Novel Approach of Treatment of Pilonidal Sinus Disease with Thrombin Gelatin Matrix as a Sealant

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Background

- Ideal management of PS should be simple, attaining acceptable recurrence rates with the least possible tissue trauma.
- Surgery was thought to be the most successfull treatment for chronic PS disease as regards prevention of postoperative recurrence.
- However, alternative treatment options like tissue sealants have achieved comparable recurrence rates, but without prolonged recovery time and significant morbidity associated with excisional and flap surgeries.

Aim of the Study

- We aimed to evaluate the efficacy of thrombin gelatin matrix as a new sealant in management of PS disease regarding the incidence of recurrence, postoperative complications, and patients' satisfaction.
- The rationale of using thrombin gelatin matrix injection was to avoid morbidities and prolonged recovery time associating conventional excisional or flap surgeries, and to test thrombin gelatin as an alternative to fibrin glue

Patients & Methods

- Fifty patients with PS were admitted to Mansoura University hospital, private hospitals in Mansoura city and Mansoura Military hospital, were enrolled in this prospective study.
- The study was conducted after approval of the institutional review board (IRB) of Mansoura faculty of medicine , and was registered in (www.clinicaltrials.gov) with a special identifier [NCT02638064].

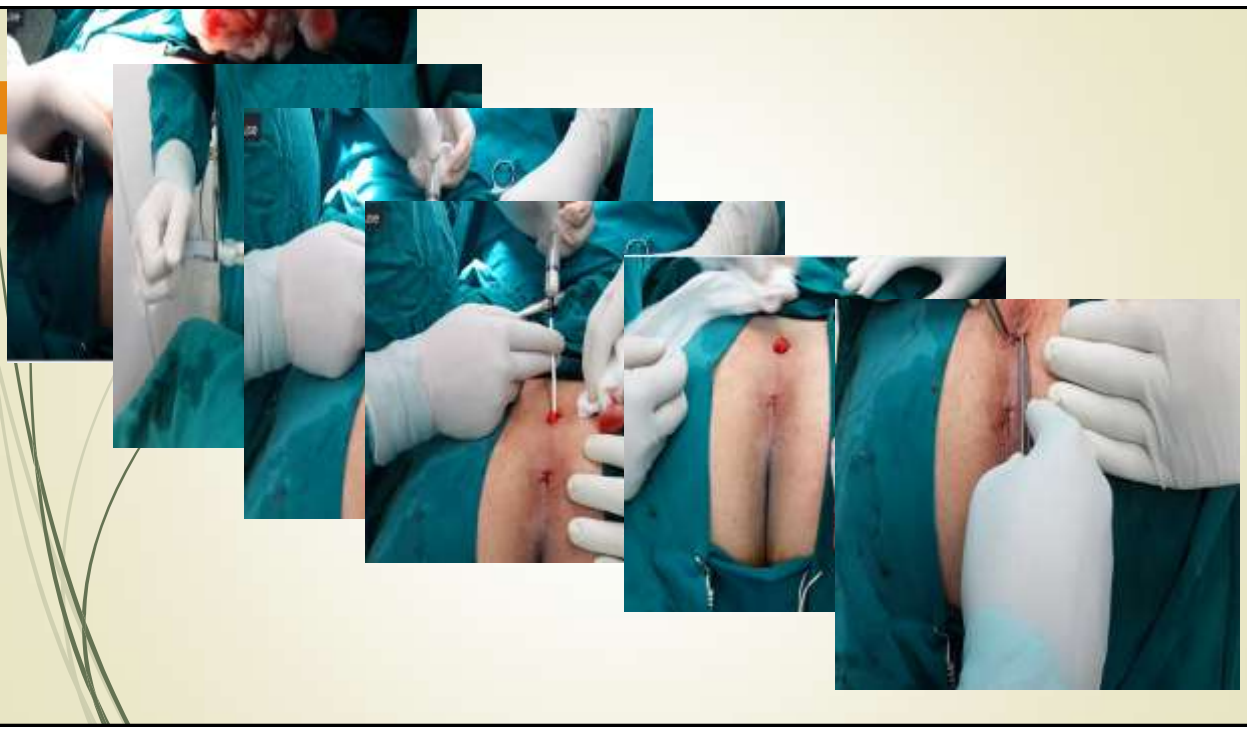
Patients' selection

- Patients included in the study had PS with single or multiple tracts.
- Recurrent cases of PS after previous surgery were also included in the study.
- We excluded patients unfit for anesthesia, patients with severe scarring at the natal cleft due to previous surgery or infection, and patients with signs of acute abscess or history of drainage of abscess less than six months ago.

