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# Hidrosadenitis Suppurativa

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*15.01.26*



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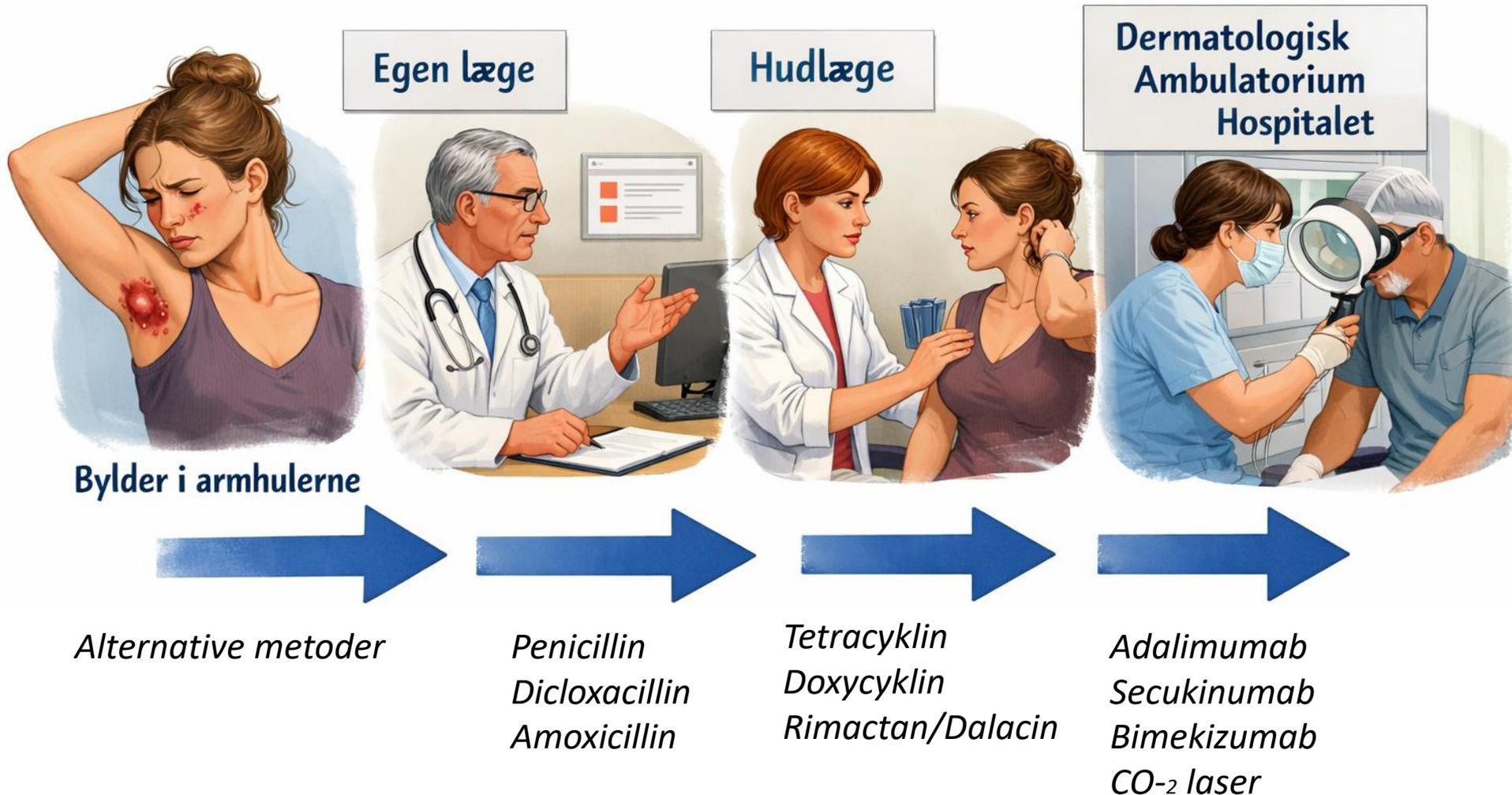
# Agenda

- Vejen til effektiv behandling
- Antibiotika resistens
- Pre-biologics:
  - GLP-1 analoger
  - Roflumilast
  - Metformin
- Tricks til praksis
- Nye biologiske lægemidler
- Konklusion



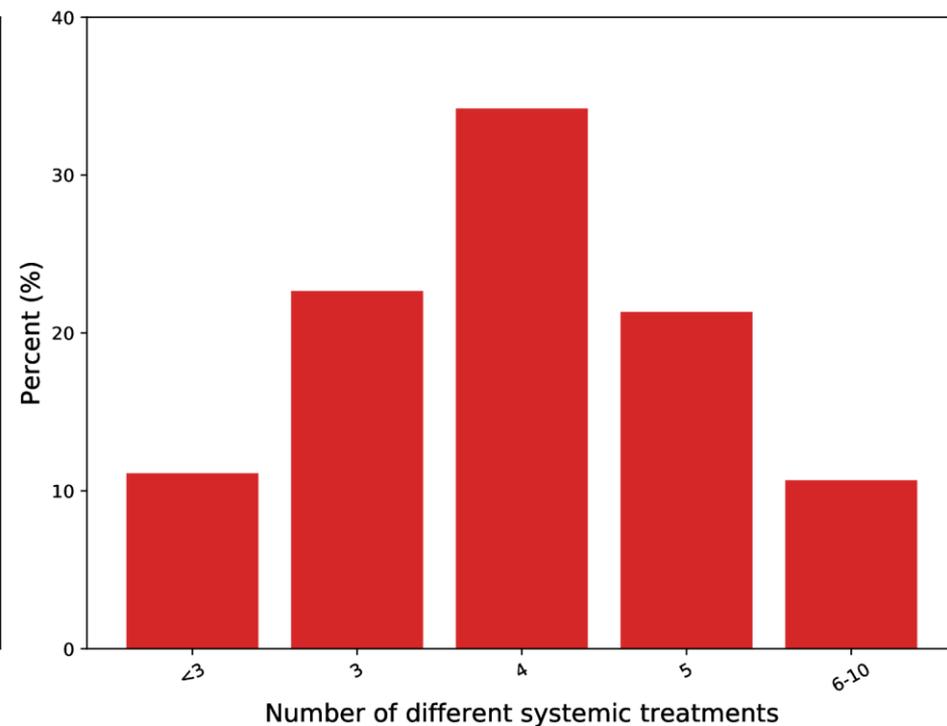
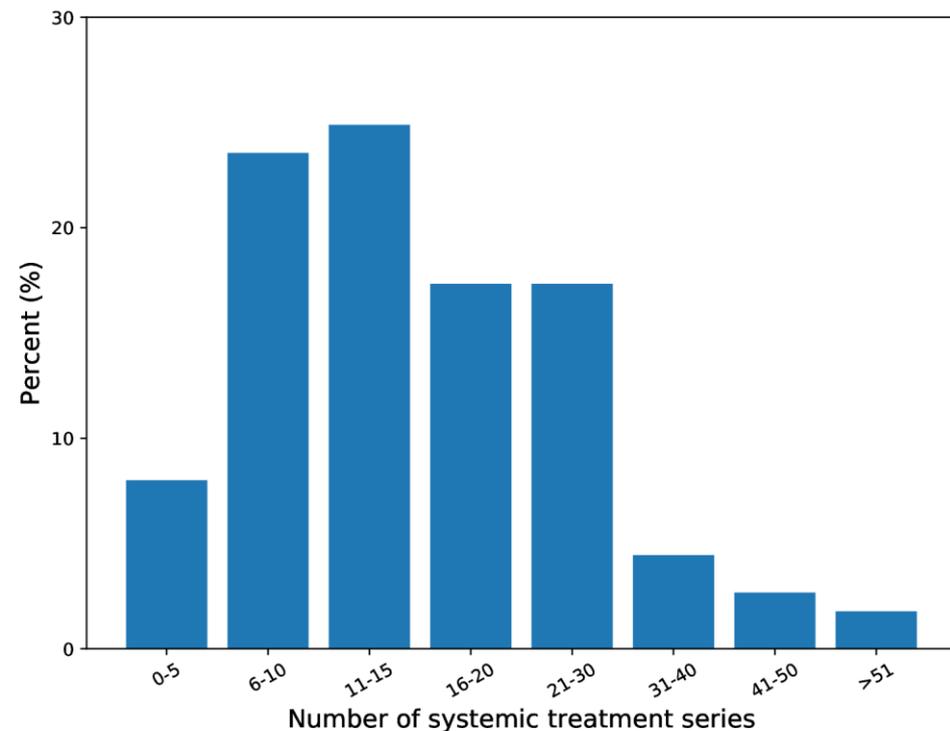
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# Vejen til dermatologen og effektiv behandling





