26 Annual Conference of the Egyptian Society of Colon and Rectal Surgeons 2025

Unsuccessful pilonidal sinus surgery: management of recurrences and complications

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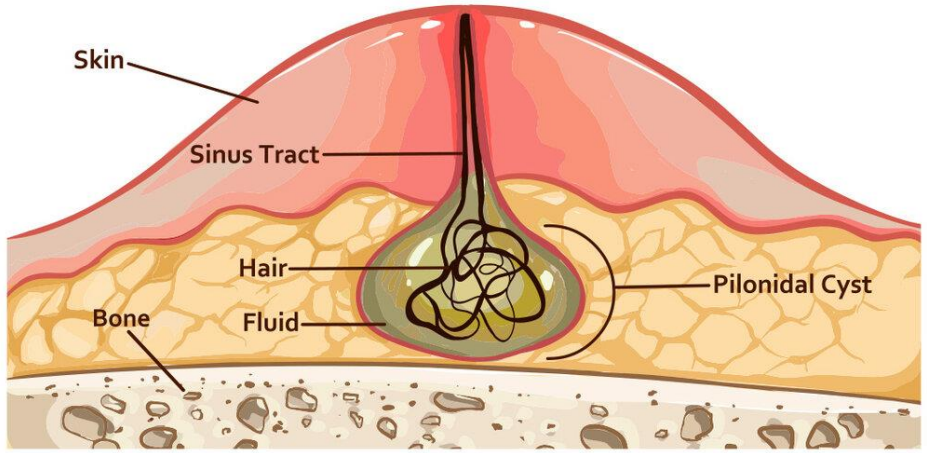
Pilonidal disease

- Pilonidal sinus
- Subcutaneous infection
- Recurrent inflammation
- Abcesses and fistulas formation
- Clinical forms:
  - Abcess
  - Chronic persisting inflammation



Atypical localisation

CASE REPORT Open Acces

Pilonidal sinus of the cheek: an extremely rare clinical entity—case report and brief review of the literature

BAYÇINAR Medical Publishing
JOINT DISEASES and RELATED SURGERY
http://www.jointdrs.org

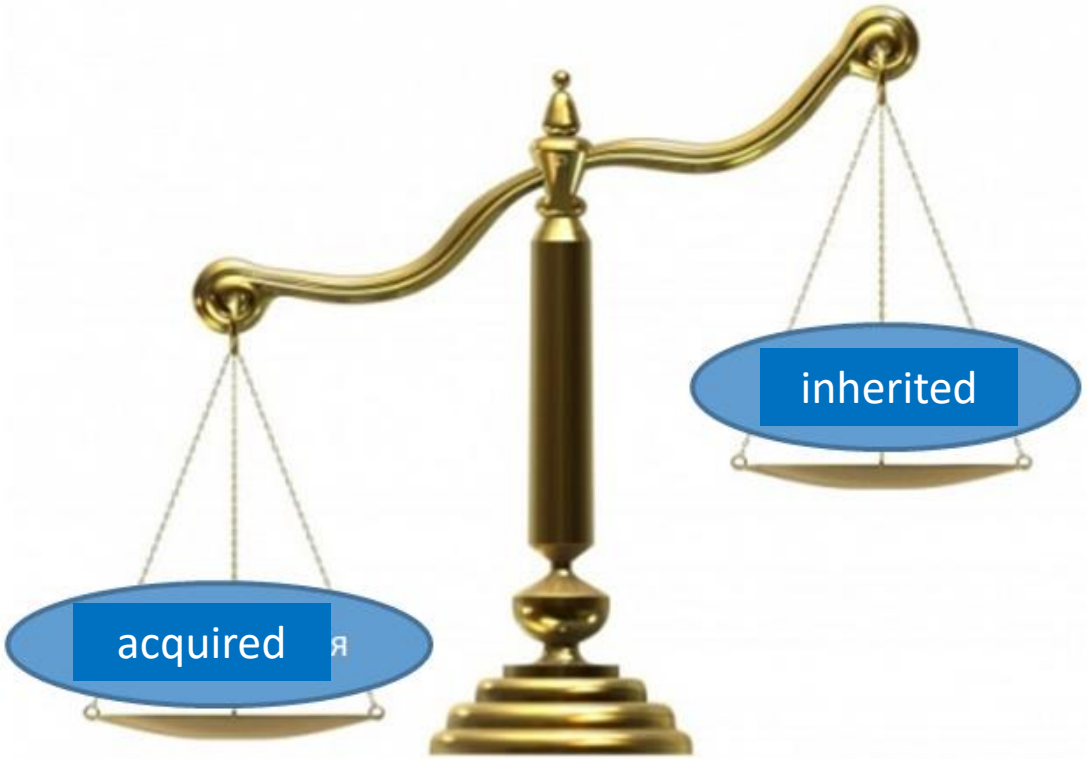
Jt Dis Relat Surg. 2021 Aug; 32(2): 523–525.
Published online 2021 Jun 11. doi: 10.52312/jdrs.2021.263
PMCID: PM
PMID

Pilonidal sinus of the cheek

Bilateral interdigital pilonidal sinus of the hand in a male hairdresser

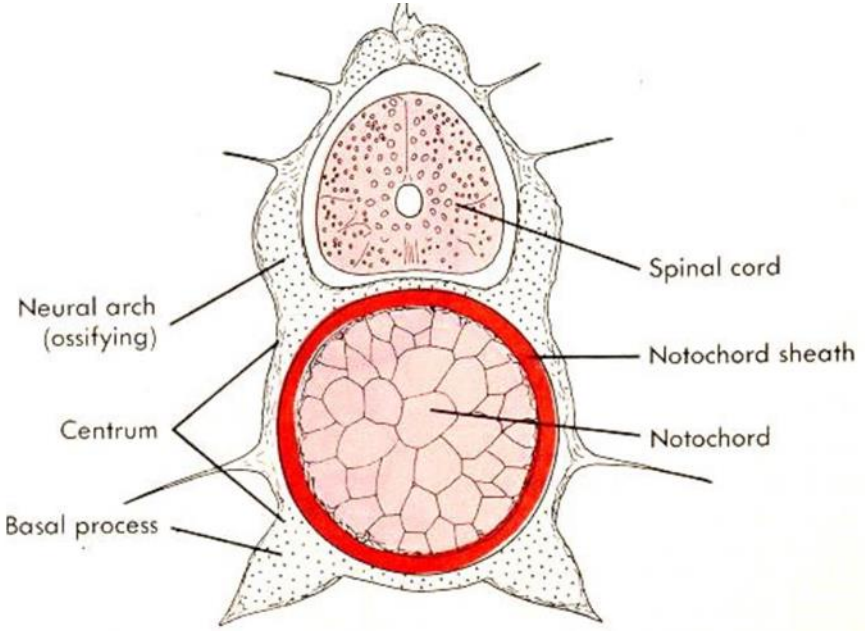
Abdullah Örs[1] and Birkan

Pilonidal disease etiology



Inherited disease

- Rudiment of Lushka gland (coccygeal gland)
- Theory of «traction diverticulum»
- Remnant of spinal chord
- Ectodermoid invagination
- Theory of caudal ligament



Acquired disease

THE BRITISH JOURNAL OF SURGERY

PILONIDAL SINUS
A NEW THEORY OF ORIGIN

By ROGER BREARLEY, Liverpool

BRIT. J. SURG., 1969, Vol. 56, No. 1, JANUARY

THE ENTRY OF HAIR INTO A PILONIDAL SINUS

By B. H. PAGE
North Middlesex Hospital

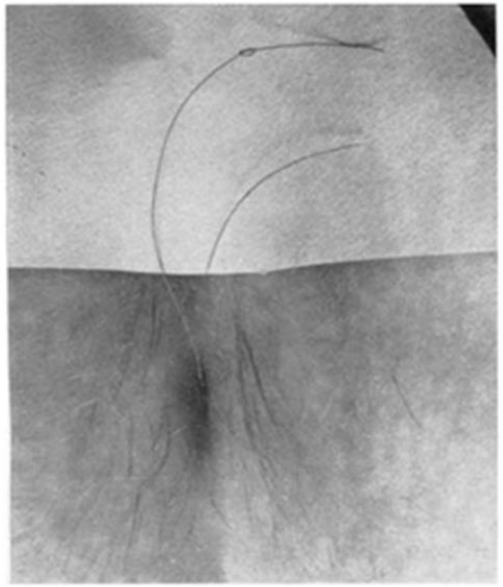


Fig. 1.—The two hairs engaged in the mouth of the sinus at the beginning of the experiment. The root-end of the knotted hair and tip of the other hair are engaged.

