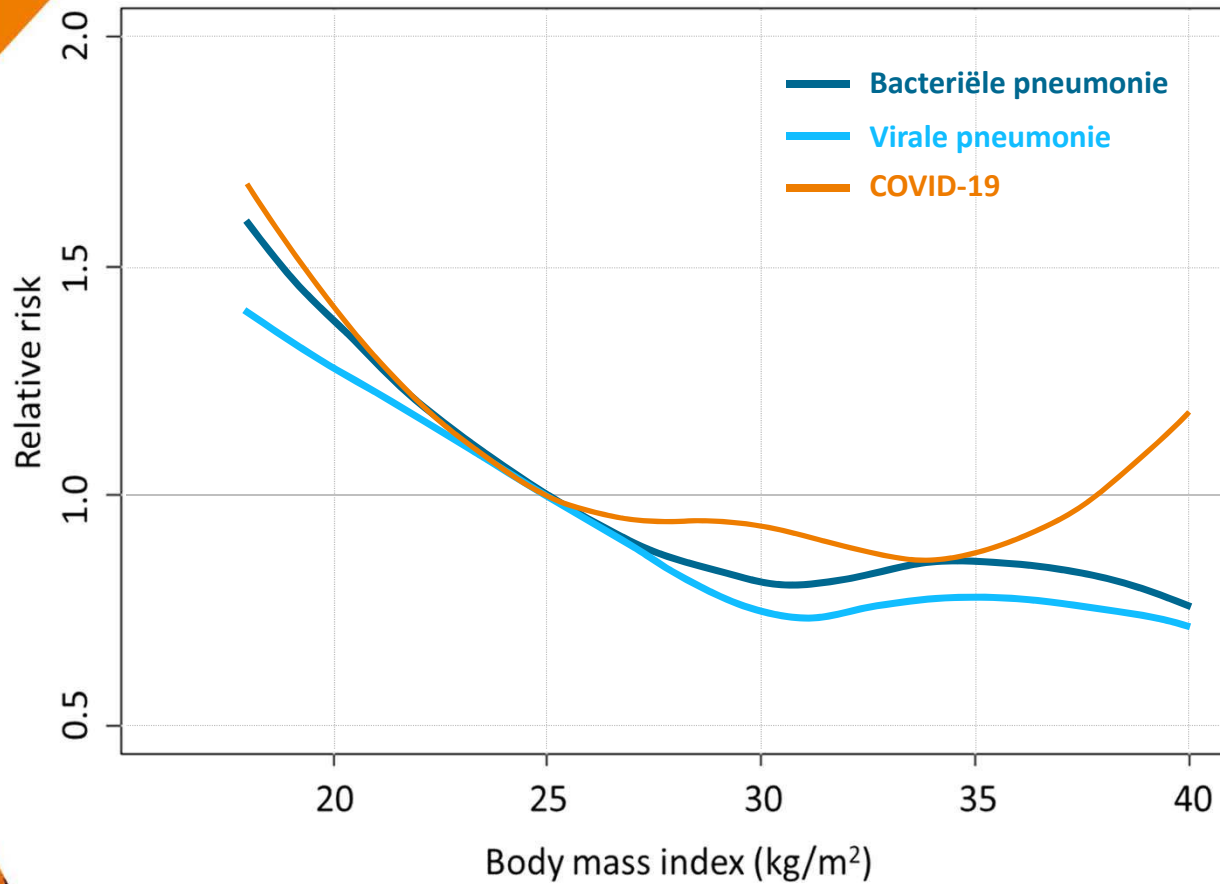
	Virale pneumonie (n=2987)	Bacteriële pneumonie (n=14626)	COVID-19 (n=2638)
BMI <18.5 kg/m ²	1.55 [0.98-2.45]	1.93 [1.61-2.31]	2.31 [0.61-8.64]
BMI 18.5-25 kg/m ²	1.0 reference	1.0 reference	1.0 reference
BMI 25-30 kg/m ²	0.70 [0.55-0.9]	0.77 [0.7-0.86]	0.91 [0.71-1.16]
BMI 30-35 kg/m ²	0.74 [0.53-1.02]	0.82 [0.71-0.95]	0.83 [0.62-1.12]
BMI ≥35 kg/m ²	0.67 [0.45-0.99]	0.72 [0.60-0.87]	1.27 [0.87-1.86]

Covariaten

BMI
Geslacht
Leeftijd
Comorbiditeiten
APS score
Vasoactieve medicatie (y/n)
Mechanische ventilatie (y/n)
P/F-ratio



Vervolg...



Bedankt voor uw aandacht!



Kooistra EJ, de Nooijer AH, Claassen WJ, et al. A higher BMI is not associated with a different immune response and disease course in critically ill COVID-19 patients. *International Journal of Obesity* 2021.