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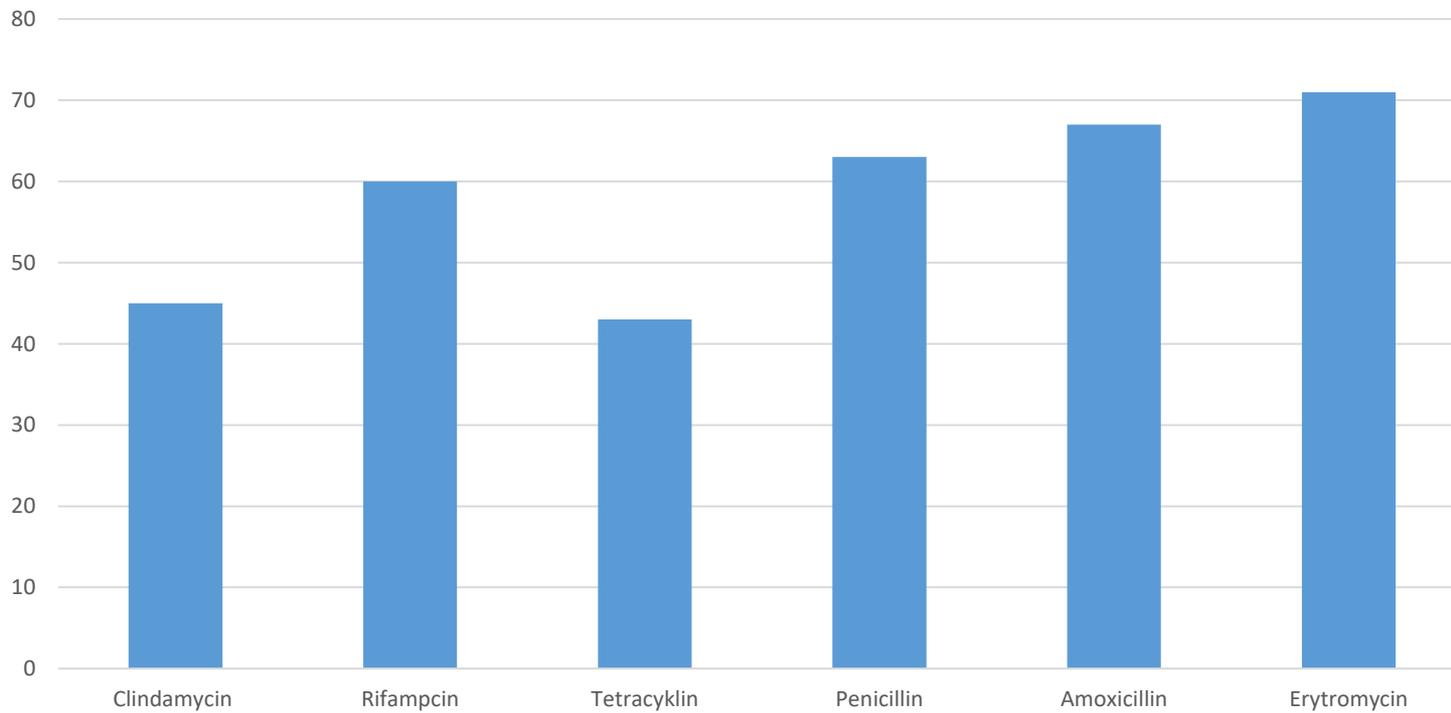


- The mean time from first systemic therapy until biologic therapy was initiated was **15.3** (SD 5.1) years (**8.2**[SD 5.9] years when excluding penicillin and dicloxacillin)



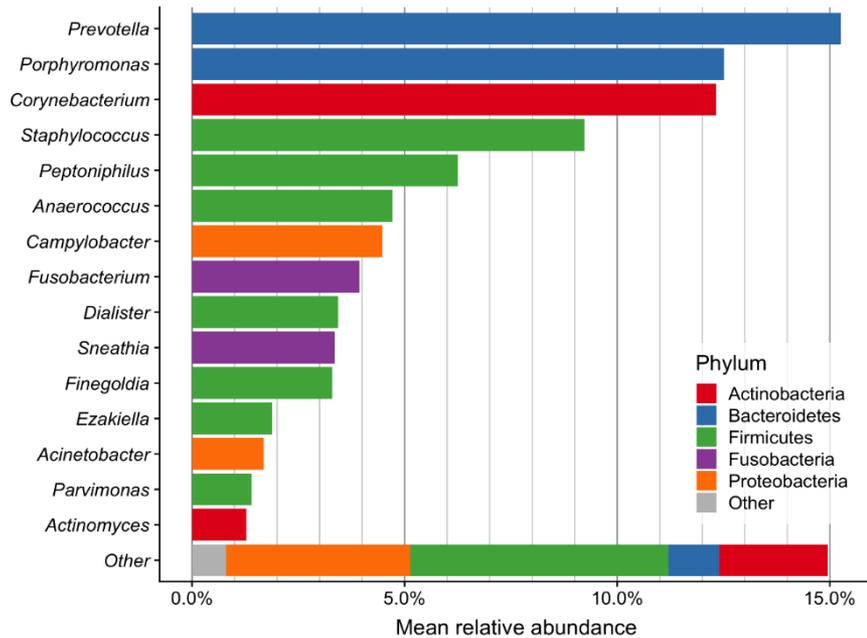
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## Antibiotika resistens i HS