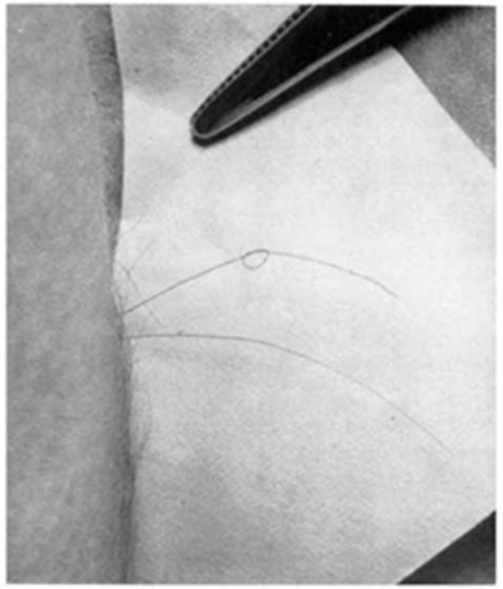
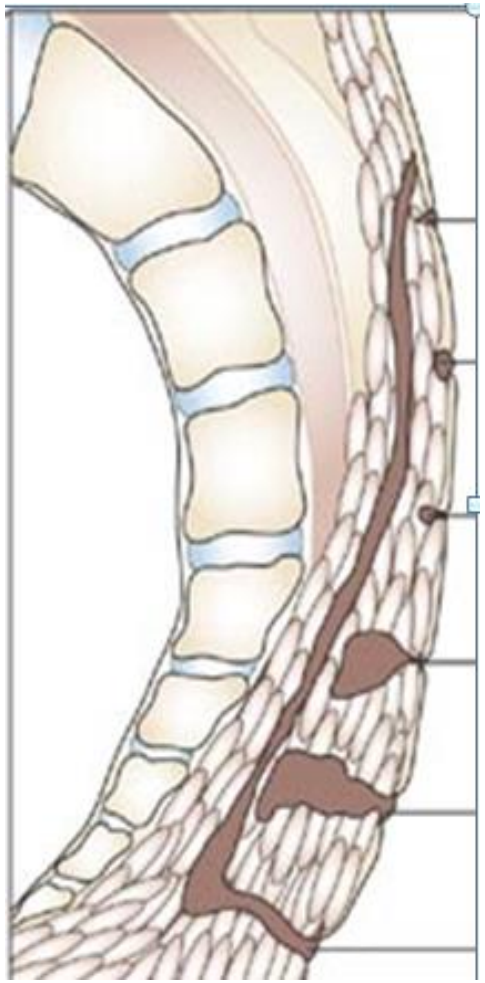


Fig. 2.—A photograph taken half an hour later, the patient having walked about in the meantime. The knotted hair has worked its way into the sinus. The other hair has been extruded slightly.

Acquired disease (Bascom)



Внедрение волоса в кожу межъягодичной складки

↓

Реакция на инородное тело

↓

Формирование абсцесса

↓

Движение ягодиц создает эффект вакуума

↓

Формируется эпителизированная трубка

↓

Трубка разрывается в п/к и формируется абсцесс

↓

Дренирование абсцесса через первичное отверстие

Bascom, J. Pilonidal disease: Origin from follicles of hairs and results of follicle removal as treatment / J. Bascom. – Text : visual // Surgery. – 1980. – № 5 (87). – P . 567–572.

Clinical case

Male 32 y.o.

Initially consulted outside:

hemorrhoids 2 stage with external thrombosis

Referred to us

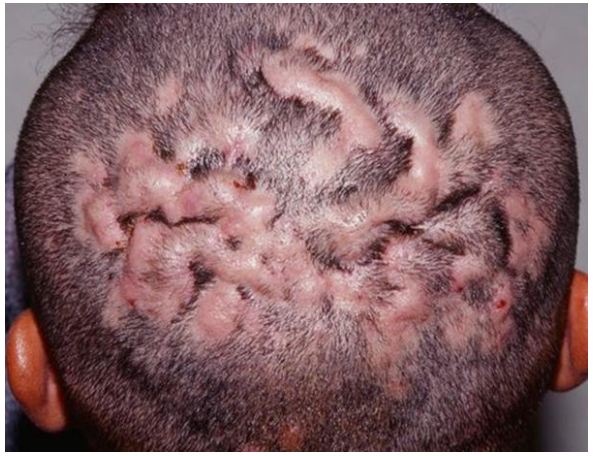
Pilonidal disease

Medical history

HS drained at age 18

Triade of follicular occlusion

- Acne conglobata
- Dissecting cellulitis
- Hidradenitis suppurativa



Vasanth V, Chandrashekar BS. Follicular occlusion tetrad. Indian Dermatol Online J 2014;5:491-3

Tetrade of follicular occlusion

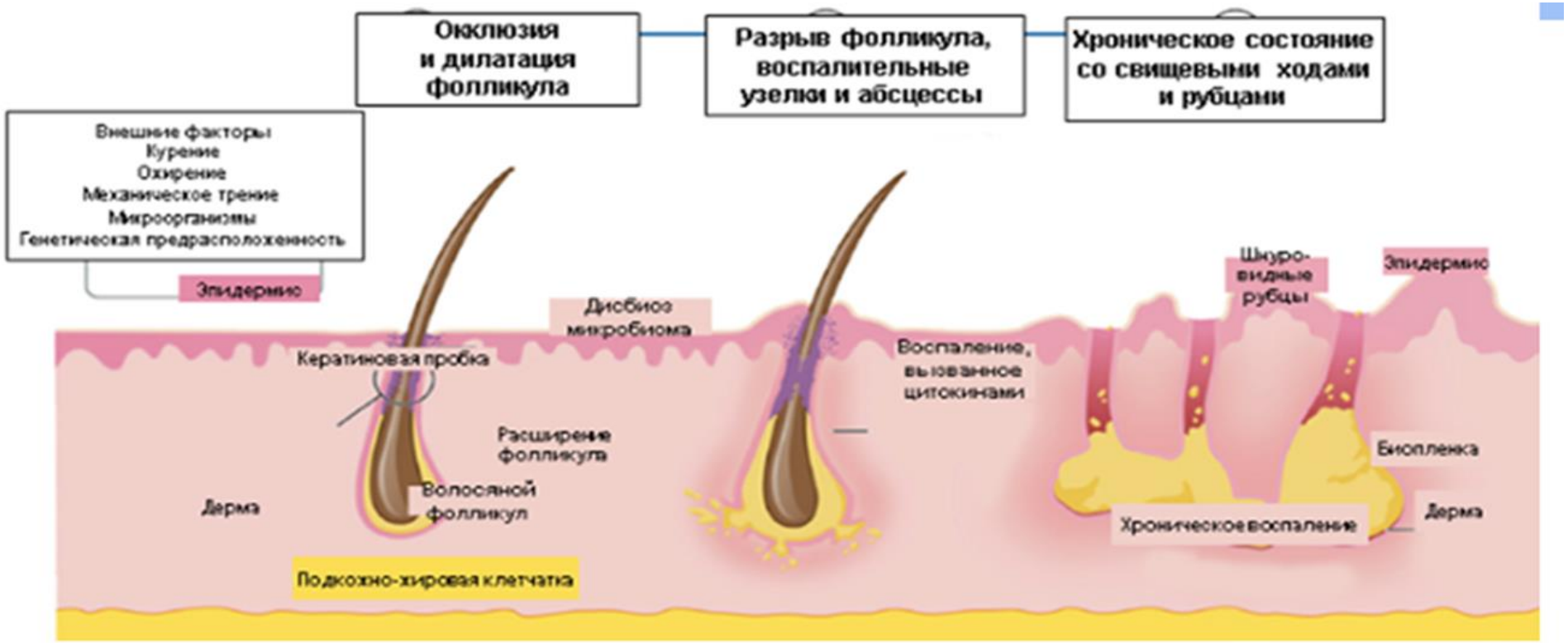
- Acne conglobata
- Dissecting cellulitis
- Hidradenitis suppurativa
- + Pilonidal Disease
  1975 year ….