Preoperative Assessment

- Patients were interviewed by a resident who took detailed history regarding the current complaint, duration of symptoms, previous treatments, past history of infection or abscess drainage, and associated co-morbidities.
- Laboratory investigations in the form of blood picture, liver and kidney function tests, and prothrombin time were done to assess the anesthetic fitness of the patients.
- Written informed consents were obtained from all patients after explaining the nature and complications of the procedure.

Operative Technique



Postoperative Care

- Patients were kept under observation for six hours after the procedure to record postoperative pain, analgesic consumption, and early complications.
- Patients were then discharged on oral antibiotics and simple analgesics for three to five days.
- Patients were advised to perform regular removal of hair at the gluteal and sacrococcygeal regions.
- Stitches were removed when complete healing was ascertained, at five to seven days after the procedure.

Follow-Up

- Follow-up was scheduled on weekly basis in the first post-operative month, and then on monthly basis for one yea..
- Pain at the site of procedure, status of healing, recurrence and its timing, return to work and normal activities, and post-operative morbidities were recorded.
- For assessment of postoperative pain, visual analogue scale (VAS) grading from 0-10 was used.
- A questionnaire about patients' satisfaction was completed by patients at three months postoperatively

Results

- This study included 50 patients with sacrococcygeal PS disease.
- Patients were 36 (72%) males and 14 (28%) females.
- Five (10%) patients had a positive family history with a first degree relative.
- 47 (94%) patients had primary PS, and 3 (6%) had recurrent PS after previous surgeries.

Item	Value
Number	50
Median age (years)	22
Median BMI	26.45
Median duration of complaint (months)	13
Discharge at natal cleft (%)	38 (76%)
Pain at the natal cleft (%)	42 (84%)
Previous abscess drainage (%)	24 (48%)
Median depth of natal cleft (cm)	3.5

- Median operative time was 18 minutes (range, 15–35 minutes).
- Median hospital stay was six hours (range, 4 –8 hours).
- Patients were discharged home on the same day of surgery.
- Median period of follow-up was 24 months (range, 6–30 months) .
- 47 (94%) patients achieved primary healing within two weeks, while 3 (6%) patients had breakdown of sealant.

- Neither major postoperative morbidities nor mortality were recorded.
- Mild pain (VAS= 1-3) at the operative site was observed in 26 (52%) patients and wound infection in one (2%) patient.
- Recurrence was reported in two (4%) patients, both were males.
- Ultimate success rate for the technique was 96% (95% CI = 95. 43 – 96.56).
- Median duration required for resumption of daily activities and return to work was two days

Item		Number (%)
Patient's satisfaction	Highly satisfied	34 (68%)
	Satisfied	14 (28%)
	Dissatisfied	2 (4%)
	Highly dissatisfied	0
Requirement of further treatment	Antibiotics	1 (2%)
	Drainage of abscess	0
	Surgery for recurrent PS	2 (4%)
	None	47 (94%)
Resumption of daily activities	One day	14 (28%)
	2-3 days	32 (64%)
	4-7 days	3 (6%)
	More than a week	1 (2%)
Recommending Surgiflo therapy to other patients	Yes	47 (94%)
	No	3 (6%)

Conclusions

- Thrombin gelatin matrix is an effective hemostatic agent that can be used beyond its original indication.
- It can be considered a promising treatment option for PS disease as it has low recurrence rate, short operative time, brief hospital stay, minimal morbidity and high patient satisfaction.


THANK YOU