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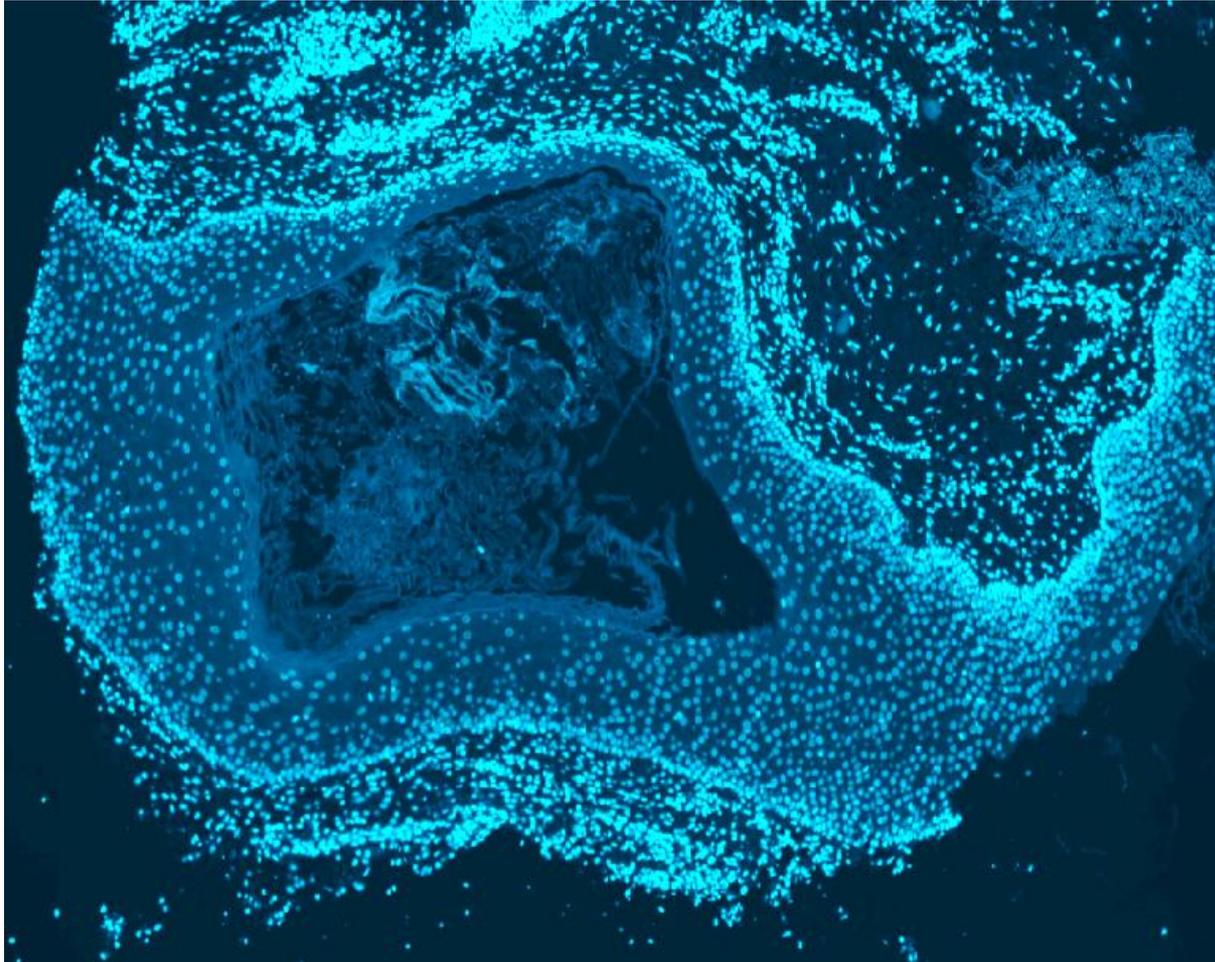
# Mikrobiologien i HS tunneller



Ring HC. et al. The microbiome in HS tunnels. JEADV.2019

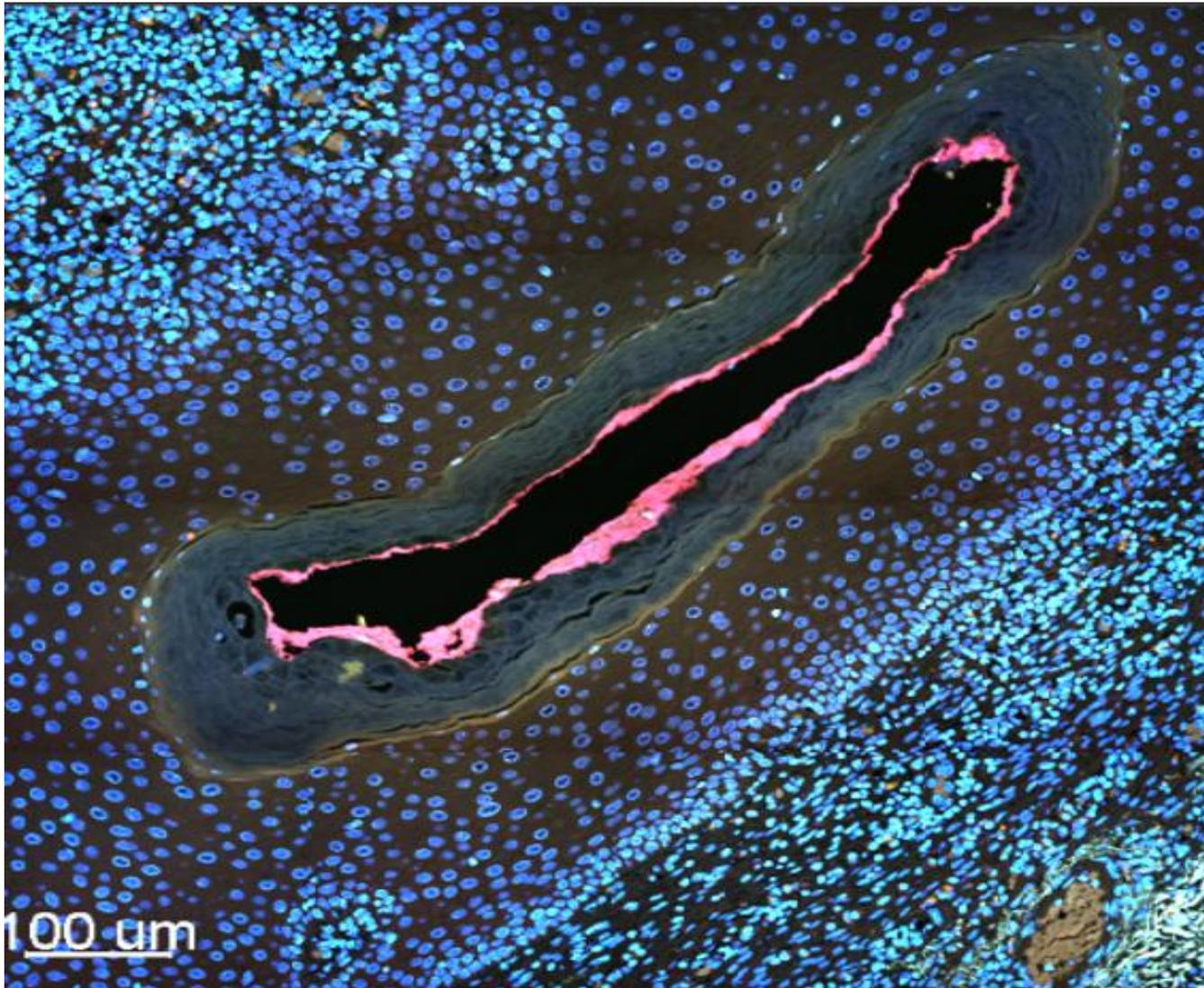


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## Ikke-biologiske alternativer til antibiotika

