Fistulotomy: is it the key?

By

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- *It is imperative for the surgeon to fully understand the pathophysiology of this disease process, the anatomy of the anal canal and pelvis with respect to cryptoglandular abscess and fstula, and how to appropriately individualize care for each patient.*
- *While there are many new and emerging methods of treatment, the surgeon should be critical of the published literature and data.*

Introduction:

- Surgical management of anal fistula should take 2 major endpoints into consideration:
    1. healing of the fistula
    2. preservation of sphincter function
- So far, no procedure can be considered the “gold-standard” for surgical treatment.
- Yet, strong efforts to identify effective and “complication-free” surgical treatment options are ongoing

Introduction:

principles of management of fistula in ano:

1. control of sepsis
2. maintenance of continence
3. cure without recurrence,

1. Eradication of sepsis

dealing with the fistula componants:

1. primary tract
2. secondry tracts
3. abscess
4. internal opening
5. external opening

2. maintainance of function

- **Avoid sphincter damage**
- **Anal sphincter repair**

Indications of Fistulotomy

- Fistulotomy is generally safe in simple fistulas with recurrence rate of 0–9% and incontinence rate between 0% and 37%
- The wide range in fndings is likely due to variable inclusion criteria of simple vs. complex fistula type
- fistulotomy is safe and has low risk of recurrence and incontinence.
- For this reason, it is the only surgical option recommended for simple fstulas.

- Fistulotomy entails laying open the fistula tract including all secondary tracts for complete and adequate drainage.
- This is most easily performed by dividing the tissue overlying the fstula probe with electrocautery.
- The underlying fistula tract is debrided with electrocautery or curetting.
- Marsupialization of the wound edges after fistulotomy has been shown to decrease overall resultant wound size, shorten time to healing (6 weeks vs. 10 weeks, $p < 0.001$), and reduce incidence of postoperative bleeding (36% vs. 46%, $p < 0.05$)

Fistulotomy

- *Laying out the tract >> less recurrence.*

- Also, we believe that muscle repair following the aggressive fistula surgery and muscle division addresses the issues of recurrence and incontinence at the same setting with very acceptable results even in patients with pre-operative anal incontinence

Fistulotomy

- *Direct sphincter repair vs overlapping.*
- We believe that Direct sphincter repair is preferable to overlap repair
- As the later cause tension on the repair with increase intra-anal pressure
- it avoids excessive dissection leading to sphincter ischemia

Steps of Fistulotomy

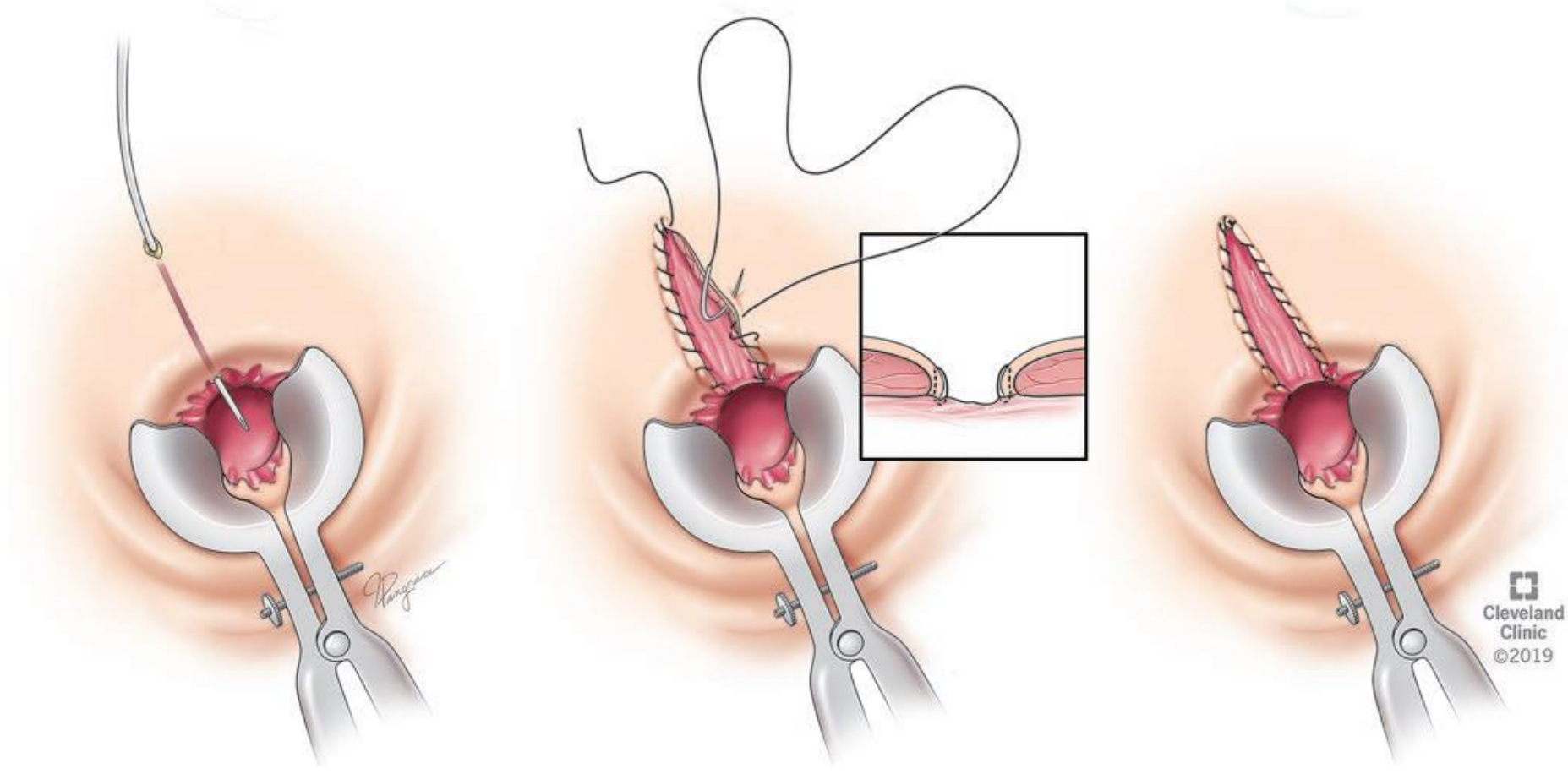
- ***Intraoperative Fistula Identifcation***
- The frist step in surgical management is intraoperative identifcation and characterization of the fstula.
- Even in those with preoperative imaging, as these fndings are merely guidance and must be confrmed with intraoperative fndings.
- so rectal examination under anesthesia is performed.
- prone jackknife position or high lithotomy depending on surgeon preference and patient comorbidities.

Steps of Fistulotomy

- ***Intraoperative Fistula Identifcation***
- digital rectal exam and anoscopic exam both to palpate internal opening and rule out other anal canal pathologies previously unidentifed during examination in clinic.
- The external opening is gently probed with a blunt-tipped fstula probe.

Steps of Fistulotomy

- ***Intraoperative Fistula Identifcation***
- It can be challenging to identify the internal opening
- Intraoperative hydrogen peroxide or methylene blue may be injected via the external fstula opening to aid in identifcation of the exact site of internal opening.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Fistulotomy with Primary Anal Sphincter Reconstruction

- Fistulotomy was previously regarded as a proper treatment for simple anal fstula given the increasing risk of incontinence with increasing fstula complexity.
- In recent years, there have been several promising studies evaluating the role of fistulotomy with primary sphincter reconstruction
- These studies reveal high success rates (91–96%) and low incontinence rates (2–13%), with the post defecation soiling being the most common type of de novo incontinence .

Fistulotomy with Primary Anal Sphincter Reconstruction

- Risks of recurrent disease and incontinence were signifcantly increased in those with recurrent fstula, complex fstula, presence of secondary tracts
- In this technique, a primary fistulotomy is performed, with or without fstulectomy, followed by end-to-end primary sphincteroplasty with dissolvable sutures.

- This study is a Prospective Cohort study.
- 45 patients.
- **Inclusion criteria:**
  - High anal fistula.
  - Complex anal fistula.

- ***Exclusion criteria:***

- Patients with preoperative fecal incontinence.
- Patients with inflammatory bowel disease.
- Patients with anal sphincter injury (evident by DRE or MRI).
- Pregnant women,
- children.
- Patients diagnosed with acute anal sepsis.