Follicular occlusion syndrome in the practice of a coloproctologist.

Follicular occlusion syndrome is a possible variant of the follicular-retention origin of pilonidal sinus disease

Hidradenitis suppurativa

Pathophysiology: hidradenitis suppurativa



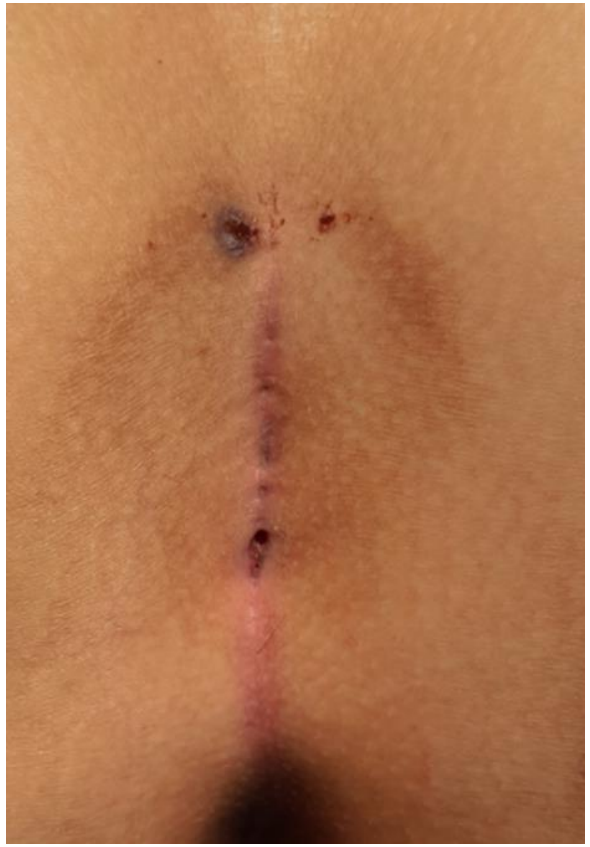
DM, Jemec GB. Hidradenitis Suppurativa:. JAMA. 2017 Nov;318(20):2019–32.
Garg A, Kirby JS, Lavian J, Lin G, Strunk A. JAMA Dermatol. 2017 Aug;153(8):760–4.
Адаптировано с разрешения Goldburg S. J Am Acad Dermatol 2020; 82 (5): 1045–58.

Hydradenitis supporativa and pilonidal disease

- The combination of HS occurs in 1/3 of patients with PSD
- In the presence of PSD, the course of HS more severe
- In the presence of HS, perianal lesions of the PSD are more common

Ureña-Paniego C, Gamissans-Cañada M, Molina-Leyva A, Romaní J. Pilonidal Sinus Disease is Associated with Severe Hidradenitis Suppurativa in a Spanish Cohort. Acta Derm Venereol. 2023 Sep 27;103:adv6569. doi: 10.2340/actadv.v103.6569. PMID: 37766657; PMCID: PMC10549763.

Pilonidal sinus disease



Hidradenitis suppurativa

Long history of disease – biopsy!

Diagnostic Ultrasound

JUM Journal of Ultrasound in Medicine

aium

Original Research

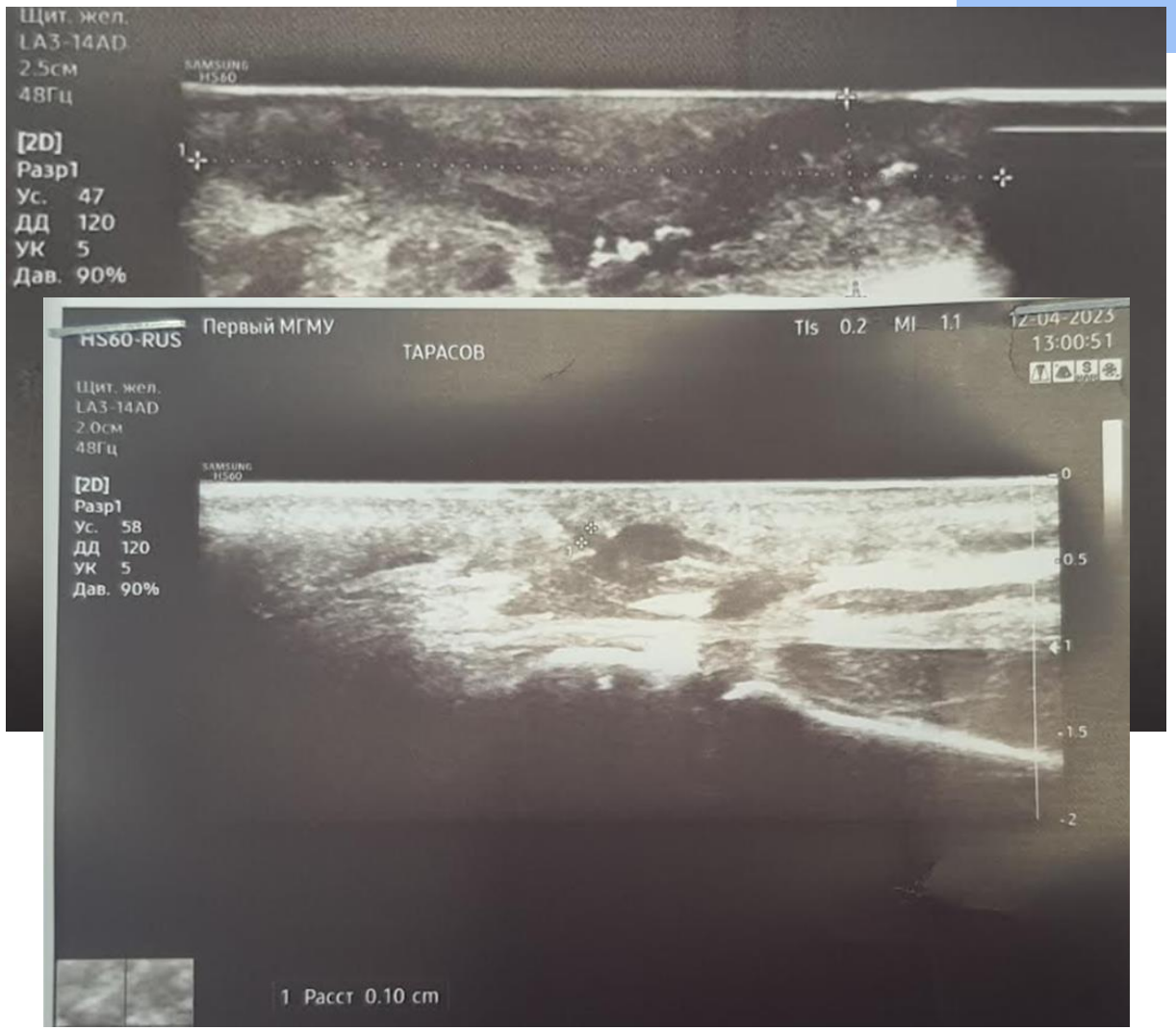
Sonographic Comparison of Morphologic Characteristics Between Pilonidal Cysts and Hidradenitis Suppurativa