- **Roflumilast**
- **GLP-1 analoger**
- **Metformin**
- Dapson
- Neotigason
- Colchicine

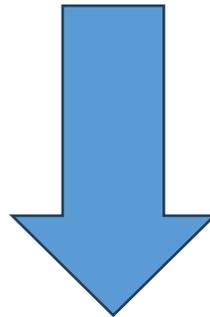


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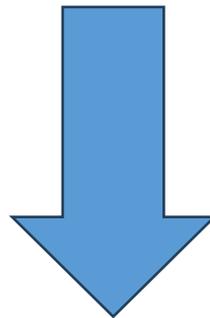


# GLP-1 RA og HS

Vægttab og forbedret insulinresistens



Reduktion i proinflammatoriske cytokiner IL-17 og TNF-alfa



**Reduktion i det inflammatorisk load**

**Table I.** Summary of studies evaluating the use of GLP-1RAs in the treatment of patients with hidradenitis suppurativa

Country, design (N), y	Age, follow-up, GLP-1 (risk of bias)	Concomitant treatment	GLP-1RA treatment regimen	Outcomes
United States, Retrospective cohort (45), 2024	42.1 y, 12 mo, Semaglutide (Moderate)	Stable treatment with one or more of: spironolactone, metformin, methotrexate, doxycycline/minocycline, isotretinoin, biologics	0.52 ± 0.47 mg/wk, increased to 1.11 ± 0.82 at 6 mo, and 1.36 ± 0.86 at 12 mo.	HS improved in 27 of 45 patients (defined as >50% reduction in lesions, reduced need for rescue therapy, or clinical documentation of improvement). Higher semaglutide doses were associated with improvement at 3, 6 and 12 mo regardless of presence of diabetes.
Ireland, Retrospective cohort (30), 2024	42 y, 8.2 mo, Semaglutide (Moderate)	Stable treatment with one or more of: adalimumab, infliximab, metformin, spironolactone, lymecycline, clindamycin, dapsone, brodalumab	0.8 mg/wk	Mean frequency of patient reported flares decreased from once every 8.5 wk to once every 12 wk. Mean reduction of DLQI from 13 to 9, and a third of patients had a DLQI reduction of 4 or more points.
Spain, Prospective cohort (14), 2023	46.1 y, 3 mo, Liraglutide (Moderate)	Eleven out of 14 were on stable active treatment with either biologics or topicals at the time of liraglutide initiation.	0.6 mg/d for the first wk increased weekly up to 3 mg/d.	Hurley stage decreased from 2.6 ± 0.5 to 1.1 ± 0.3 stage ( $P = .002$ ); DLQI decreased from 12.3 ± 2.8 vs to 9.7 ± 6.9 ( $P = .04$ ). VAS for pain decreased from 5.6 ± 1.5 to 3.2 ± 1.6 ( $P = .003$ ).
United States, Case report (1), 2024	Not reported, 3 mo, Tirzepatide (High)	Infliximab for 8 mo prior to the start of tirzepatide, and during the treatment with tirzepatide.	7.5 mg/0.5 mL once a wk for 3 mo.	DLQI decreased from 14 to 3, and VAS from 3 to 1. HS-PGA decreased from 3 to 2. HiSCR decreased from 5 to 3. There was a decrease in the number of HS inflammatory lesions.
Ireland, Case report (1), 2017	31 y, 4 wk, Liraglutide (High)	Prior trials of rifampicin-clindamycin, metformin, spironolactone, adalimumab, etanercept and dapsone, with no improvement.	0.6 mg/d, titrated weekly to a dose of 1.8 mg/d.	After 4 wk, calculated DLQI decreased from 24 to 14, and HS-PGA decreased from 4 (severe disease) to 1 (minimal disease).
United States, Case report (1), 2017	19 y, 36 mo, Liraglutide (High)	Stable treatment with metformin and dapsone prior to the introduction of finasteride and liraglutide.	0.6 mg/d, increased to 1.8 mg/d over 2 mo.	Reported decrease in flares. Remission of axillary lesions and over 90% improvement in groin and perianal areas, with about 60% improvement in thoraco-abdominal lesions. No new lesions developed over the last 6 mo.



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## Glucagon-Like Peptide-1 Receptor Agonists in Hidradenitis Suppurativa

Table. Hidradenitis Suppurativa (HS) Severity at Glucagon-Like Peptide-1 Receptor Agonist Initiation and After 6 Months of Treatment

Outcome	All patients (N = 66)			Patients with stable HS treatment (n = 34) <sup>a</sup>		
	Mean (SD)			Mean (SD)		
	Initiation	Month 6	P value	Initiation	Month 6	P value
HS-PGA	2.8 (1.0)	2.1 (1.2)	<.001	2.4 (1.0)	1.9 (1.2)	<.001
Flares <sup>b</sup>	4.8 (2.3)	3.2 (2.4)	<.001	4.5 (2.2)	3.0 (2.3)	<.001
NRS-Pain	5 (2.3)	3.5 (2.3)	<.001	4.5 (2.4)	3.5 (2.5)	<.001
NRS-Suppuration	5.6 (2.6)	4.2 (2.8)	.001	4.8 (2.5)	3.8 (2.6)	.001
DLQI	16.2 (7.2)	11.8 (7.5)	<.001	14.2 (7.2)	10.8 (7.8)	<.001
BMI	39.9 (7.9)	37.2 (7.4)	<.001	41.1 (8.3)	37.4 (7.5)	<.001

Abbreviations: BMI, body mass index (calculated as weight in kilograms divided by height in meters squared); DLQI, Dermatology Life Quality Index; HS-PGA, Hidradenitis Suppurativa Physician's Global Assessment; NRS; Numerical Rating Scale.

<sup>a</sup> Patients whose HS treatments remained unchanged for the 12 months preceding month 6 after glucagon-like peptide-1 receptor agonist initiation.

<sup>b</sup> Number of flares in the previous 3 months.

**48** patients received semaglutide, 13 received dulaglutide, and 5 received liraglutide. The median (IQR) **BMI was 39.4 (32.9-45.0)**, and **57 patients (86%) had diabetes**. At M6, **50% to 60%** of patients achieved a 1-point or higher reduction in HS-related scores