History taking

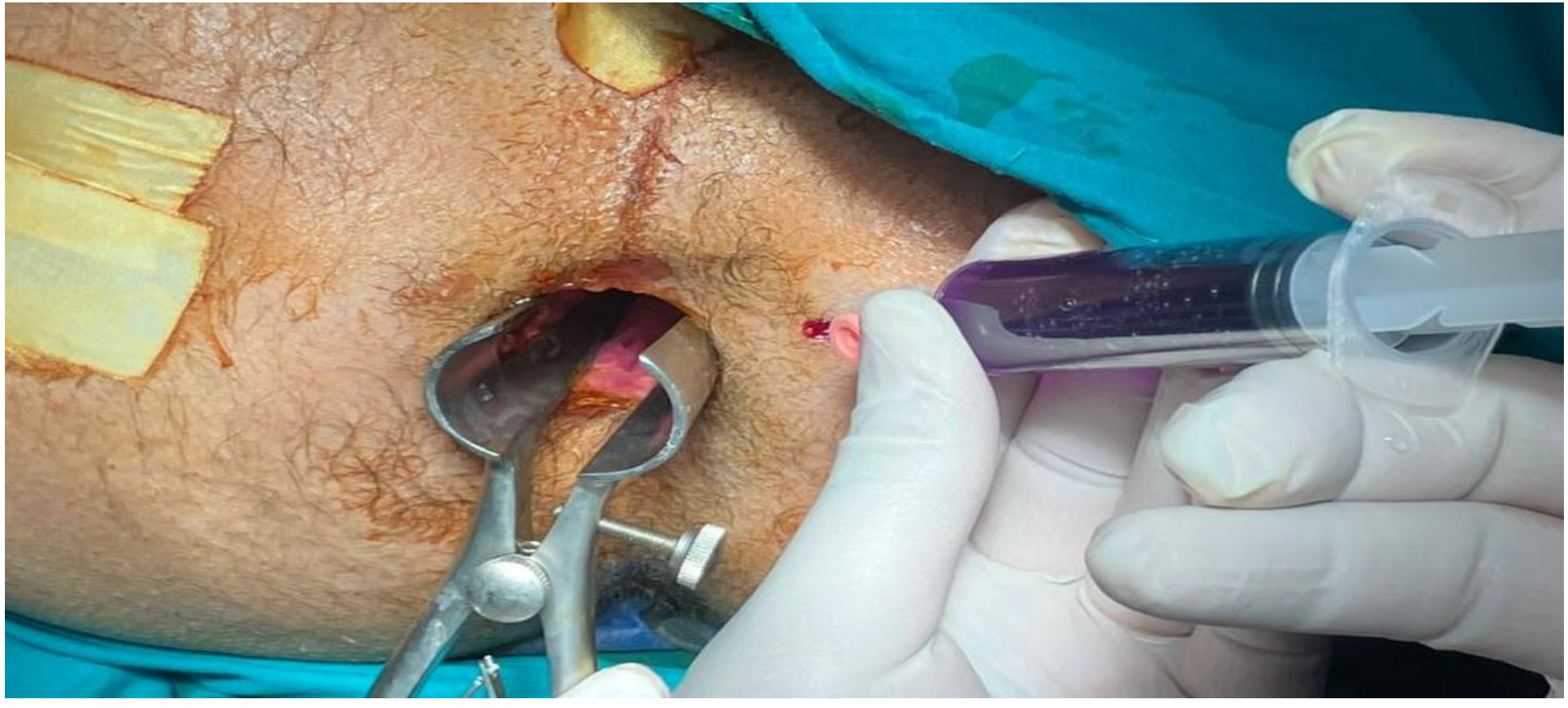
Pre-operative examination

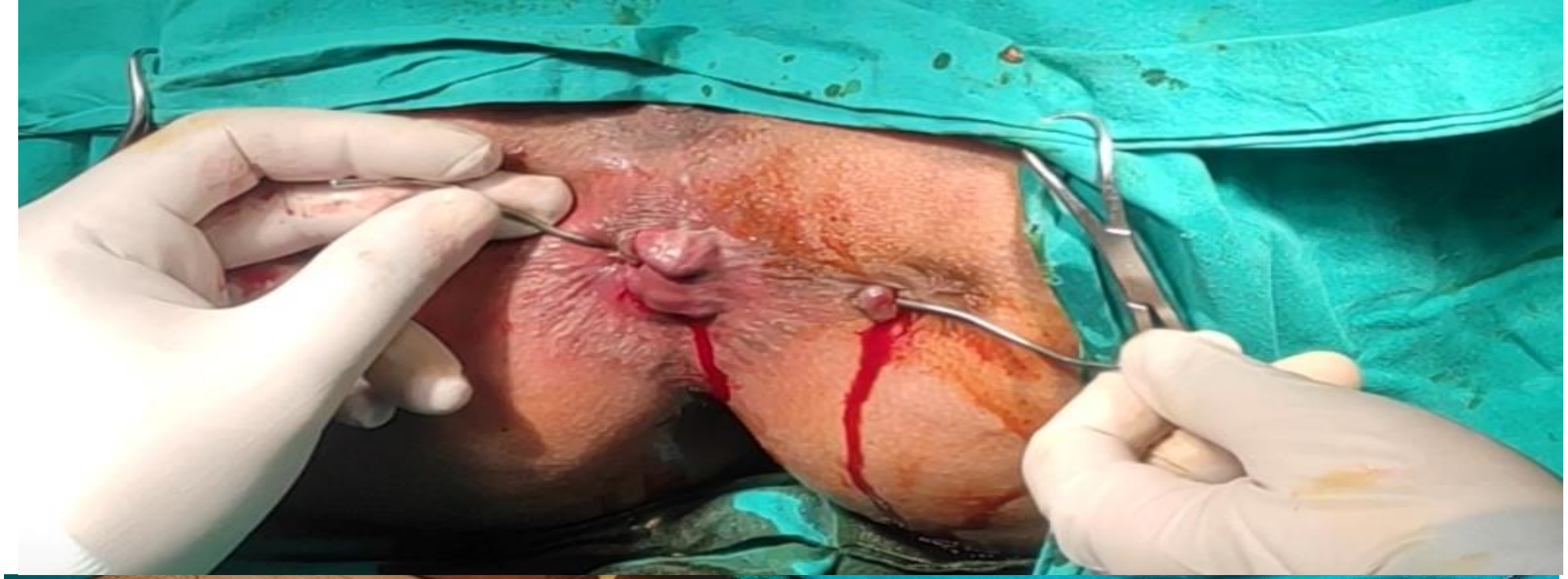
Anal continence assessement by Wexner score

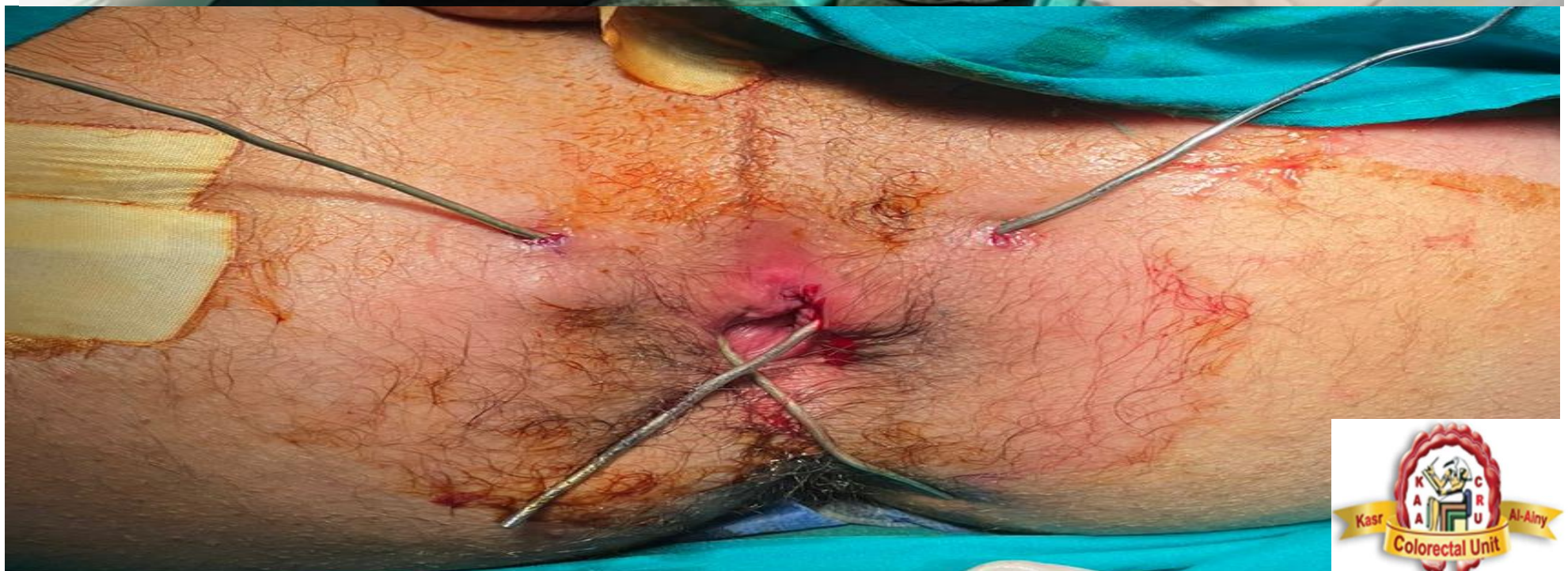
Routine MRI fistulogram.

Operative procedure

- Examination under anesthesia.
- Delineation of the tract.