Ximena Wortsman MD, Ariel Castro MSc, Claudia Morales MD, Carmen Franco MD, Andres Figueroa MD

First published: 26 June 2017 | https://doi.org/10.1002/jum.14282 | Citations: 24

Saccular extensions (sinuses)
Fistula tracts
Fragments of hair follicles in PSD in 100%,
in HS 83%

PSD may be a localized form of HS



MRI for HS

Pictorial Essay | Gastrointestinal Imaging

eISSN 2005-8330
https://doi.org/10.3348/kjr.2022.0215
Korean J Radiol 2022;23(8):785-793

Korean Journal of Radiology
KJR

Magnetic Resonance Imaging of Hidradenitis Suppurativa: A Focus on the Anoperineal Location

Sitthipong Srisajjakul[1], Patcharin Prapaisilp[1], Sirikan Bangchokdee[2]

[1]Department of Radiology, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand; [2]Department of Internal Medicine, Pratumthani Hospital, Bang Prok, Thailand

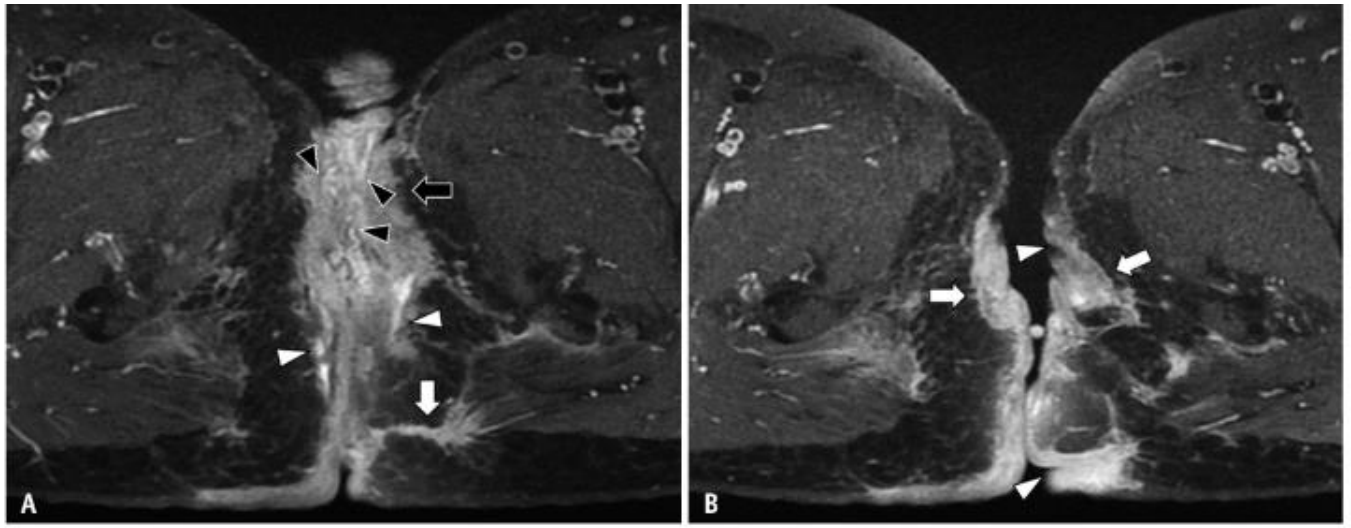


Fig. 8. Stage III hidradenitis suppurativa. A 37-year-old male patient with tender and foul discharge at perianal region.

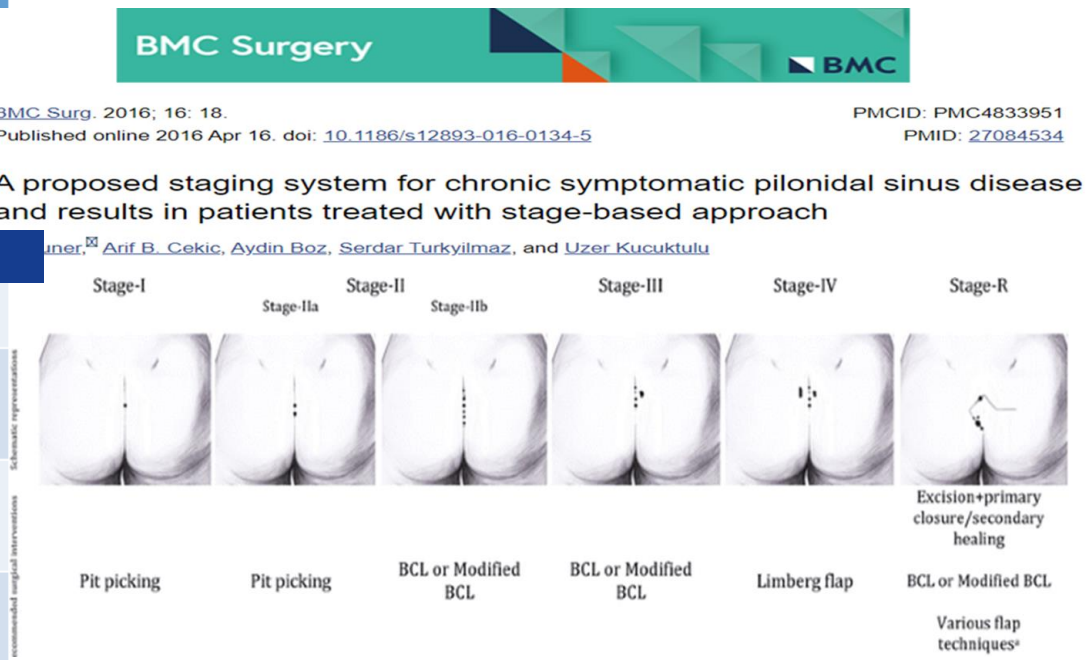
Classification of PSD

Без клиники	Acute	Chronic
	Infiltration	инфильтрация
	abscess	Recurrent abscess
	I&D	Fistula
	Conservative	Laser
		sinusectomy
		phenol

Difficult PSD with lateral cavities- marsupilization

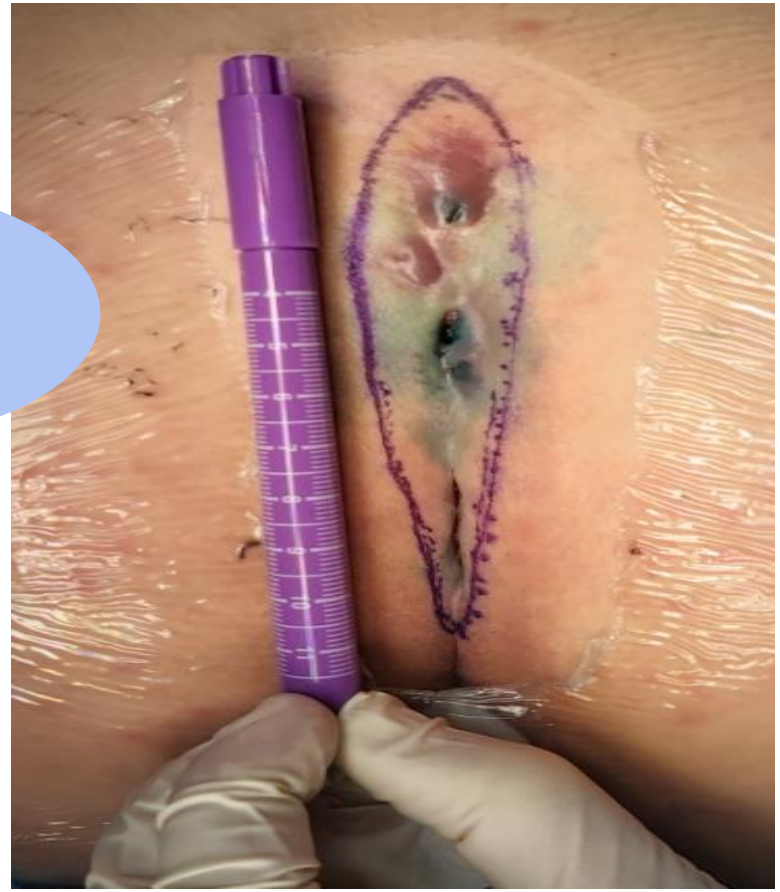
Recurrent PSD: excision and plasty

Conservative treatment -no



The base of classification is clinical picture

Syndromic
Phenotype



Treatment HS

- !Inflammation is sterile!
- We do not focus on culture of wound !
- From small to big Surgery as an add-on!