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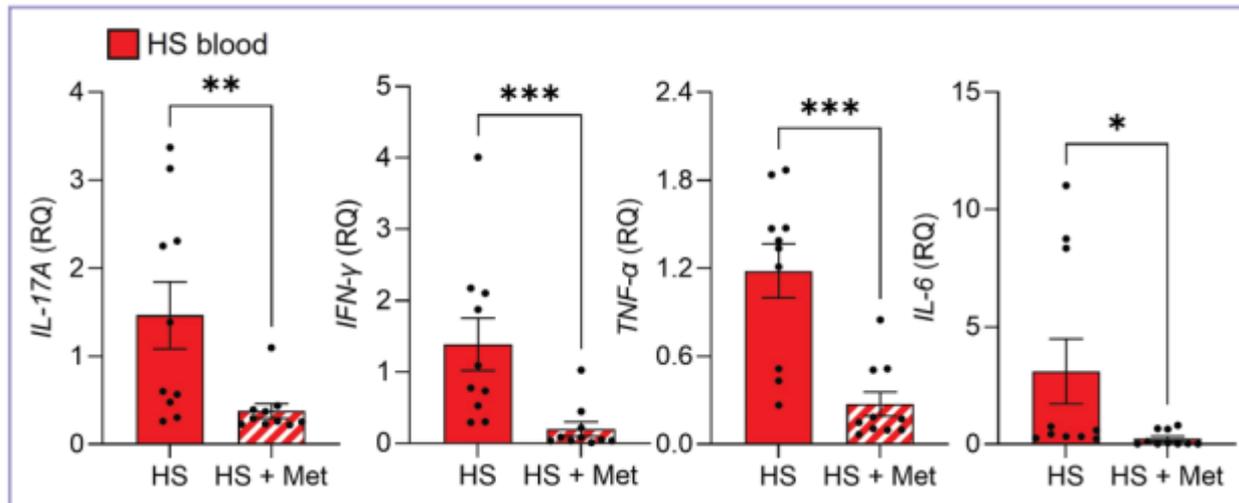
## Tilskud til Wegovy i DK ?

*Bevilges som udgangspunkt kun ved alvorlig livstruende overvægtsrelateret sygdom og for 6 måneder ad gangen hvorefter der skal genansøges*



# Metformin og HS:

- Forbedrer insulin følsomhed
- Vægttab
- Reduktion i proinflammatoriske cytokiner
- Reducerer niveauet af androgener

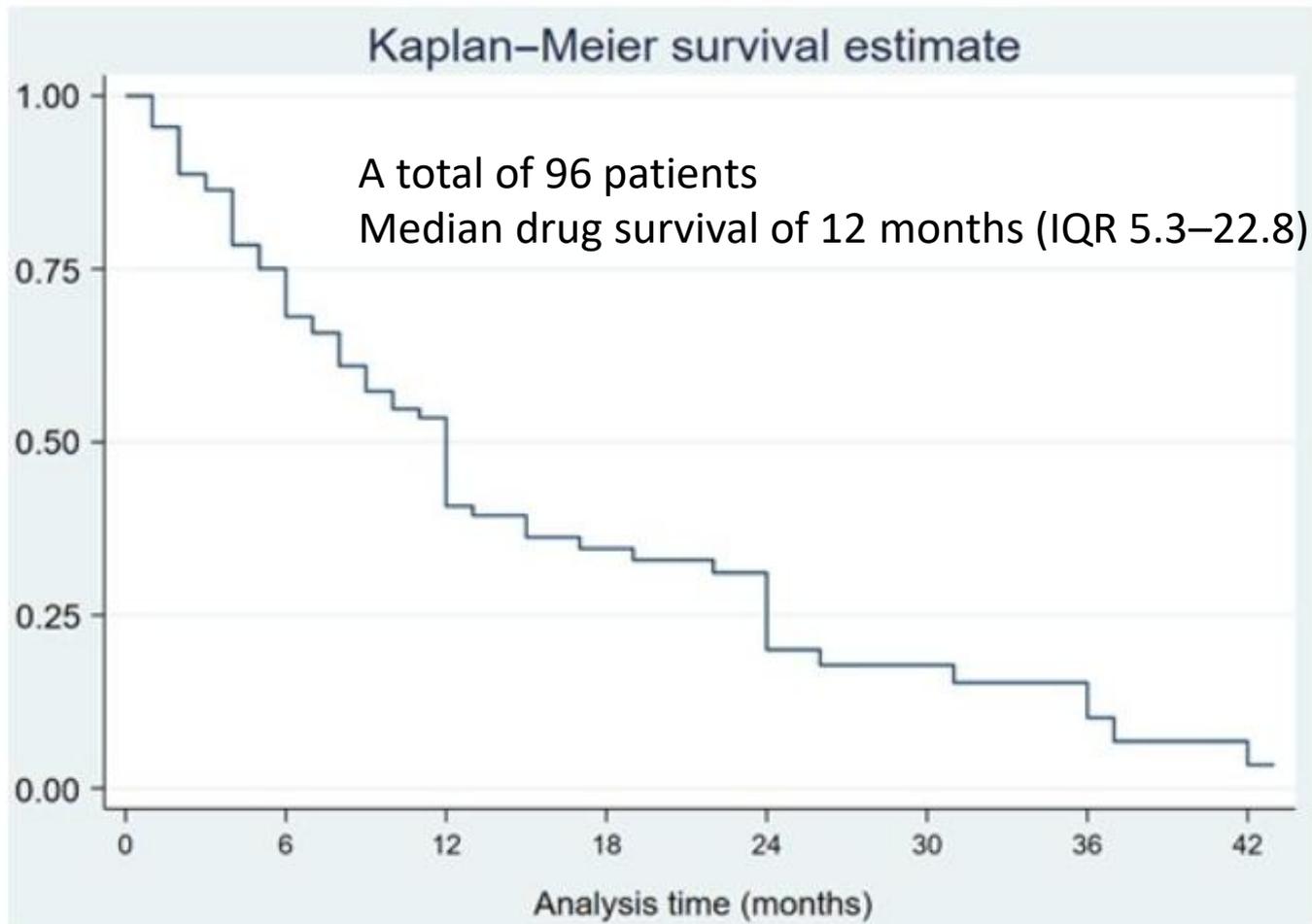




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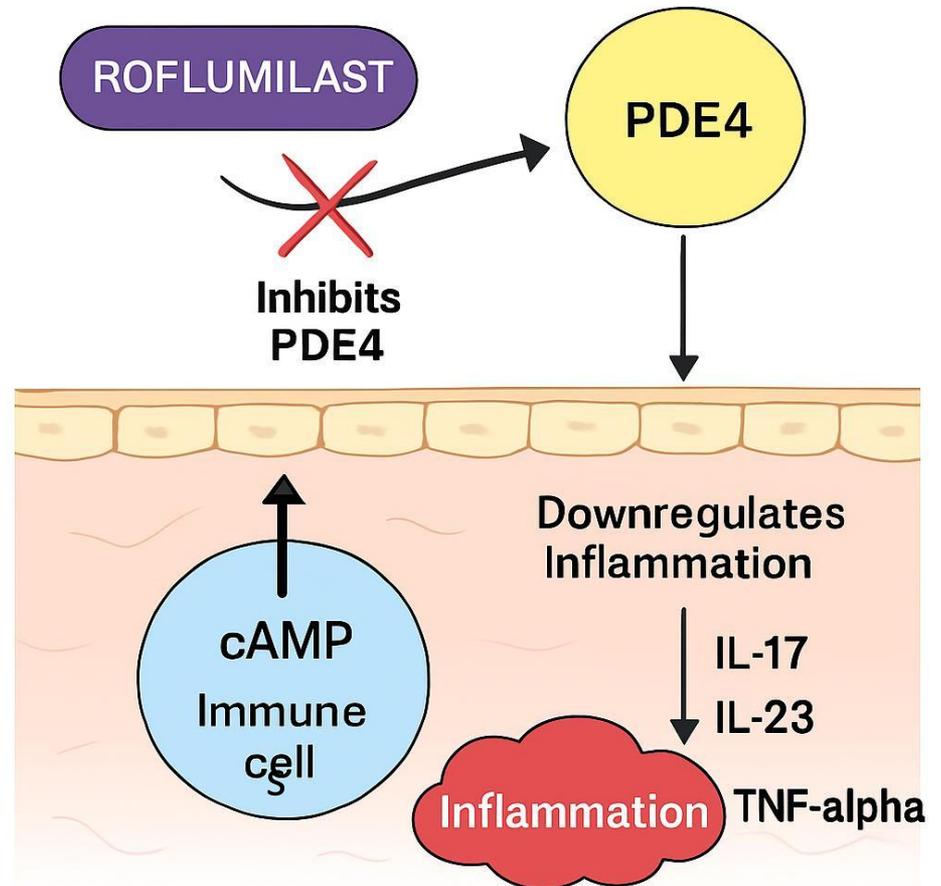


## Drug survival of metformin in patients with hidradenitis suppurativa



# Roflumilast

- A selective phosphodiesterase (PDE) 4-inhibitor.