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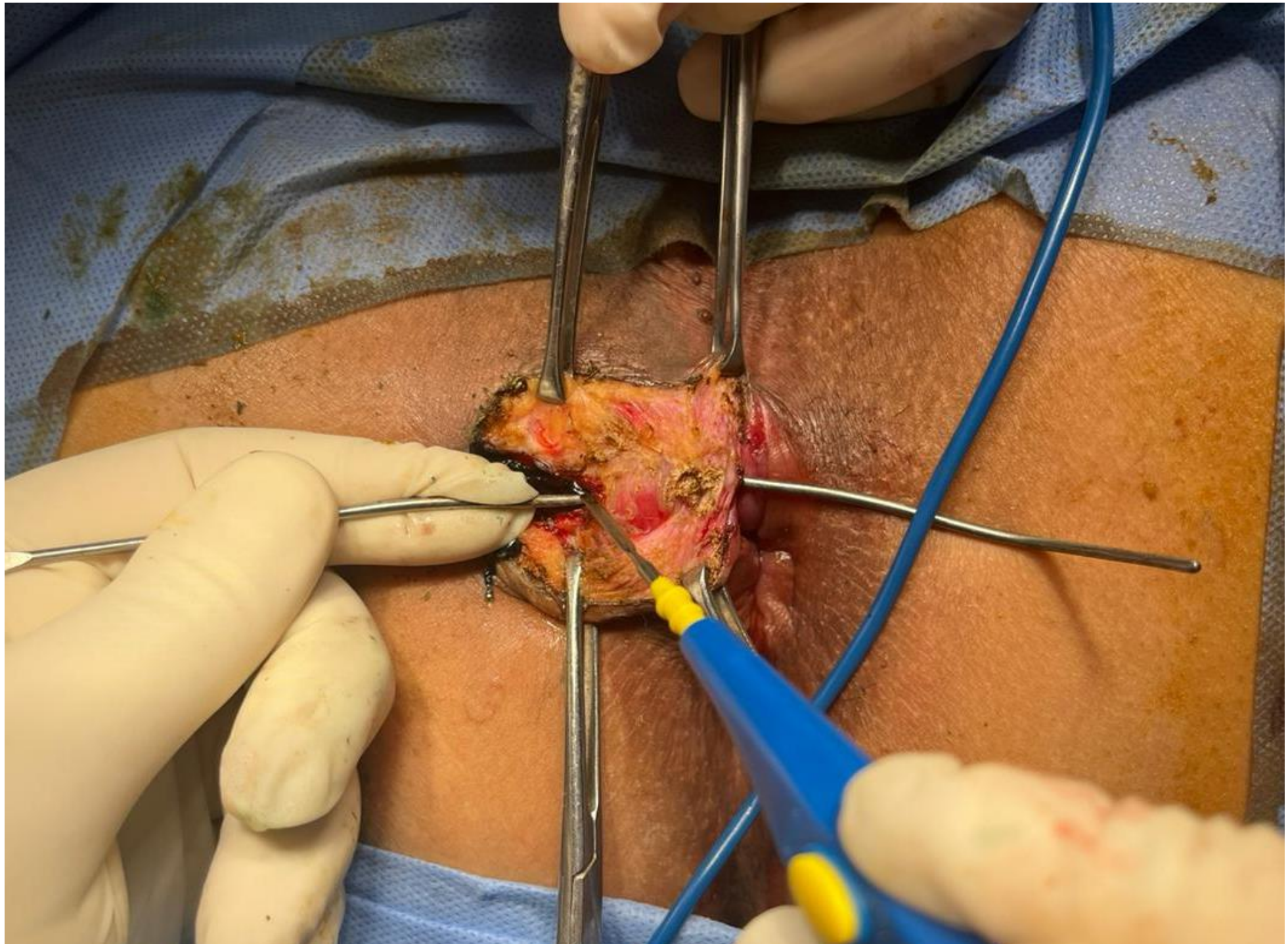
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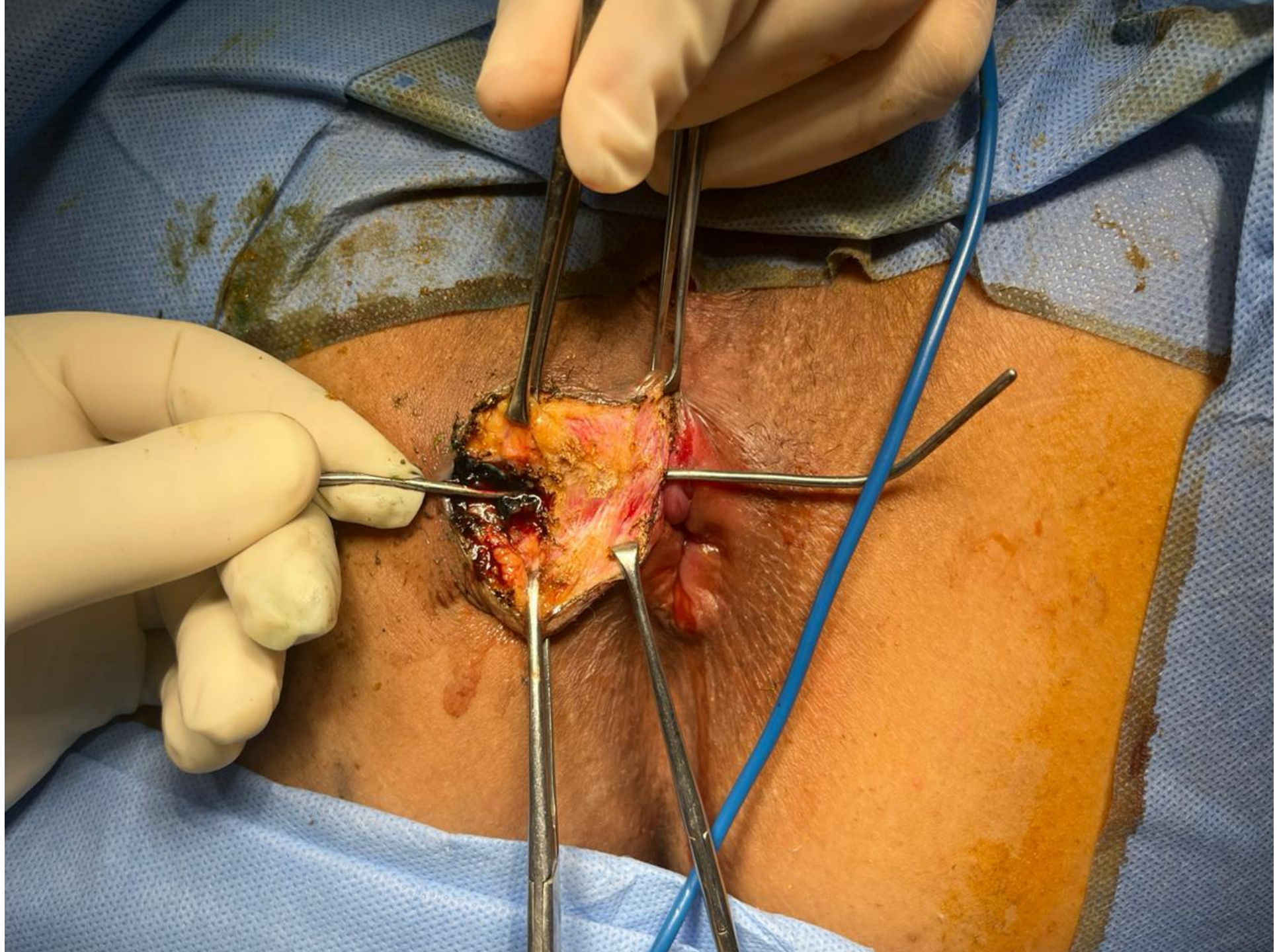
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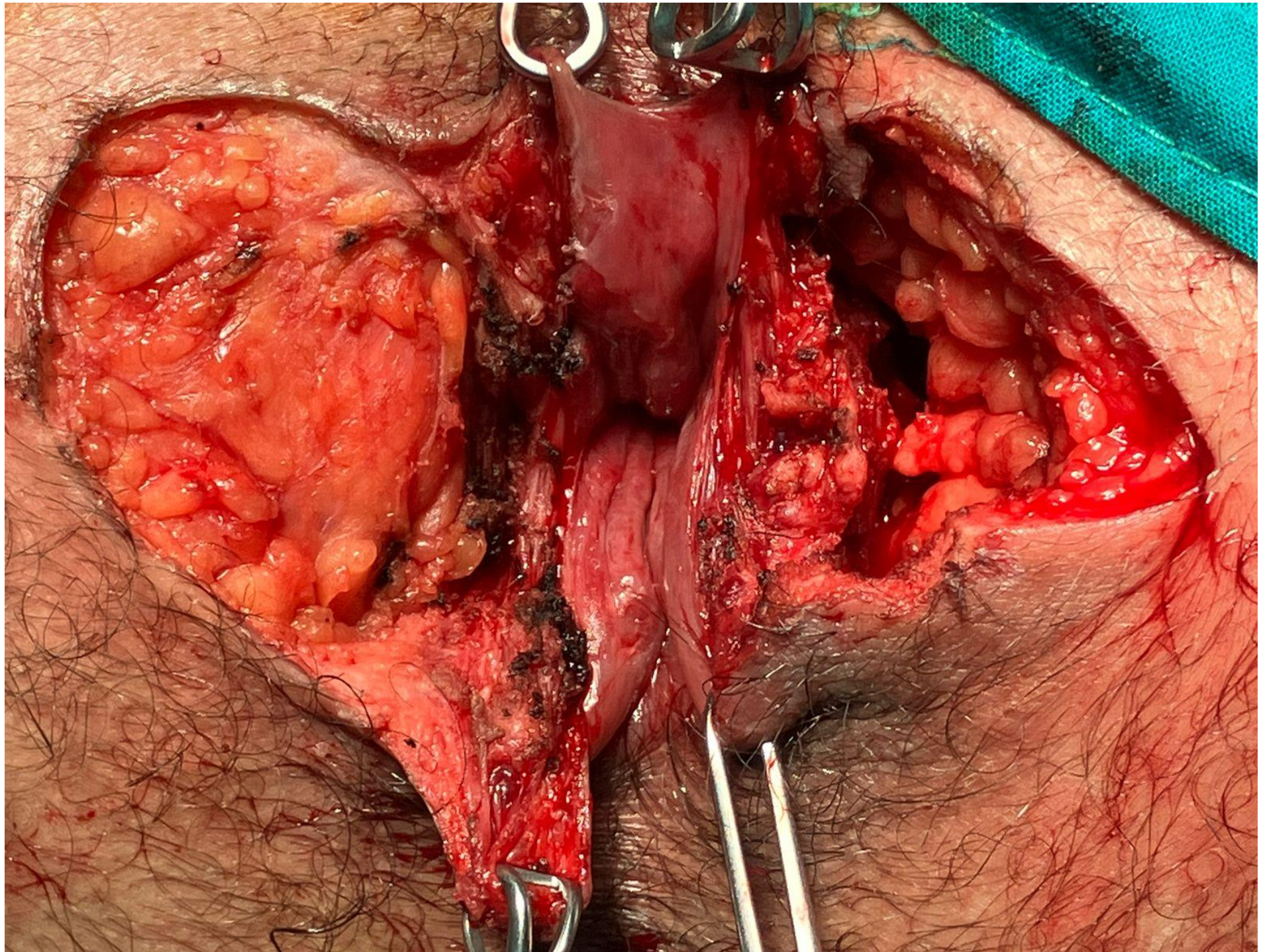

