

PILONIDAL SINUS DESTRUCTION WITH A LASER PROBE: TECHNIQUEAdarsh Malagouda Patil¹¹Consultant Surgeon, Department of General Surgery, Apollo Spectra Hospital, Bangalore, Karnataka.**ABSTRACT****BACKGROUND**

A simple examination is generally sufficient to establish the diagnosis of a pilonidal sinus disease. The inner wall of the sinus is lined by stratified squamous epithelium and there are almost always free hairs, debris and granulation tissue in the pilonidal sinus. The techniques range from simple incision of the sinus with or without marsupialisation or radical excision of the cyst with the wound laying open and healing by second intention to closed methods with midline or off midline sutures like the Karidakis or Bascom procedures.

MATERIALS AND METHODS

We describe a new innovative technique consisting of the destruction of the pilonidal cyst (Picture 1) with a Neo V Laser Probe (Picture 6). Our study suggests that destroying the pilonidal sinus with a laser probe is a safe procedure with effective results. The energy delivered causes the destruction of the sinus epithelium and the simultaneous obliteration of the tract.

RESULTS

The success rate was 87.5% (35 patients/40). Recurrence rate was 2.9% (1/35). All the 40 patients treated by the laser technique between September 2014 and September 2015 took part in the study. None of them were lost of follow-up. The mean follow-up period was 234 days (range 92–316).

CONCLUSION

The procedure meets the characteristics of minimal invasive surgery, is easy to perform and reproducible. The main advantages are a shorter hospital stay, less post-operative pain and care and the final aesthetic aspect. The ideal treatment should heal the sinus tract and the overlying skin and prevent recurrence. This procedure is short and simple and does not require hospital stay. The main advantage of this procedure is reduced pain, post-operative care and the cost with the best aesthetic result which was achieved through this technique. This technique could be proposed as the first line treatment for the majority of the patients with a pilonidal sinus disease.

KEYWORDS

Laser Pilonidal Sinus Treatment.

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BACKGROUND

A simple examination is generally sufficient to establish the diagnosis of a pilonidal sinus disease.^{1,2} The inner wall of the sinus is lined by stratified squamous epithelium and there are almost always free hairs, debris and granulation tissue in the pilonidal sinus.^{3,4} The techniques range from simple incision of the sinus with or without marsupialisation or radical excision of the cyst with the wound laying open and healing by second intention to closed methods with midline or off midline sutures like the Karidakis or Bascom procedures.^{2,5,6} For more complex cases, plastic procedures like V-Y, V-Z plasty, Dufourmentel or Limberg flaps can be

used.^{4,7,8,9} If conservative approaches may control the disease, most of the time surgery is required.^{10,11} In an attempt to perform a minimally invasive surgery, to shorten hospital stay and duration of post-operative care, to quicken return to work or school and to reduce the cost for the patient, we decided in September 2014 to radically change our procedure and to adopt for the first time in our institution a new innovative technique consisting in the destruction of the pilonidal cyst with a Neo V laser probe.^{12,13} This article describes the technique and presents the experience with this laser technique.

Technique

We describe a new innovative technique consisting in the destruction of the pilonidal cyst (Picture 1) with a neo V laser probe (Picture 6). Our study suggests that destroying the pilonidal sinus with a laser probe is a safe procedure with effective results. The energy delivered causes the destruction of the sinus epithelium and the simultaneous obliteration of the tract.

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No antibiotic is given per-operatively. Most of the patients are operated on under regional -anaesthesia. Patients refusing local regional anaesthesia receive a general anaesthesia. They are placed in a prone position. After shaving, cleaning and scrubbing the skin with alcoholic chlorhexidine. The first step involves injecting normal saline around the sinus tract (Picture 2) and the skin to avoid burning of tissue surrounding the sinus tract by cooling it, the different pits are enlarged with a mosquito clamp and the hairs are removed from the sinus (Picture 3). A stylet is then inserted in each sinus to determine the length, direction and size of each one and to choose the right size of the laser probe as two diameters are available. Then after choosing an appropriate size of the probe the laser probe is introduced in the sinus tract and the tissue is burnt using laser energy of 10 watts with 1470 nm wave length, than the fibre is withdrawn 1 cm at each fire delivering energy homogeneously at 360 degree in a continuous way (Picture 4). While the probe is withdrawn the sinus shrinks and closes (Picture 5). If the tract is not closed after a first withdrawal, a second performance is done. After the procedure a dressing with a pressure compress protects the opening.

It's a single day procedure patient can be discharged the same day after the operation does not require any particular care except dressing the opening with a compress after washing the region or after taking a shower. Only in case of persistent open orifice at the site of a previous abscess, post-operative care by a nurse is prescribed. In the post- operative period, patients are also asked to take painkillers as long as they need to the destruction of a pilonidal cyst with a laser probe is a safe, simple and minimally invasive technique. The success rate is good and effective. Hospital stay is short, pain is light, and complications are few, overall healing rate is 87.5%.



Picture 1



Picture 2



Picture 3



Picture 4



Picture 5



Picture 6

RESULTS

The success rate was 87.5% (35 patients/40). Recurrence rate was 2.9% (1 patient/ 35). All the 40 patients treated by the laser technique between September 2014 and

September 2015 took part in the study. None of them were lost of follow-up. The mean follow-up period was 234 days (range 92–316).

All the patients were discharged on the day of the operation and none of them had to be re-hospitalised.

Thirty-five patients healed (overall healing rate 87.5%). The mean duration of discharge before healing was 18.6 days (range 2–35). One patient out of 35 recurred two months after healing (recurrence rate 2.9%). The mean duration of pain-killers intake was 4.9 days (range 0–14) and complications were 2 abscesses (5%) treated medically and 2 hematomas (5%), one punctured and one discharging through the pit.

CONCLUSION

The procedure meets the characteristics of minimal invasive surgery, is easy to perform and reproducible. The main advantages are a shorter hospital stay, less post-operative pain & care, and the final aesthetic aspect. The ideal treatment should heal the sinus tract and the overlying skin and prevent recurrence. This procedure is short and simple and does not require hospital stay, the main advantage of this procedure is reduced pain, post-operative care and the cost with the best aesthetic result which was achieved through this technique. This technique could be proposed as the first line treatment for the majority of the patients with a pilonidal sinus disease.

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