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	Baseline	3 months	5 months
<b>IHS4</b>	16	9	6
<b>HiSCR</b>	N/A	No	Yes
<b>DLQI</b>	21	11	5
<b>NRS-pain</b>	8	6	3
<b>BMI, kg/m<sup>2</sup></b>	31.7	29.1	28.6
<b>Weight, kg</b>	112	103	101
<b>PASI</b>	4.5	0.0	0.0

Abbreviations: BMI, body mass index; DLQI, dermatology life quality index; HiSCR, the hidradenitis suppurativa clinical response, > 50% reduction in the number of inflammatory lesions; IHS4, the international hidradenitis suppurativa severity score system; NRS, numeric rating scale; PASI, psoriasis area and severity index



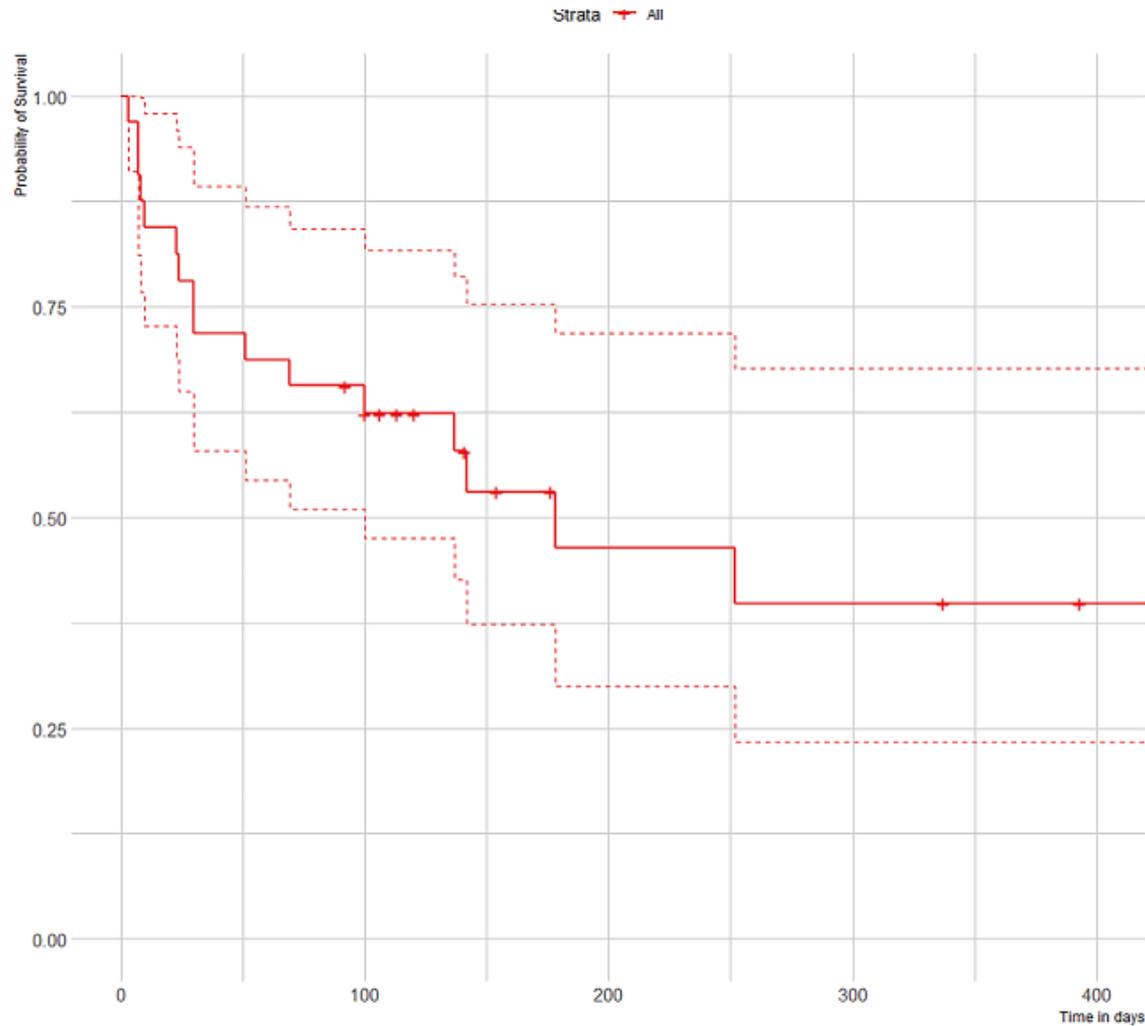
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# Effectiveness, safety and drug survival of oral roflumilast for hidradenitis suppurativa<sup>1</sup>:

- Clinical characteristics and treatment history were extracted from **32 consecutive outpatients** who initiated oral roflumilast 500 µg once daily between December 2021 and July 2023
- 50% and 70% achieved HiSCR50 and IHS4-55, respectively
- Median drug survival 6 months