Treatment PSD

- Hygiene + hair removal
- Inflammation may not be sterile, but it does not affect success!
- Surgery as the main method!

Treatment HS

Local therapy

- Corticosteroids (intralesional)
- Clindamycin
- Zinc preparations, antiseptics
- Retinoids

Systemic therapy

- Tetracycline antibiotics
- Dapsone
- Corticosteroids
- Cyclosporine A
- Biological therapy
  Adalimumab, Secukinumab
- Metformin
- Antiandrogens

Zouboulis CC, et al. J Eur Acad Dermatol Venereol.2015;29:619–44; 2. Nikolakis G, et al. Br J Dermatol. 2021;185:1270–2; van Straalen KR, et al. J Am Acad Dermatol. 2021;85:369–78; 4. Zouboulis CC. Toward new treatment guidelines for hidradenitis suppurativa. SHSA, 2019.

Conservative treatment

- Klindamicin (topically)

Степень тяжести заболевания		
Легкая	Средняя	Тяжелая
Клиндамицин для местного применения	**Системная терапия** 1. Клиндамицин + рифампицин/ Тетрациклин 2. Ацитретин **Системная терапия** Адалимумаб, Секукинумаб / другие ГИБП (off-label use)*	

Zouboulis CC. Toward new treatment guidelines for hidradenitis suppurativa. SHSA, 2019

- Corticosteroids (intralesional)

Role of Surgery for HS

Decrease pain syndrome

Preventing abscess formation

Improving quality of life

Стадии заболевания		
Hurley I	**Hurley II**	**Hurley III**
No surgical treatment	Deroofing, laser STEEP	Wide excision
Symptomatic therapy Loss weight Pain control Treatment of super infection		

Zouboulis CC. Toward new treatment guidelines for hidradenitis suppurativa. SHSA, 2019

Treatment of HS

Minimally invasive treatment

Photodynamic therapy

Laser (CO2, YAG(erbium), diode)

IPL (photoepilation)

Opening and drainage

I&D

Deroofing

STEEP procedure

Wide excision

Scalpel

Electrocoagulation

CO2 laser

+ skin plasty

Hendricks AJ, et.al. Dermatology, 2021

Treatment of HS

J Clin Med. 2022 May; 11(9): 2311.
Published online 2022 Apr 21. doi: 10.3390/jcm11092311

PM

Surgical Treatment in Hidradenitis Suppurativa

Ratnakar Shukla,[1] Priyanka Karagaiah,[2] Anant Patil,[3] Katherine Farnbach,[4] Alex G. Ortega-Loayza,[4]

Published in final edited form as:
Dermatology. 2020 ; 236(5): 393–412. doi:10.1159/000507323.

Medical and surgical management of hidradenitis suppurativa: a review of international treatment guidelines and implementation in general dermatology practice

Lauren A. V. Orenstein, MD[1], Tien V Nguyen, MD[2], Giovanni Damiani, MD[3], Christopher

gold standard - wide excision

Shukla R, et.al. J Clin Med. 2022.

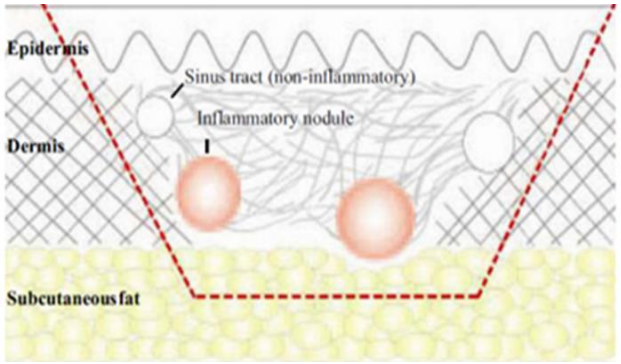
Deroofing

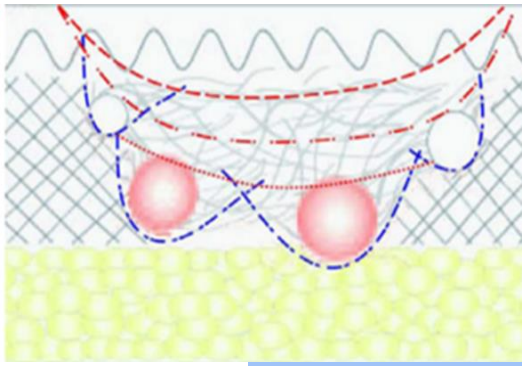
Процедура	Стадия по Херли	healing	Rec.	complic	advant	disadvant
I&D	I-III	7-10 дней	Около 100%	Инфекция Новые синусы	Скор.помощь Боли Мин.инвазивн	Рецидив Симптомат. лечение
STEEP	I-III	-	-		Хороший гемостаз Сохранение тканей Быстро заживает	Рецидив Низкая доказател.
Deroofing	III	14 дней	17-27%	Infection hypergranulation	pain	Save good tissue
Широкое	II-III	3-12 недель	8-37%	Некроз Инфекция Серома Расхождение краев	Меньше рецидив Быстро заживает Меньше контрактур	Долго заживает Перевязки

Shukla R, et.al. J Clin Med. 2022

Orenstein LAV, et al Dermatology. 2020

STEEP procedure





Wide excision STEEP procedure

Процедура	Стадия по Херли	healing	Rec.	complic	advant	disadvant
I&D	I-III	7-10 дней	Около 100%	Инфекция Новые синусы	Скор.помощь Боли Мин.инвазивн	Рецидив Симптомат. лечение
STEEP	I-III	-	-	Good gemostasis Healing		Recurrence
Деруфизация	II-III	14 дней	17-27%	Инфекция гипергранулции	Мин.инвазивн Боль	Не удаляет пораженные ткани
Широкое	II-III	3-12 недель	8-37%	Некроз Инфекция Серома Расхождение краев	Меньше рецидив Быстро заживает Меньше контрактур	Долго заживает Перевязки

Shukla R, et.al. J Clin Med. 2022

Blok JL, Spoo JR, Leeman FWJ, Jonkman MF, Horváth B. Skin-Tissue-sparing Excision with Electrosurgical Peeling (STEEP): a surgical treatment option for severe hidradenitis suppurativa Hurley stage II/III. J Eur Acad Dermatol Venereol. 2015 Feb;29(2):379-382. doi: 10.1111/jdv.12376. Epub 2014 Jan 25. PMID: 24460855.

STEEP=skin-sparing excision with electrosurgical peeling

JEADV EADV

Short Report

Skin-Tissue-sparing Excision with Electrosurgical Peeling (STEEP): a surgical treatment option for severe hidradenitis suppurativa Hurley stage II/III

33 https://doi.org/10.1111/jdv.12376

PSD treatment

Minimally invasive treatment

- Pit-picking
- Deroofing
- Sinusectomy
- Laser treatment

- MDT: dermatologist!