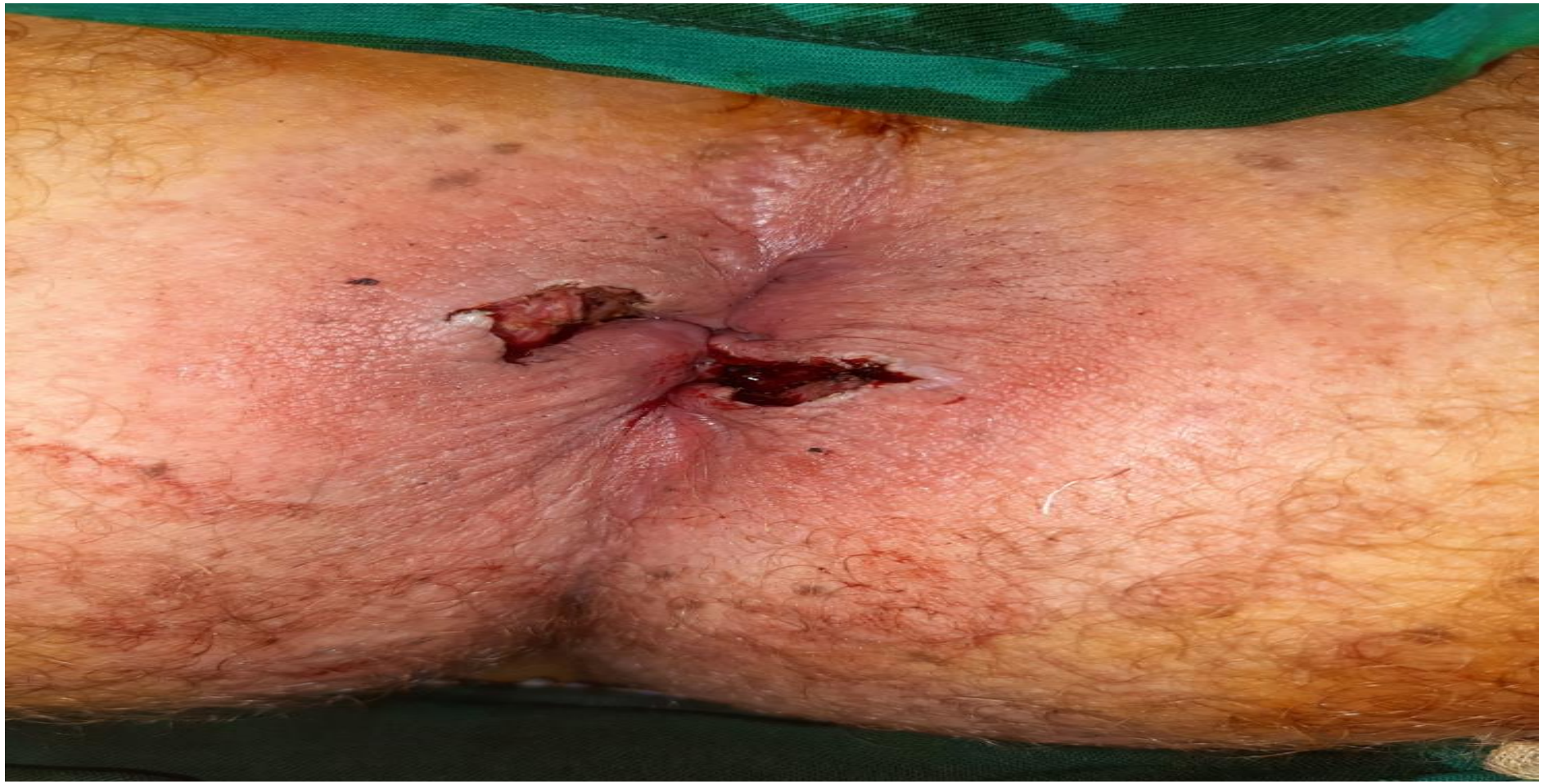

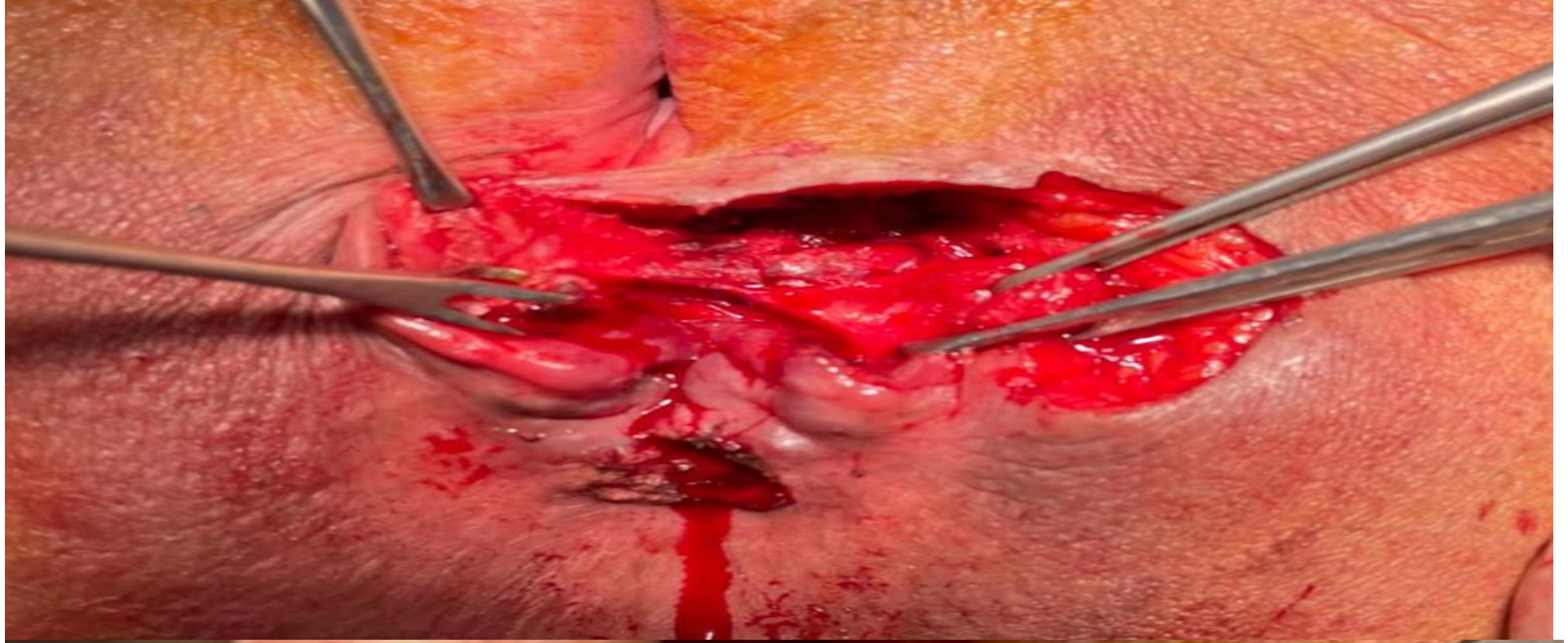

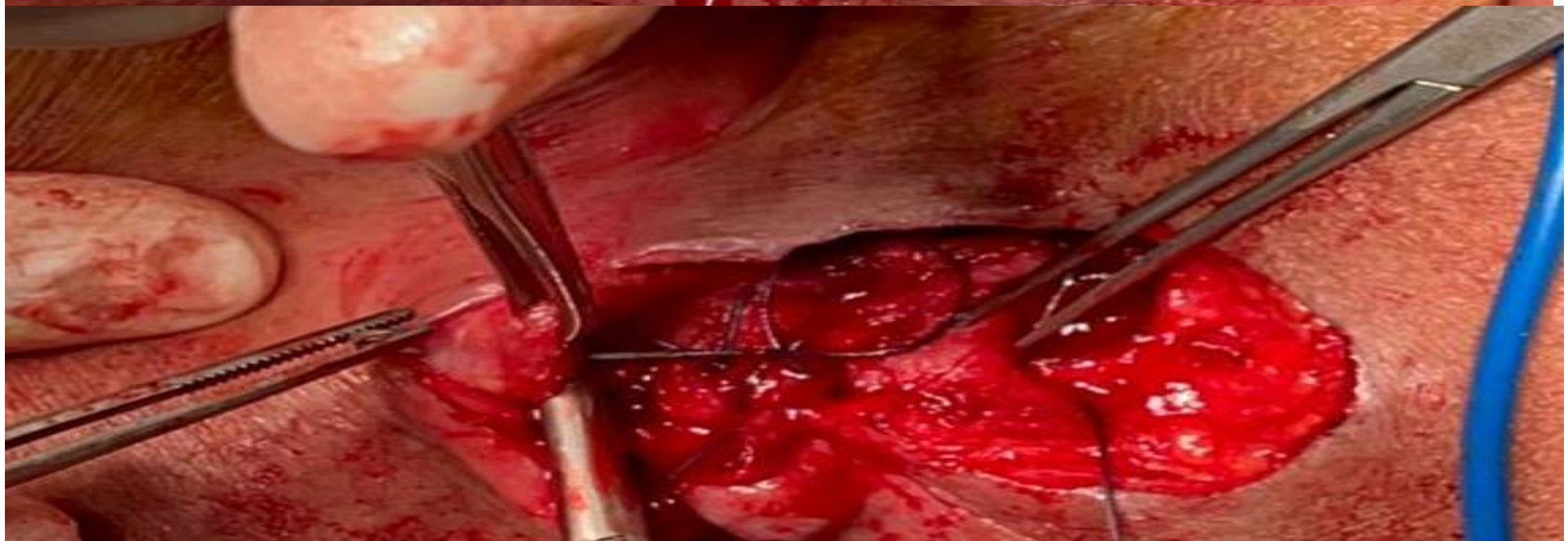

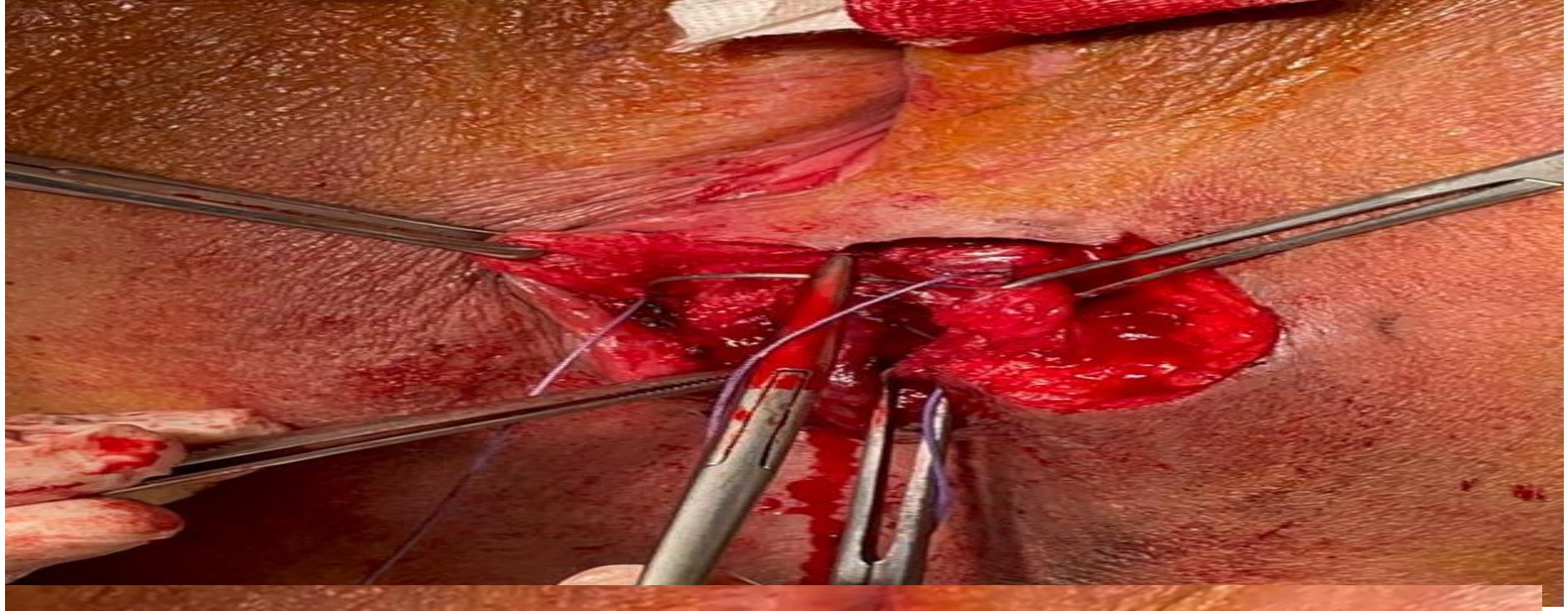