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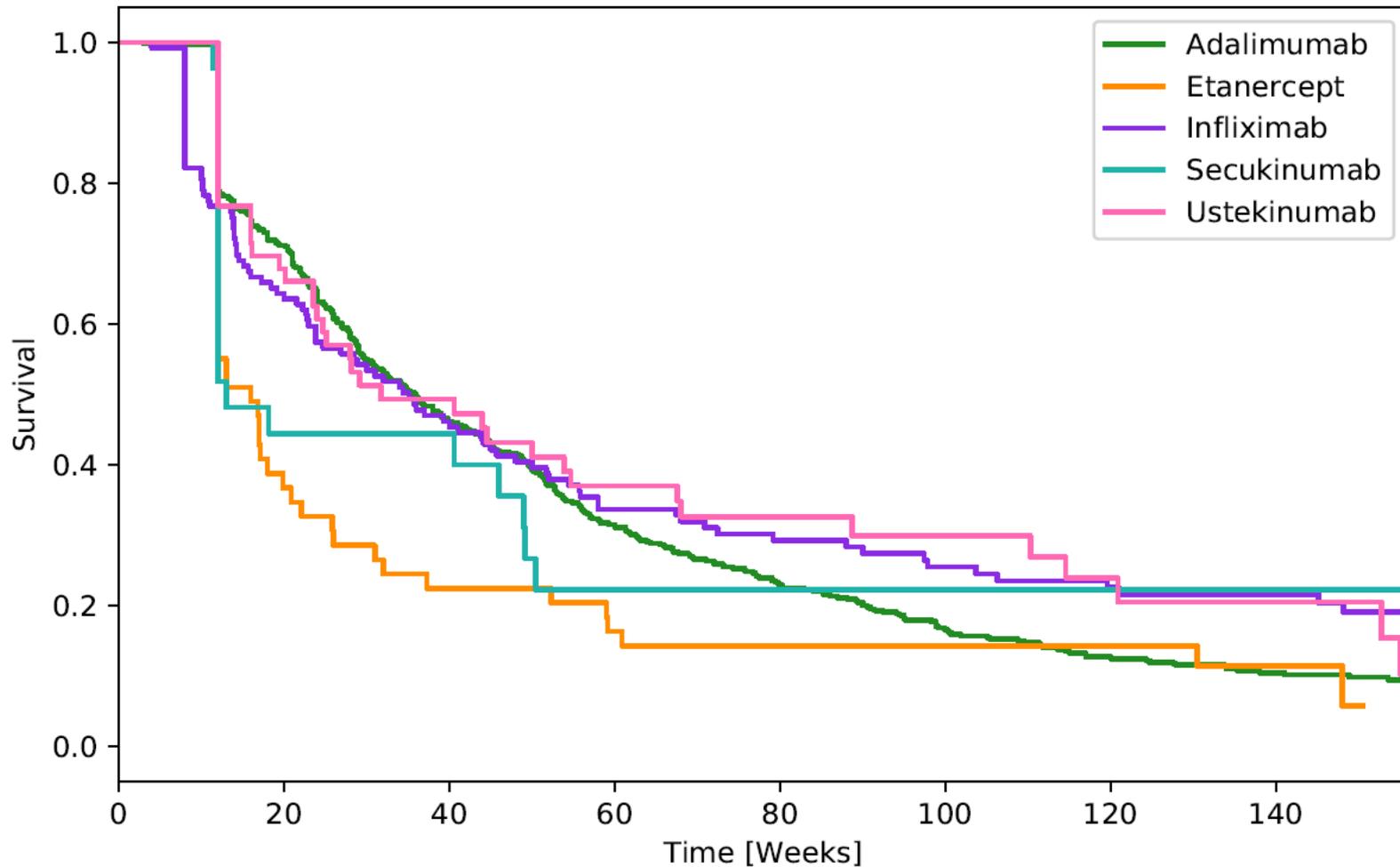




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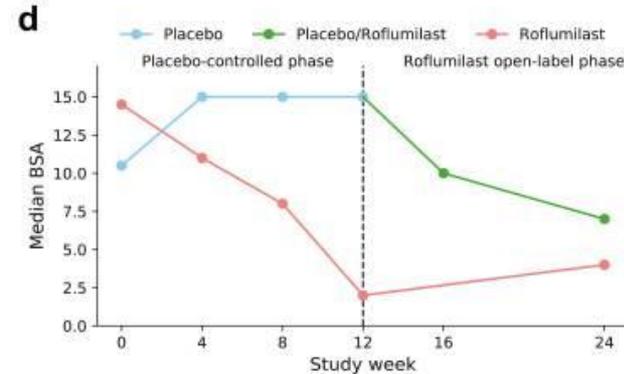
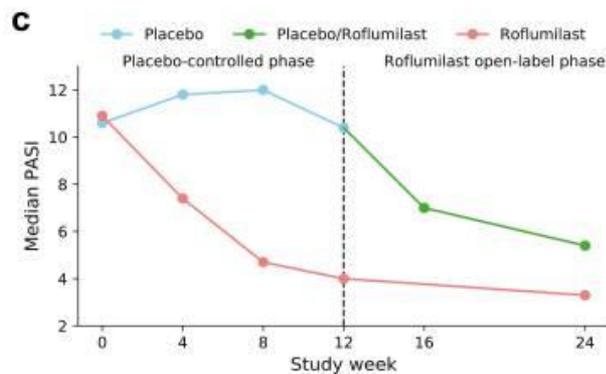
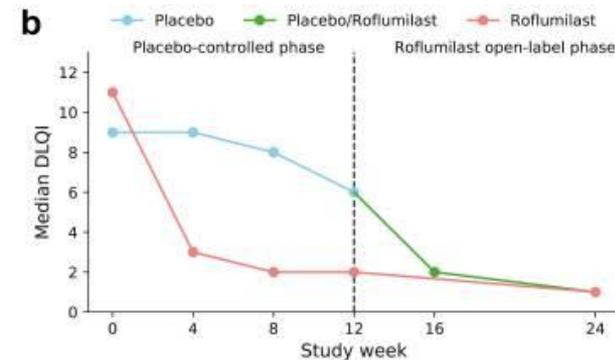
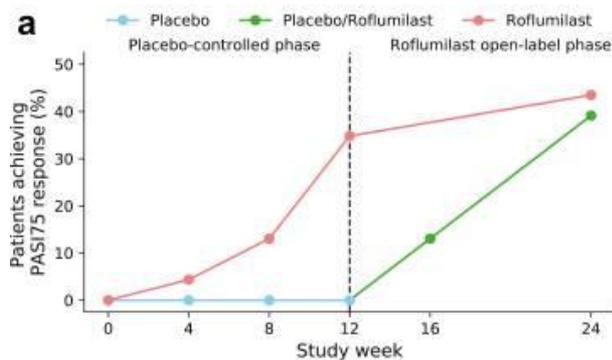
## Drug survival for biologiske lægemidler i HS



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# Roflumilast and psoriasis

- 46 patients were randomized (roflumilast, n = 23; placebo, n = 23).
- At week 12, significantly more patients in the active arm achieved PASI75





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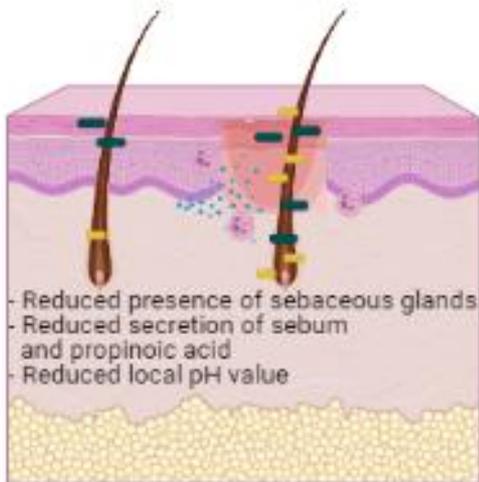


Er isotretinoin en god ide til HS?

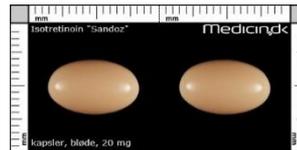


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Flere studier rapporterer forværring af HS ved isotretinoin



Isotretinoin



- Forværring af dysbiose:
- Reduktion i *C. acnes* spp.
- Øget tilstedeværelse af gram negative anaerobe bakterier

-  Neutrophils
-  *Prevotella* spp
-  *Porphyromonas* spp
-  Proinflammatory cytokines
-  Macrophages



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# Skal vi så slet ikke bruge antibiotika?