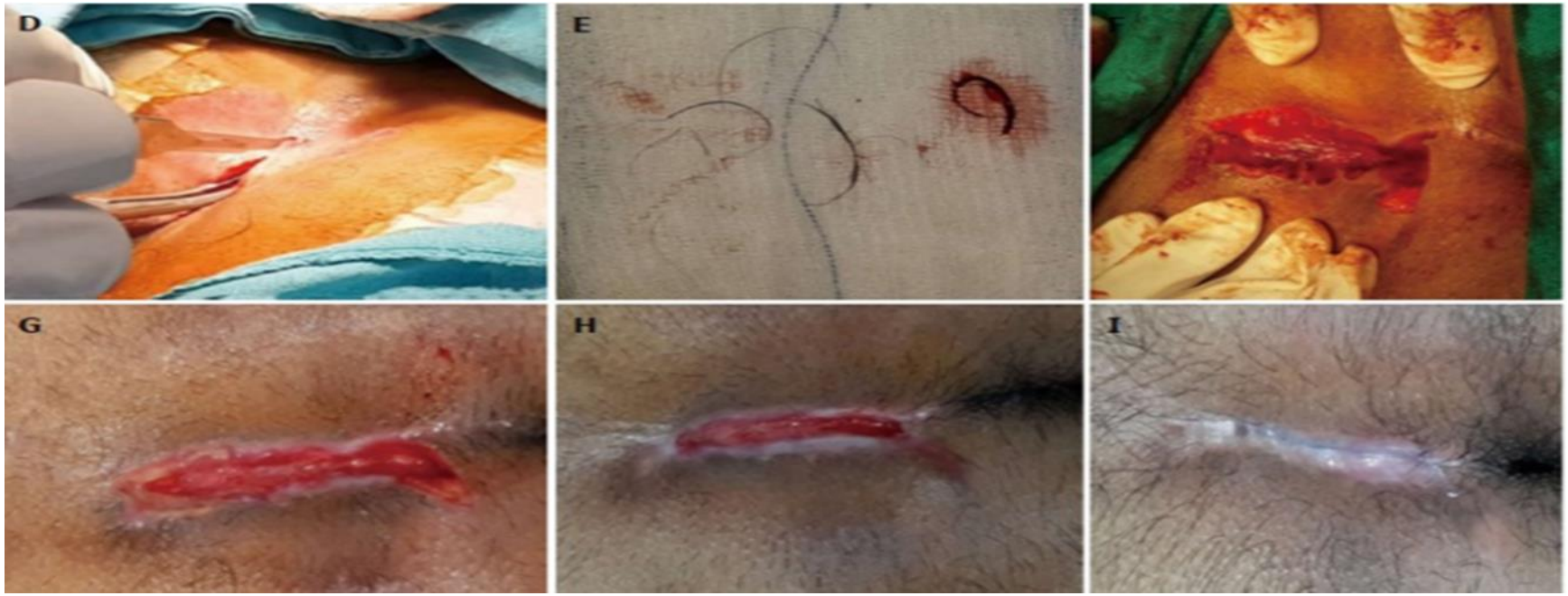
Non-excisional techniques for the treatment of intergluteal pilonidal sinus disease: a systematic review

E. A. Huurman[1,2] · H. A. Galema[1,3] · C. A. L. de Raaff[2] · B. P. L. Wijnhoven[1] · B. R. Toorenvliet[3] · R. M. Smeenk[2]

Received: 14 August 2023 / Accepted: 4 October 2023 / Published online: 6 November 2023

	Pit-picking	Laser	Deroofing	Endoscopic treatment
Recurrence	5.8-16.2%	1.6-26.4%	4.9%	3.9-13.5-24.3%
Follow-up	12-120 months	10-17 months	53 months	12-56 months
Patients	1098	788	203	>1800

LOCULA



Garg P, Garg M, Gupta V, Mehta SK, Lakhtaria P. Laying open (deroofing) and curettage under local anesthesia for pilonidal disease: An outpatient procedure. World J Gastrointest Surg. 2015 Sep 27;7(9):.

Our experience (Clinic of Colorectal and Minimally Invasive Surgery, Sechenov University)

- All patients (since 2015): 370
- Patients since 2022: 145

- Patients with FOS 33 (20%)

- PSD + acne 21
- PSD + HS 9
- PSD + HS + acne 3
- PSD + HS = cancer 2

Our experience (Clinic of Colorectal and Minimally Invasive Surgery, Sechenov University)

Incision & Drainage

- 6 patients
- 25 patients (PSD abscess)

LOCULA (deroofing +curettage)

- Outpatient department : 26 (PSD), 5 (HS)
- Hospital : 7

Wide excision

- 2 patients

Take home message

- PSD + HS are more common than it seems
- If combined, consult a dermatologist
- Surgery as an auxiliary method!
- Minimally invasive treatment methods
- Deroofing is a universal technique for both PSD and HS

What is recurrence of PSD

- Initial treatment for an abscess in acute PSD – I&D
- I&D + Curettage to remove dead or infected tissue had 90% success, 10-15% - recurrence abscess
- 40–60% will go on to develop a pilonidal sinus (false recurrence) requiring further surgery
- Surgery in «false» recurrence cases – 10-40% «thrue» recurrrence

World recurrences of PSD

Impact of geography and surgical approach on recurrence in global pilonidal sinus disease

Dietrich Doll[1*], Andriu Orlik[2], Katharina Maier[1], Peter Kauf[3], Marco Schmid[3], Maja Diekmann[1], Andreas P. Vogt[2], Verena K. Stauffer[4] & Markus M. Luedi[2]

12 months

Procedure / Countries	*All Countries*	*U.S.A.*	*Germany*	*Turkey*	*Italy*
Primary open	1.3	2.2	0.5	2.7*	0
Primary median closure	3.1	4.3	3.9	0.8	3.3
Primary asymmetric closure	0.6	0.6*	0.0*	1.7	0.0*
Bascom / Karydakis	0.5	0.3*	1.5*	0.8	3.7
Limberg / Dufourmentel	0.3	0.6*	1.9*	0.1	0.0*
Marsupialisation	2.2	2.4	6.0*	0.4	4.1*
Limited excision	5.1	5.8	NA	3.1	4.0*
Pit picking	2.8	0.9	21	0.4*	0.3
Flaps	0.3	6.9	3.1*	0	0.0*
Incision and drainage	6,3*	67.2*	NA	39.4*	NA
Phenol only	1.6*	NA	10.1*	0.5	2.6*
Laser treatment	2.2*	NA	NA	NA	NA
Others	2.8	0.9*	2.7*	2.6*	3.5
Partial closure	0.6*	5.5*	NA	0.3*	NA

60 months

Procedure / Countries	*All Countries*	*U.S.A.*	*Germany*	*Turkey*	*Italy*
Primary open	13.9	41.5	8.1*	NA	4.5*
Primary median closure	14.9	25.3	15.0*	18.8*	10.1*
Primary asymmetric closure	2.7	NA	2.0*	7.4	0.1*
Bascom / Karydakis	6.3	NA	NA	10.7	NA
Limberg / Dufourmentel	5.9*	2.3	NA	7.1*	0.3
Marsupialisation	7.8*	12.1*	7.1*	3.1*	NA
Limited excision	13.1	NA	NA	NA	NA
Pit picking	14.2	NA	NA	NA	NA
Flaps	6.4*	NA	NA	3.8*	25.0*
Incision and drainage	36.8*	NA	NA	NA	NA
Phenol only	NA	NA	NA	NA	NA
Laser treatment	NA	NA	NA	NA	NA
Others	19.8	11.9*	13.5	NA	NA
Partial closure	11.2*	NA	NA	NA	NA