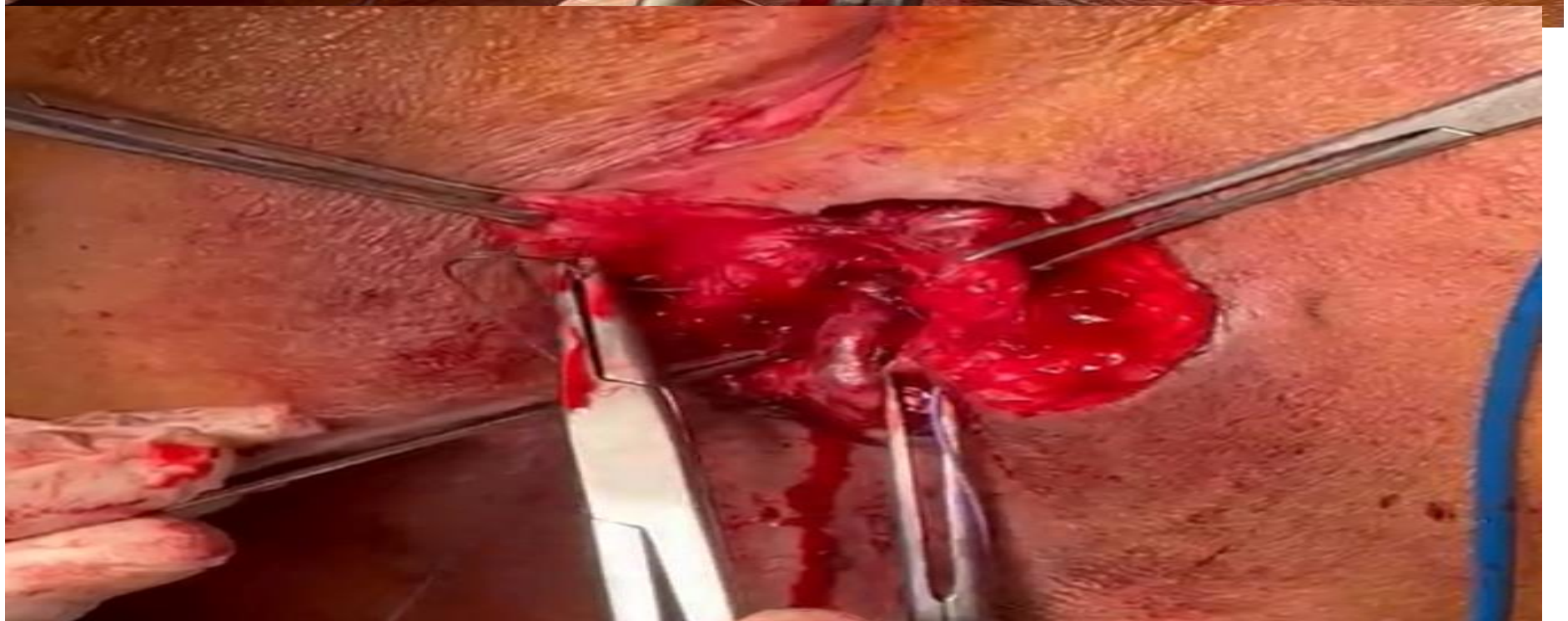

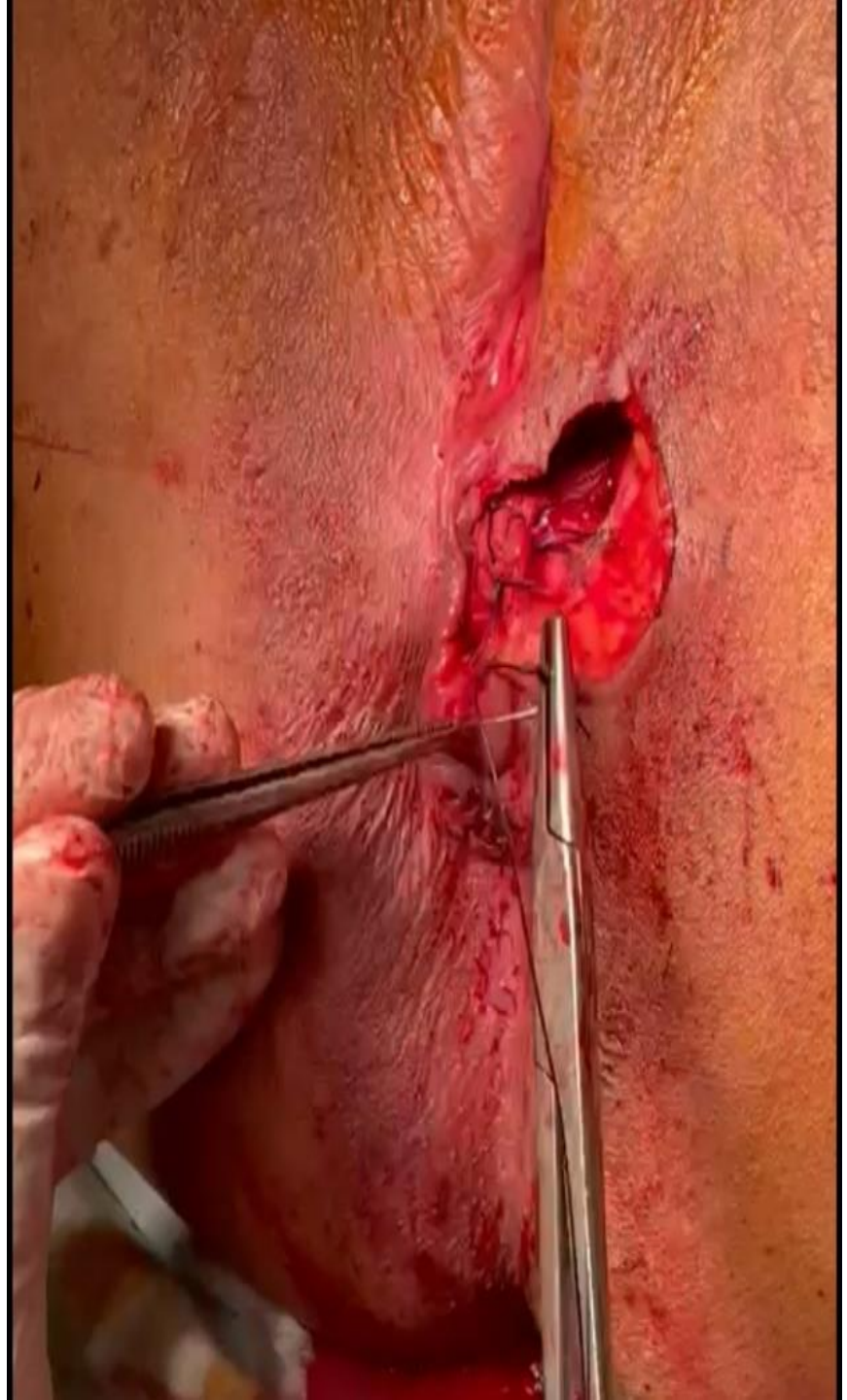

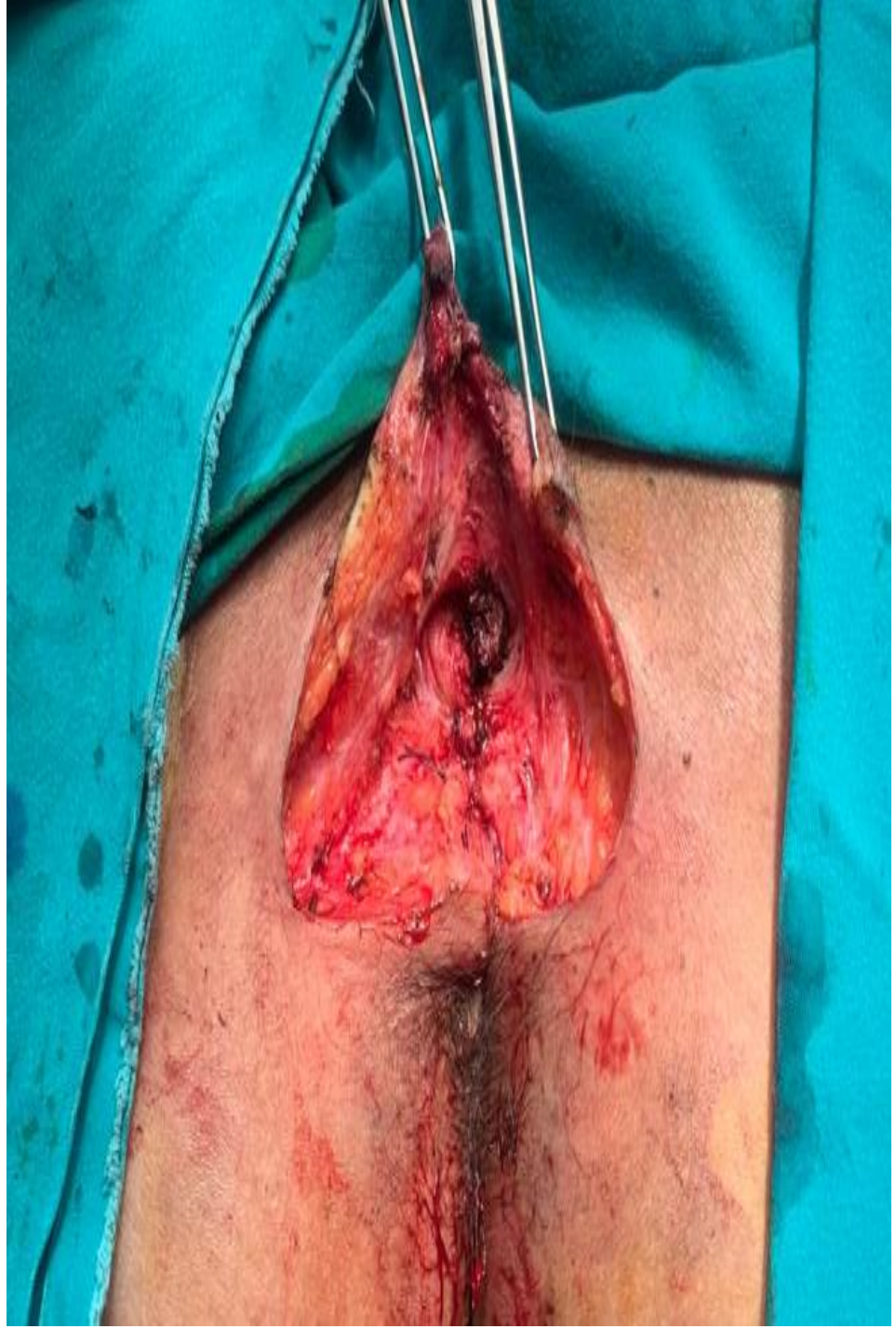