Antibiotics	Antibacterial spectrum with relevant susceptible species	
	Aerobe	Anaerobe
<b>Clindamycin</b>	Streptococcus spp. Staphylococcus spp.	<a href="#">Fusobacterium</a> Cutibacterium Actinomycestes
<b>Rifampicin</b>	Mycobacteria Streptococcus Staphylococcus	Some activity reported
<b>Tetracycline</b>	Broad spectrum	<a href="#">Fusobacterium</a> Cutibacterium Actinomycestes
<b>Metronidazole</b>	No activity against aerobes	Bacteroides <a href="#">Fusobacterium</a> , Prevotella

Ring, HC et al. Metronidazole for Hidradenitis Suppurativa: future potential treatment applications. *J Eur Acad Dermatol Venereol.* 2023



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- Metronidazol 500 mg x 3 dgl. i 10 dage
- Bioclavid 500 mg x 3 dgl. i 10 dage
- Prednisolon 25 mg x 1 dgl. i 10 dage





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## Akut

**Smertestillende behandling:**

Ud over smertestillende medicinsk behandling kan der ved abscesser være behov for incision og drænage, som giver en hurtig og effektiv smertelindring

**Bandagering:**

Skumbandage med eller uden silikonekant

**Inflammerede noduli og begyndende abscesser:**

Topikal behandling med clindamycin\* topikalt x 2 dgl. i 1-2 uger eller resorcinol salve\*\* x 3 dgl. i 1-2 uger

\*både kutanemulsion og vaginalcreme kan anvendes på læsioner.  
\*\*se receptdetaljer i guideline

**Lugtgener ved sekundær infektion:**

Vask med klorhexidinsæbe

**Overfladisk aktivitet med mistanke om superinfektion:**

Amoxicillin 500 mg/clavulansyre 125 mg, 1 tabl. x 3 dgl. i 10 dage

**Dybere aktivitet med mistanke om superinfektion (involvering af tunneler):**

Amoxicillin 500 mg/clavulansyre 125 mg 1 tabl. x 3 dgl. i 10 dage og metronidazol 500 mg 1 tabl. x 3 dgl. i 10 dage

**Svær, dyb og udbredt aktivitet med superinfektion (hospitalsregi):**

Ertapenem 1000 mg iv x 1 dgl. i 6 uger (kan gives som hjemmebehandling)

**Inflammerede noduli:**

Intralæsionel triamcinolonacetonid 10 mg/ml, 0,5-1,0 ml pr. læsion

**Akutte, mindre abscesser:**

Intralæsionel triamcinolonacetonid 10 mg/ml, 0,5-1,0 ml pr. læsion (overvej podning for bakterier)

**Akutte, større abscesser:**

Incision og drænage, deroofting med CO<sub>2</sub>-laser eller kirurgi (overvej podning for bakterier)



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## Efficacy and Durability of Intravenous Ertapenem Therapy for Recalcitrant Hidradenitis Suppurativa

- Carbapenem possessing activity against many gram-positive bacteria, gram-negative bacteria, and anaerobic organisms
- 98 HS patients received intravenous treatment with ertapenem over a mean (SD) of 13.1 (4.0) weeks

Table 2. Clinical Markers of Severity and Inflammation Stratified by Visit

Variable	Mean (SD)			
	Baseline	Midcourse (48.6 [23.8] d)	End of course (92.0 [27.9] d)	Posttherapy (54.4 [25.2] d after therapy)
HS-PGA	3.9 (1.0)	3.0 (1.2) <sup>a</sup>	2.7 (1.5) <sup>a</sup>	2.7 (1.2) <sup>a</sup>
NRS-Pain	4.2 (3.3)	1.1 (1.7) <sup>a</sup>	1.3 (2.3) <sup>a</sup>	1.8 (2.7) <sup>a</sup>
Leukocytes	11.3 (3.9)	9.8 (3.4) <sup>a</sup>	10.1 (3.6) <sup>a</sup>	10.0 (3.4) <sup>a</sup>
ESR	76.3 (35.7)	68.7 (34.6) <sup>b</sup>	69.2 (35.1)	74.7 (34.5)
CRP	5.5 (11.4)	2.2 (2.3) <sup>a</sup>	2.4 (2.8) <sup>a</sup>	2.4 (2.0) <sup>a</sup>
IL-6	25.2 (21.1)	11.3 (20.0) <sup>a</sup>	12.9 (22.2) <sup>a</sup>	13.7 (13.9) <sup>a</sup>

Abbreviations: CRP, C-reactive protein; ESR, erythrocyte sedimentation rate; HS-PGA, Hidradenitis Suppurativa Physician Global Assessment; IL-6, interleukin-6; NRS-Pain, numerical rating scale for pain.

<sup>a</sup>  $P < .001$  when compared to baseline.

<sup>b</sup>  $P < .05$ .



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A Pretreatment image of axilla



B Posttreatment image of axilla



C Pretreatment image of the buttocks



D Posttreatment image of the buttocks





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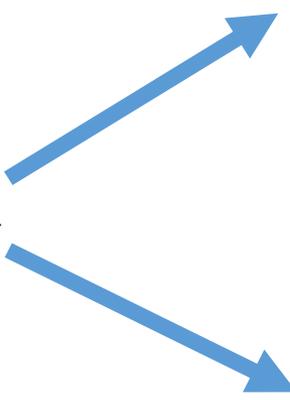


# Probiotika i HS?

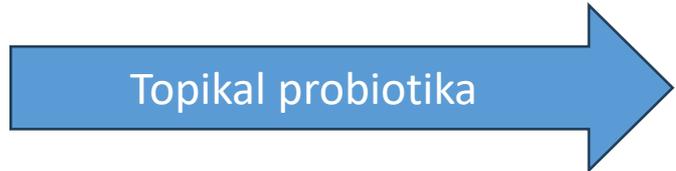


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## Bevilling fra LEO Fondet



Doxycyclin



Adalimumab



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# Biologiske lægemidler

- Adalimumab (Godkendt)
- Bimekizumab (Godkendt)
- Secukinumab (Godkendt)
- Ustekinumab
- Infliximab
- Risankizumab
- Guselkumab
- Brodalumab

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# Co-morbiditeter og risikofaktorer



Køn & alder

Acne, follicular occlusion, og andre syndromer

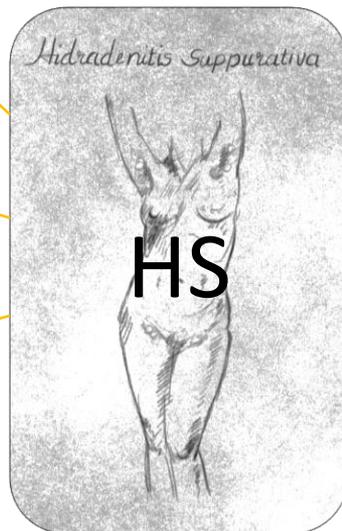
Genetik

Mb Crohn, CU

Rygning

Overvægt

Depression





## Konklusion

- Et bredt spektrum af co-morbiditeter
- *Overvej lægemidler som både rammer co-morbiditeter og inflammation*
- *Doxycyklin er lige så effektiv som rifampicin/clindamycin!*
- *Evt. korte AB kure*