International Journal of Colorectal Disease (2025) 40:126
https://doi.org/10.1007/s00384-025-04883-0

RESEARCH

Impact of surgical case load on recurrence rates in pilonidal sinus disease: a cross-study data synthesis

Dietrich Doll[1] · Matthias Maak[2] · Ida Kaad Faurschou[4] · Theo Hackmann[2] · Christina Oetzmann von Sochaczewski[3] · Myriam Braun-Münker[5] · Igors Iesalnieks[6] · Susanne Haas[4] · the Pilonidal Network for Expertise, Research and Development (PiloNERDs International)

Table 1 Log rank *p*-values für RCTs only, comparing the influence of annual case load on recurrence rate for different therapies (Figs. 6, 7, 8, 9, and 10)

Caseload p.a	Overall	Primary open	Midline closure	Bascom/Karyd	Limberg/Duf
< 10 vs. 10 < 30	$p = 0.039$	$\mathbf{p < 0.0001}$	$p = 0.14$	$\mathbf{p = 0.0051}$	$\mathbf{p = 0.04825}$
< 10 vs. ≥ 30	$p = 0.8$	$\mathbf{p = 0.00078}$	$p = 0.14$	$\mathbf{p < 0.0001}$	$\mathbf{p = 0.00013}$
10 < 30 vs. ≥ 30	$p = 0.039$	$p = 0.05827$	$p = 0.14$	$\mathbf{p = 0.0051}$	$\mathbf{p = 0.04825}$

significant values are given in bold

Why it still happen?

- Patient's hairs

- Incomplete surgery = minimally invasive surgery
- Incorrect surgery

- Risk factors

No hair removal is always recurrence

Hair removal

The effect of hair removal after surgery for sacrococcygeal pilonidal sinus disease: a systematic review of the literature

A. A. Pronk[1] · L. Eppink[2] · N. Smakman[1] · E. J. B. Furnee[3] **2017**

Preventing Pilonidal Sinus Recurrence With Laser Hair Epilation: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

Neil Muscat [1], Apurv Gupta [2], Mohammed Arifuzaman [2], Firuza Soxibova [3]

Methods	Razor shaving	Laser hair removal	Crème depilation	No hair removal
14 studies	23,4%	9,3 %	23,4%	19,7%
963 patients				

Three randomized controlled trials met the inclusion criteria with laser hair epilation treatments offering a significant reduction in PSD recurrence rates on odds ratio analysis: 0.319 (0.160, 0.636), P-value = 0.0001

Minimally invasive surgery

- Laser (SILAC, SILAT, PILAT, laser ablation, SILAD+US)
- Deroofing (LOCULA procedure)
- Pit-picking
- Sinusectomy
- Phenol treatment
- PRP
- Fibrin glue
- Others (e.g. lawsonia inermis powder)

When should it works?

- **Simple case of PSD**
  - No abscess
  - No previously surgery
  - No secondary orifices

- **Hair removal**
- **Good postoperative care of wound**

-

Clinical case of laser treatment

Pit-picking+ Laser ablation

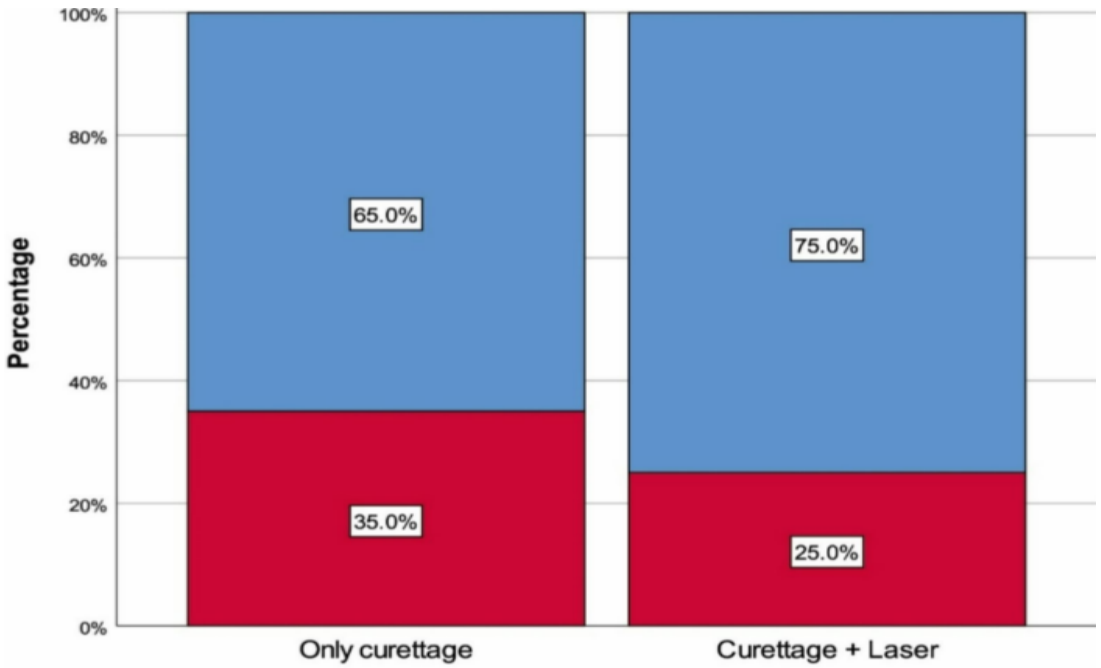
No hair removal

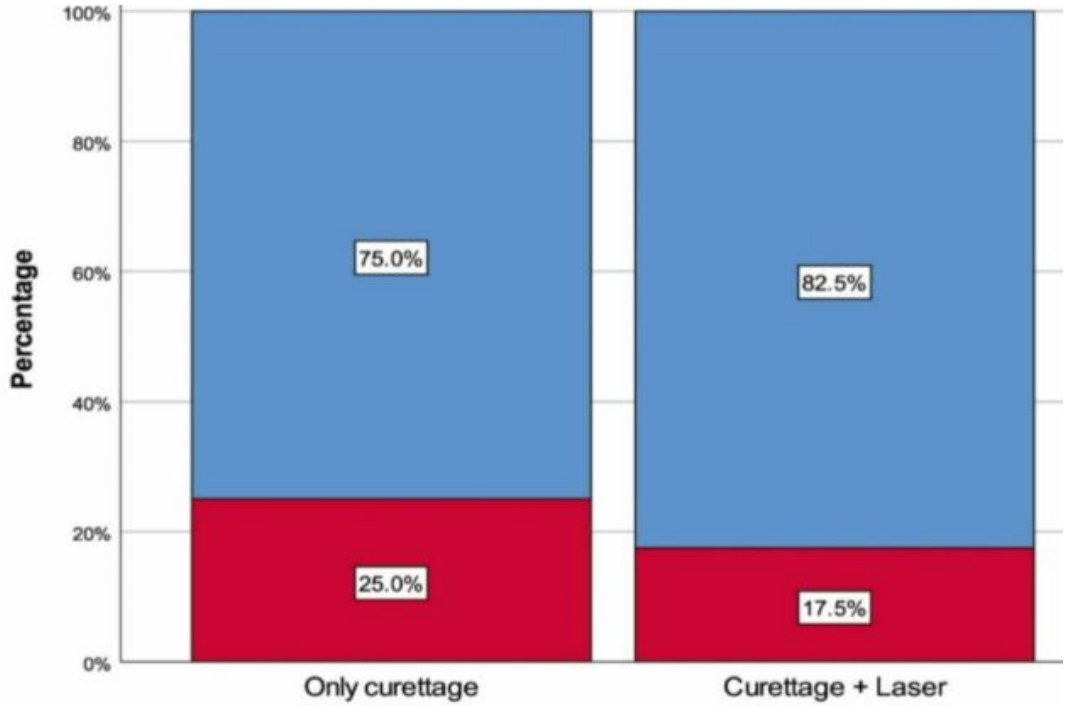
Relapse

BUT ……+\- laser treatment

Is it beneficial to add laser ablation to curettage in the treatment of pilonidal sinus disease?