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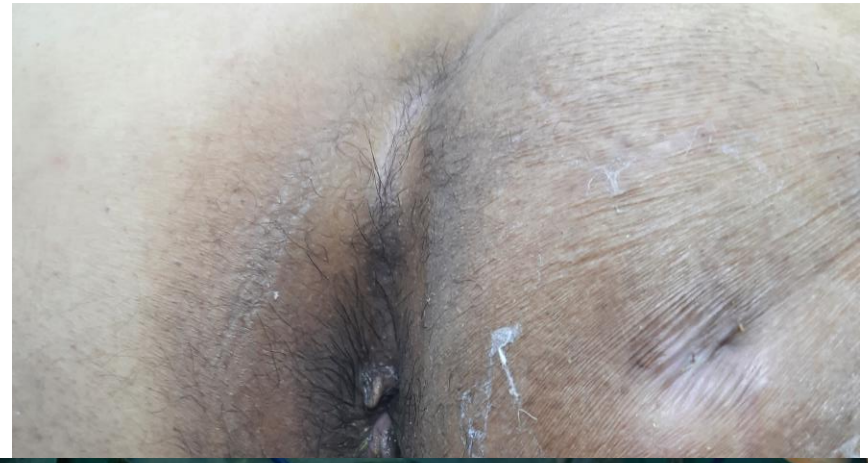
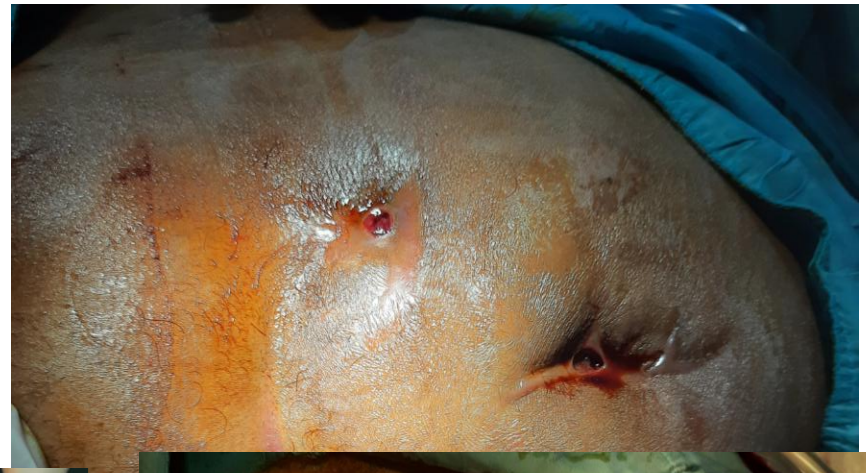
