

Endoscopic Pilonidal Sinus Treatment Combined To Radiofrequency Ablation (Epsit-Fistura), A Perspective of Surgical Innovation

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1. Background and Aim

Pilonidal Sinus also known as pilonidal cyst disease, sacrococcygeal fistula, intergluteal pilonidal disease is, a common disease of the sacrococcygeal region affecting mostly obese and sedentary young individuals of both genders. The history of this condition dates back to the early 1800s, and it continues to be a significant health issue today. Herber Mayo was the first to describe a disease that involved a hair-filled cyst at the base of the coccyx in 1833. In 1880, Hodge coined the name pilonidal from Latin pilus, which means hair and nidus that means nest. During World War II, over 80,000 soldiers in the United States Army were hospitalized by this inflammatory disease. It was termed « jeep riders disease » because a large number of soldiers who were being hospitalized for pilonidal disease rode in jeeps and long journeys on rough terrain were felt to cause the condition because of pressure and irritation of the coccyx [1, 3]. Despite many surgical techniques over the last decade, the recurrence rate of pilonidal sinus is still inflated. The aim of this paper is to present our initial outcome of a combined surgical approach of EPSiT and Fistura (radiofrequency ablation of fistula) that we baptized EPSiT-FisTuRa.

1. 2. Methods

10 male patients presenting with pilonidal sinus were enrolled, age group 16-35 years. Inclusive criteria were being diabetes mellitus free, BMI <35. Intravenous antibiotic was administered 10 minutes before surgery. All of the enrolled patients underwent endoscopic surgical procedure (EPSiT) combined to radiofrequency ablation (FISTURA). A postoperative close follow-up is ongoing in the rate of once a

week, and we are in the third month of evaluation.

1.3. Results: Our preliminary outcomes of three months' postoperative evaluation are encouraging, since no complication has been noticed yet.

1.4. Judgement: Underlining our preliminary results, we can state that the combination EPSiT-Fistura can improve postoperative outcomes in selected patients.

1.4. Bioethics : To begin with, a written consent was received from each of the enrolled patients. A consensus from the ethical Board of the Athens-Medical Center was received as well.

2. Technique

Under general anesthesia, patient in jackknife or in prone position, intravenous antibiotic 10 minutes prior, a meticulous inspection of the field. The first step is to well inspect the surgical field so that, if the external orifice is too small, it is enlarged with a scalpel to allow introduction of the fistuloscope. We used the fistuloscope of Meirero, of 8 degree angle eye-piece which is equipped with an optical channel 14 cm long with a handle, an operative channel, and an irrigation channel. The latter channel is connected to a 5000-ml bag. The EPSiT procedure begins with a diagnostic step, which is necessary to characterize the anatomy of the tracts followed by the operative step, which seeks via the fistula tract to achieve intraluminal destruction and removal of waste material. During the diagnostic phase, the fistuloscope is introduced through the external opening, and the sinus cavity and fistula's tract are identified. In the operative phase, instead of introducing a monopolar electrode, we used the

ARF probe 7F of RFA (Fistula) that we introduced through the operative channel thus, we ablated all the cavity and fistula's track. All the granulation tissue was destroyed and removed with an endobrush inserted into the operative channel. Any hairs identified during the procedure were removed and the continuous lavage with washing solution allowed to eliminate debris and blood clot [2, 7, 8].

3. Discussion

The ideal surgical management of pilonidal sinus should be simple and effective. Surgical treatment is still a matter of discussion, and until now there are no clear recommendations. A lot of studies have debated that the area of pilonidal sinus should be completely excised, and also surgeons' controversies regarding primary closure or lay-open technique still exist. In a systematic review, Al-Khamis et al reported that open excision and healing by secondary intention results in fewer recurrence in the range of 4-8%, but is associated to a longer hospitalization, longer healing time, and more acute postoperative morbidity in the term of pain [6, 9]. Some surgeons reported good results after primary closure, but the principal problems in these series are the high recurrence and high infection rates. A recent meta-analysis by Enriquez-Nvas-Cules et al compared different techniques with primary closure and conservative open management, and concluded that en bloc or radical excision with off-midline wound closure offers some benefits, but a higher risk of recurrence in the range of 75% vs 25% comparing to open healing. These percentages offer large room for improvement and the need of an alternative, less invasive procedure. The use of an endoscope may represent a solution allowing a simple and complete diagnosis of all fistula tracts if present, followed by the intraluminal eradication of the cyst, its contents, and the tract itself [4, 5, 9, 10].

In addition, Meinero et al reported a multicenter series of 250 patients treated with EPSiT, showing a success rate close to 95%. EPSiT offers the possibility of obtaining the complete obliteration of the sinus cavity and sinus tracts and hair removal under direct vision and subsequent closure of the primary sinus with a negligible incision and minimal discomfort. The success rate of >90% is similar to the best reports of the open technique according to a recent meta-analysis, but without the need for longer hospitalization, pain, and prolonged interruption of daily activities. EPSiT can be performed as day surgery with early return to work, with minimal pain and no postoperative infection or wound dehiscence. The open and flap procedures are associated with poor patient satisfaction because of the presence of a large scar. On the other hand, the endoscopic approach offers very good aesthetic results, since the scar is 5 mm, no suture stitches are present, and no tension is present [11-16].

In our small series of 10 patients treated with EPSiT combined to Fistura (radiofrequency ablation), our preliminary outcome are encouraging despite the small size of patients, and the short evaluation's period.

4. Conclusion

Regarding our preliminary results, we believe that this combined surgical approach will deserve to be stated as an ideal therapeutic strategy of pilonidal sinus. And we will soon demonstrate this attractive results in a prospective study with a powerful representative sample.

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