Mehmet Ali Demir[1] · Tahsin Çolak[1] · Cumhur Özcan[1] · Hüseyin Oğuzhan İnan[1] · Erkan Güler[1]





Recurrence, p=0.464

Healing time p=0.585

Colorectal Disease

ORIGINAL ARTICLE

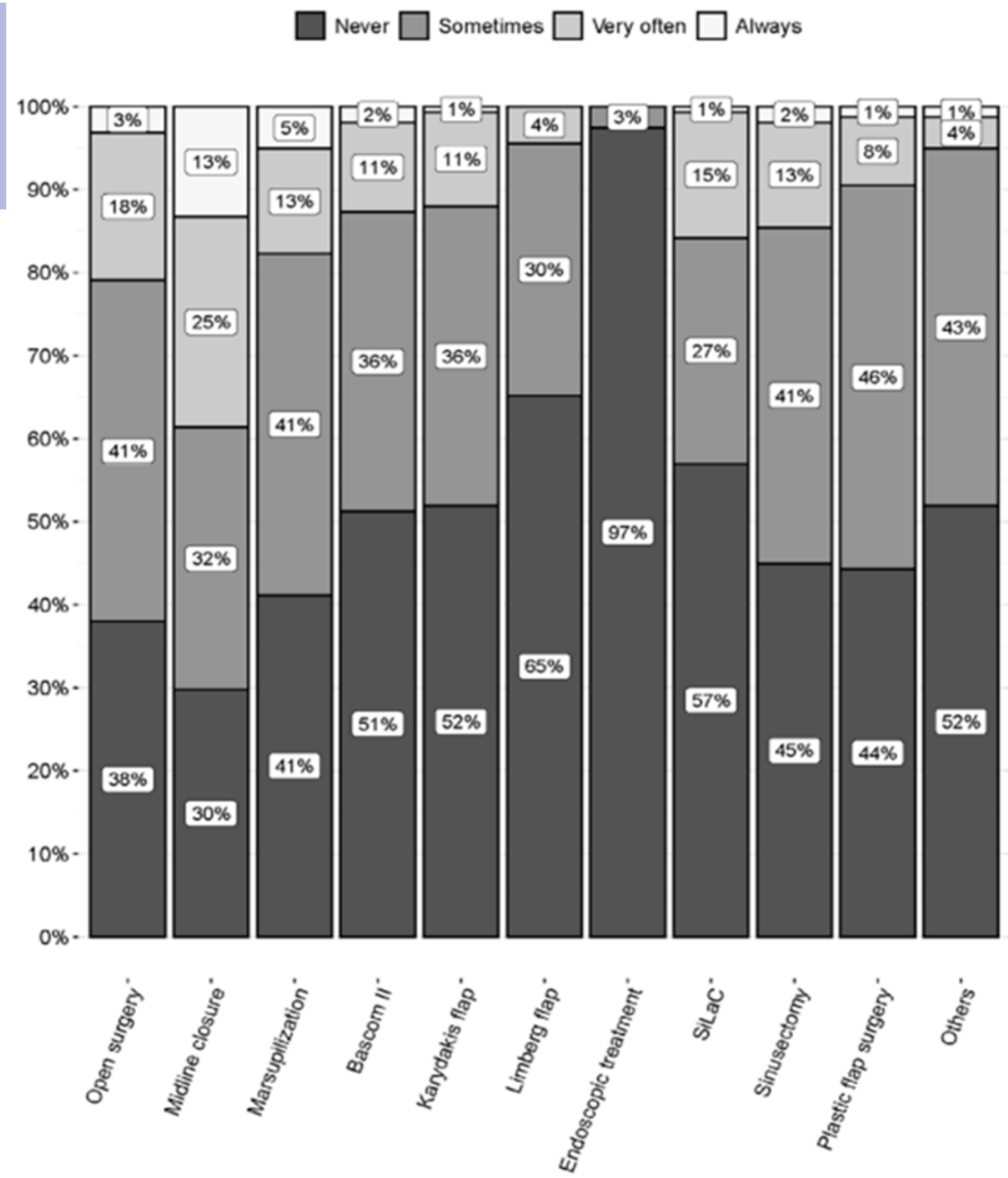
Current surgical practices and attitudes toward pilonidal sinus disease among Russian surgeons: A national survey

Darya Shlyk, Vladimir Balaban, Mingze He, Maria Pikuza, Petr Tsarkov

I Primary closure
II Marsupialization + Open Surgery
III Lateralization

Limberg and other flaps

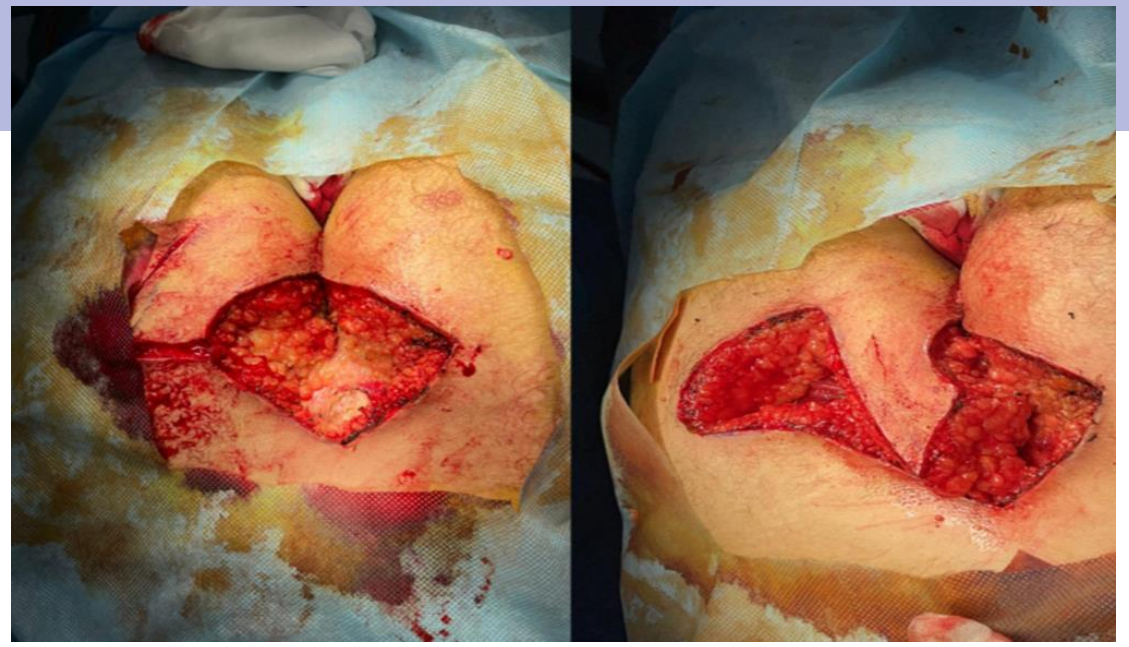
Sinusectomy
SilaC



Our experience 2013-2023

Number of patients 368	Number of patients	Rate of recurrence
Type of procedure		
Primary closure	77	19.5% (15)
Gluteus fascia flaps	89	15.7%(14)
SILAC	77	25%(19)
Plastic rotational flaps	11	0%
Deroofing	26	11.5%(3)
Sinusectomy	28	14.2%(4)
Bascom II+ Karydakis procedure	55	5.5%(3)

Our experience



T-plasty

Take home massege

- Focus not only on clinical, but also on the patient factors
- There is no ideal treatment option for recurrent PSD
- For difficult cases better refer pts to specialized surgeon

Welcome to RSCS!