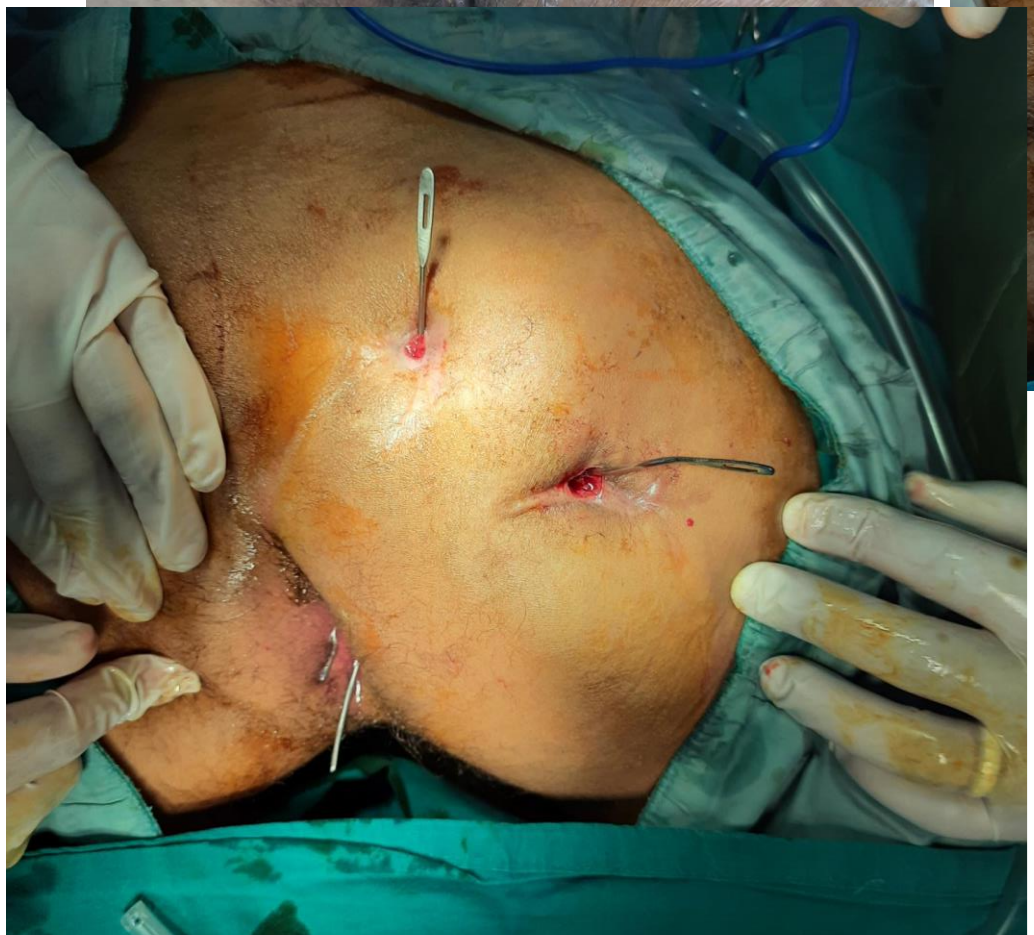
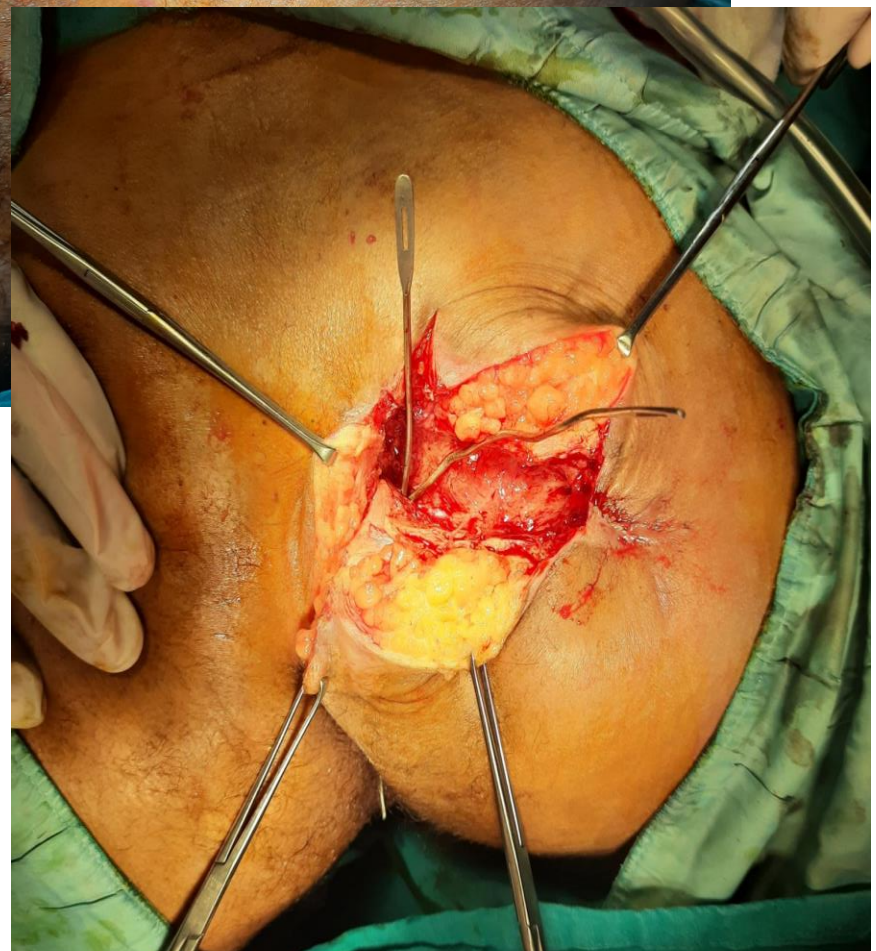
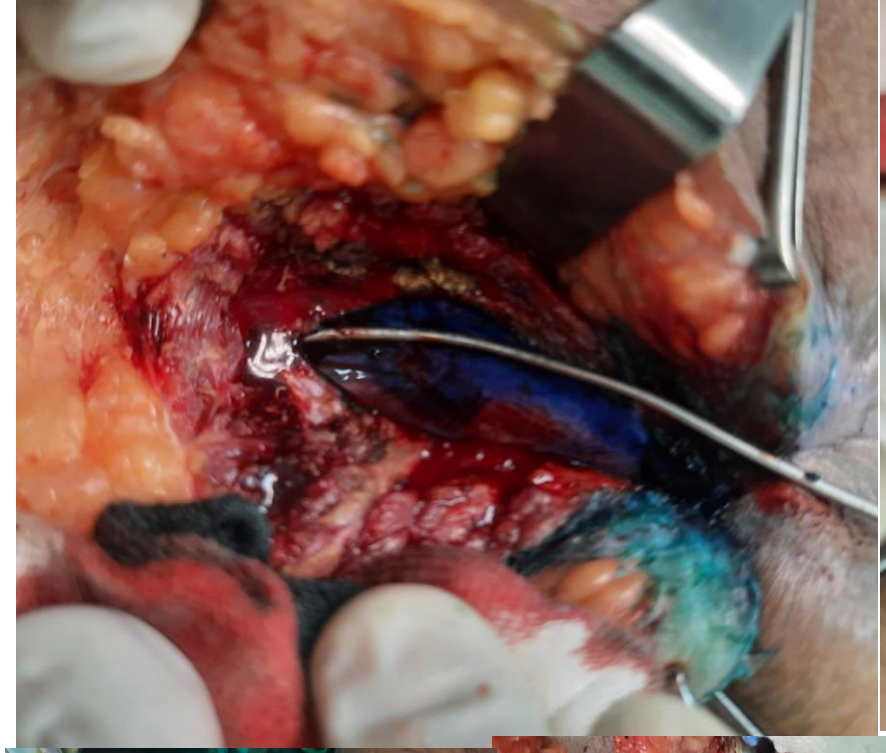
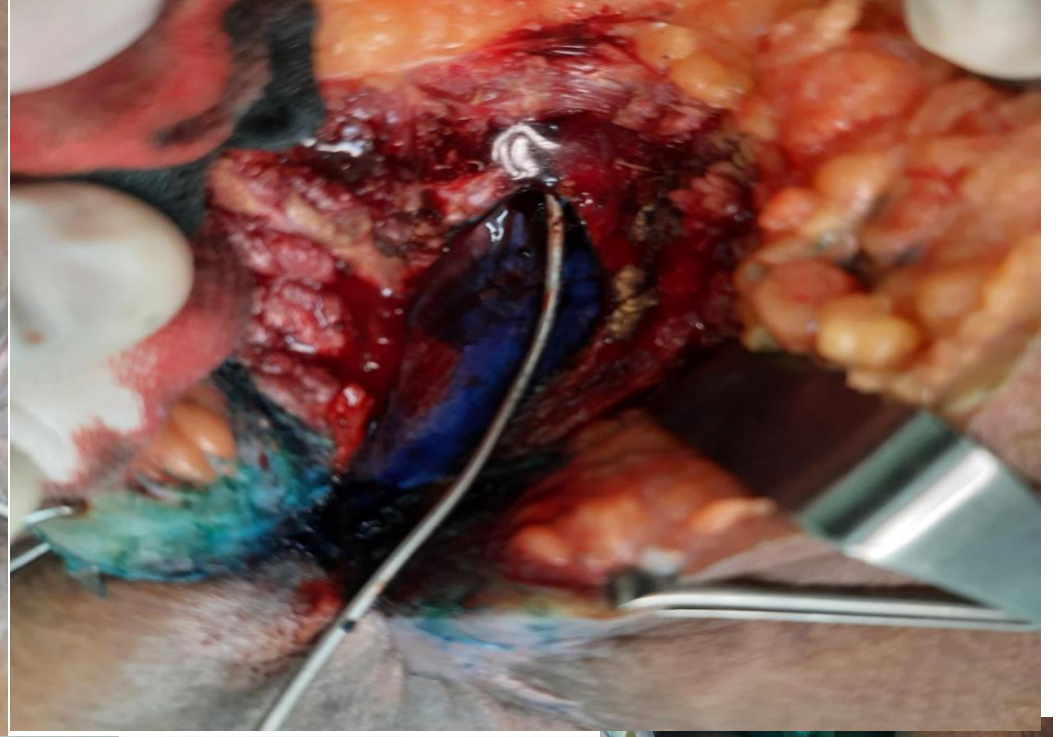


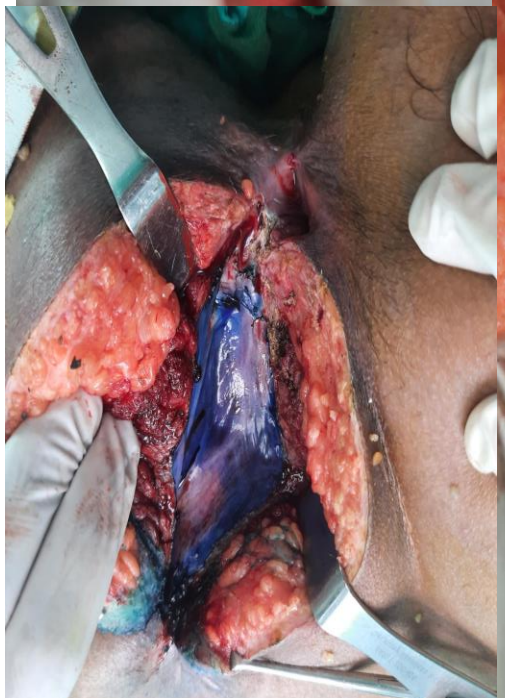


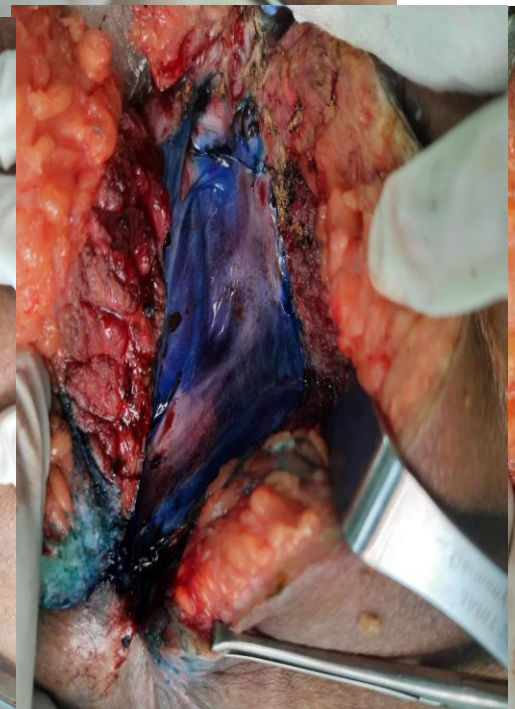


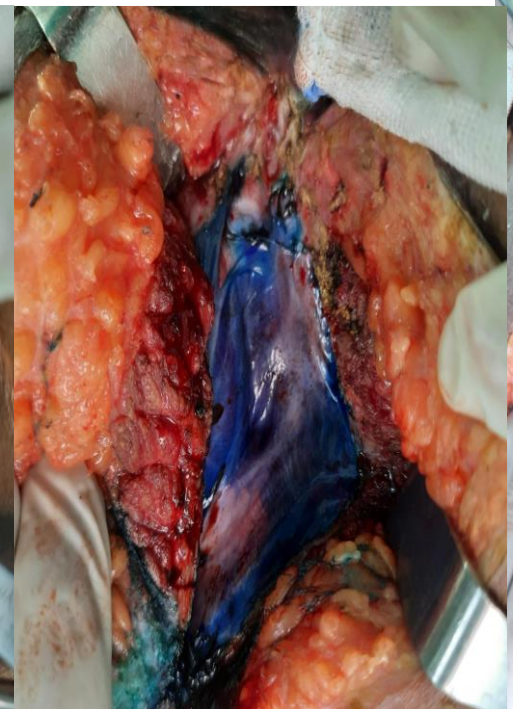


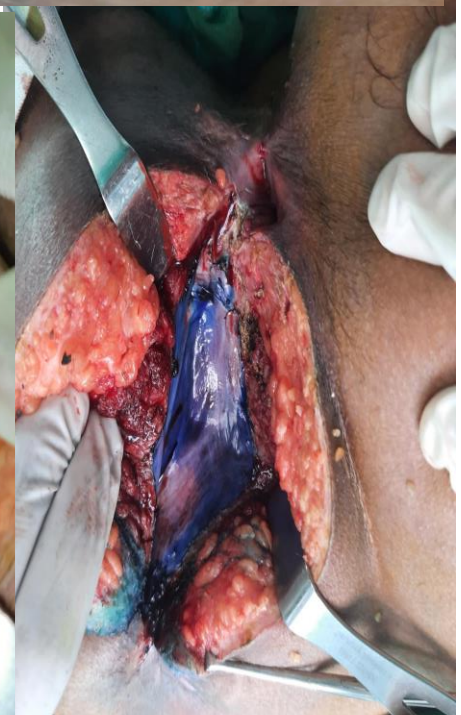










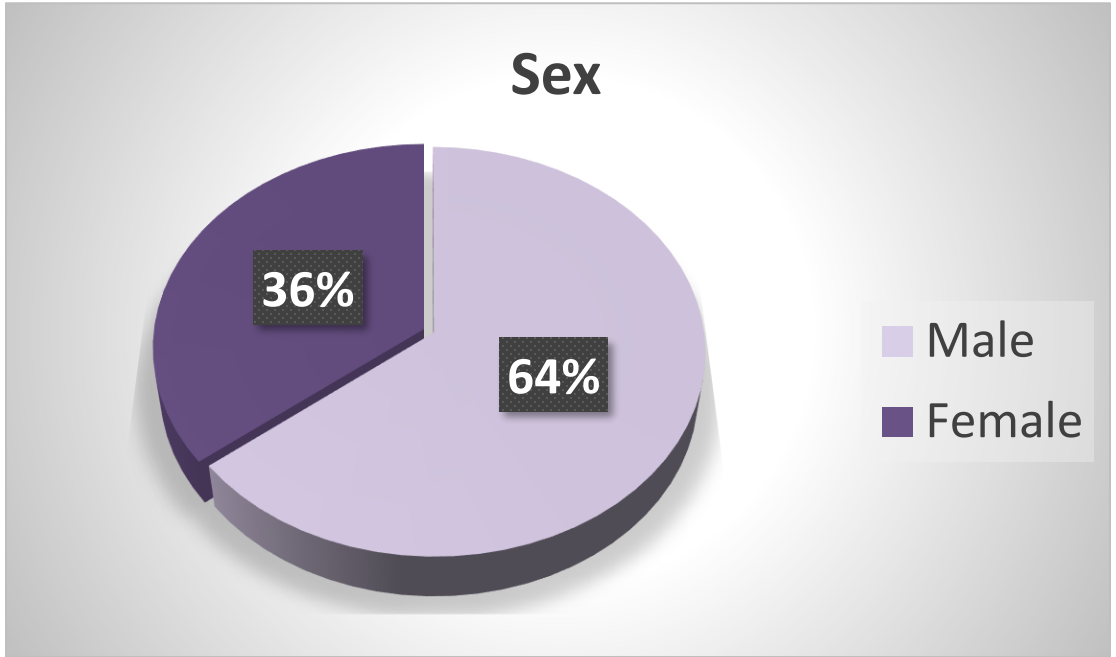


Follow up

- Patients were discharged on the same or 1st day post-operatively.
- Follow up appointments at 1w, 2w, 1 month, 3 months, 6 months and 1 year
- Wexner score
- Follow up Anal Manometry and Trans anal ultrasound after 3-6 months.

Demographic data

- Mean Age was 38.8 ± 10.1
- Mean BMI was 37.8 ± 5.4
- 25 patients (55.6%) didn’t have any previous anal operations



Operative Results

	Studied patients (N=45)
Type of anal fistula	
high trans-sphincteric	34(75.5%)
Supra-sphincteric	8(17.8%)
Extra-sphincteric	3(6.7%)
Main tract	
Two tracts	2(4.4%)
non branched single tract	22(48.9%)
1 side branch single tract	13(28.9%)
2 side branches single tracts	8 (17.8 %)

- All types of complex fistula unlike other studies with higher sample size.
- Mean sphincter complex involvement was 83.5% ±14.7 with total involvement of the sphincter in 17 cases.

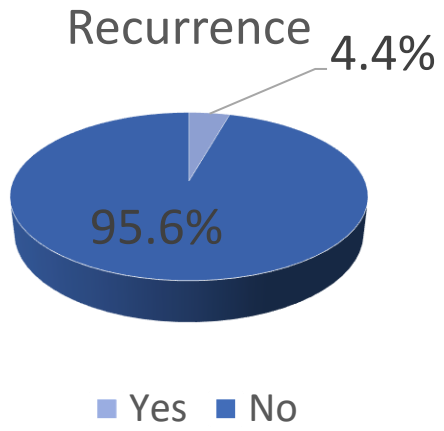
Post operative Outcome

- ***Wound healing and infection:***

- 28 patients developed wound infection.
- complete healing occurred within 7-12 weeks.
- Return to work: 3.68±0.55

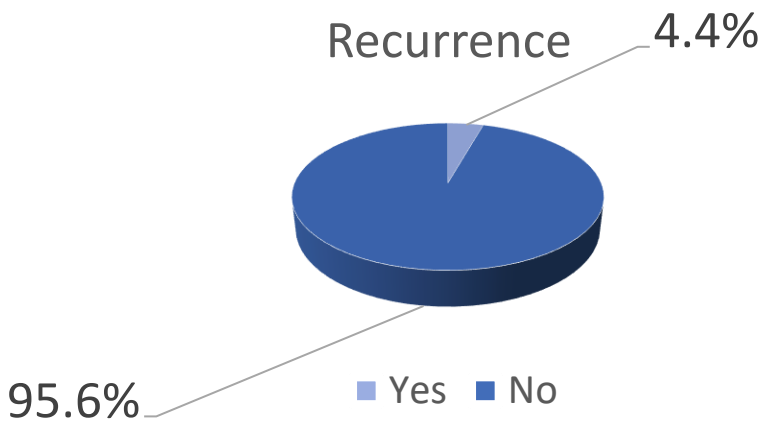
Post operative Outcome

- ***Recurrence:***
- 2 patients (4.4%) had experienced recurrence in our study in the follow up.
- One of them was presented with high trans-sphincteric fistula and recurred as low trans-sphincteric fistula after 2 months.
- The other patient had recurrent peri anal fistula for the 5th time as extra sphincteric fistula before our study.



Post operative Outcome

- ***Recurrence:***
- During follow up, it recurred as extra sphincteric fistula again after 3 months.
- Recurrence was further treated by repeated fistulotomy and sphincter repair again irrespective of the primary treatment.
- Their wounds were completely healed after 4 weeks and 9 weeks respectively.
- Both were followed up for another 6 months after complete healing with no detected recurrence again.

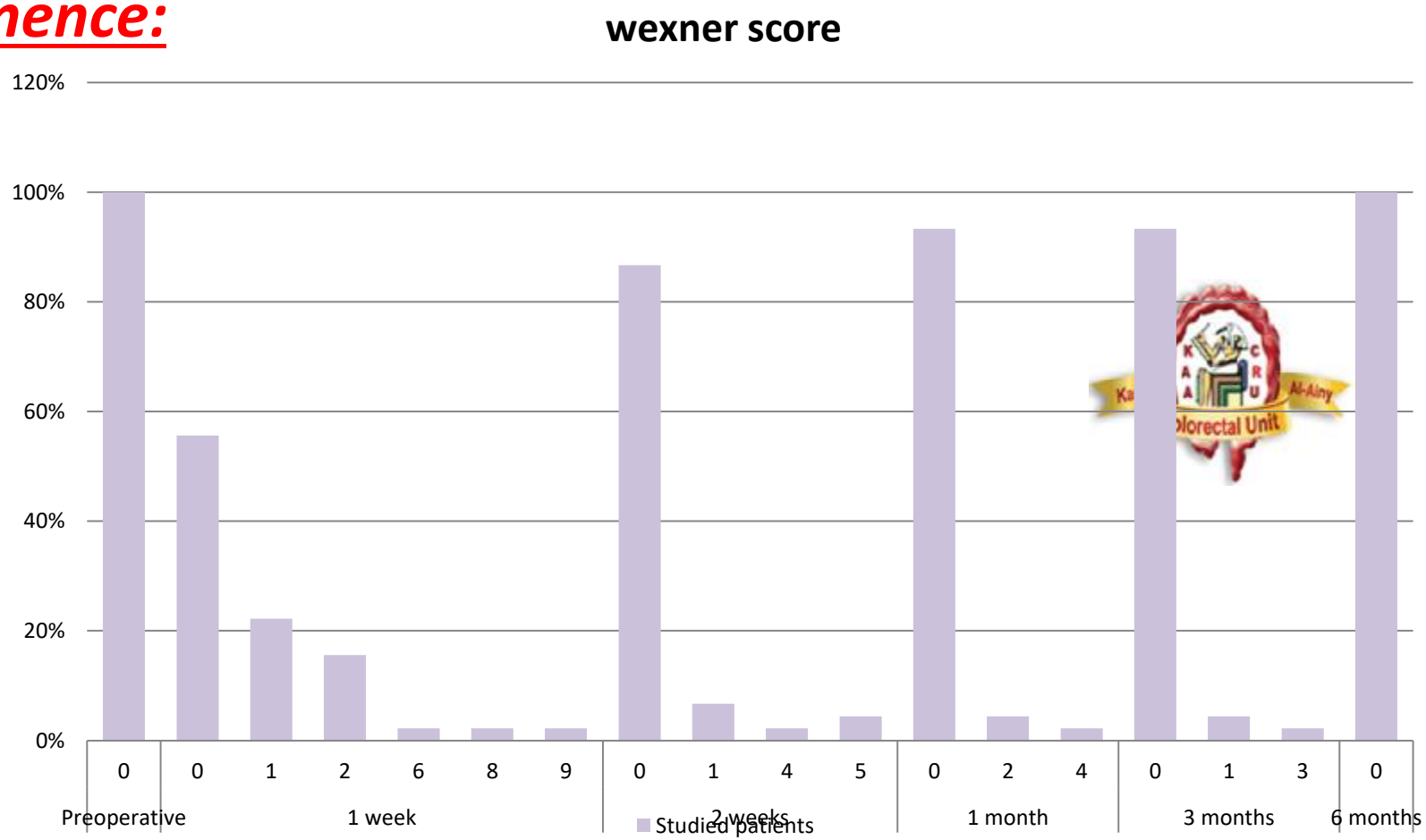


- Univariate and multivariate analysis were performed to investigate the possible predictive factors for recurrence. In univariate analysis: higher BMI, fistula length, presence of bleeding and infection were positively correlated with increased risk of recurrence.

- In multivariate analysis, using model adjusted for previously mentioned parameters, it was found that higher BMI, and presence of infection were independent predictors for recurrence.

Post operative Outcome

- ***Incontinence:***



- 2 patients >> physiotherapy.
- 1 patient>> redo sphincteroplasty.
- All patients were continent after 6 months wether they performed physiotherapy or surgical intervention

Conclusion

1. Fistulotomy with direct end to end sphincter repair is a promising technique for treatment of all types of complex anal fistula compared to other treatment modalities for complex trans-sphincteric anal fistula found in literature.
2. It showed good results with different types of high fistula regarding fistula healing with no or slight impairment of the continence state of the patients or major morbidity with excellence recurrence rate.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Thank you