

## Umbilical pilonidal sinus Ambulatory surgical technique

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### Abstract

*Hypothesis:* Umbilical pilonidal sinus, although uncommon, can become complicated by inflammation, cellulitis and suppuration. Usually it tends to recur after conservative treatment. Various surgical procedures have been suggested for its treatment, but most of them were based on experience with few cases.

Our aim is to describe a modified surgical technique at the day-hospital for the treatment and prevention of recurrent disease.

*Design:* Retrospective case series.

*Settings:* Unit of ambulatory surgery, regional day-hospital.

*Patients and surgical technique:* Twelve consecutive cases of umbilical pilonidal sinus were treated at our hospital by subcutaneous excision of the involved tissue and the deep portion of the umbilicus. The operation was performed under general anesthesia. All the patients were discharged at 5–6 h after surgery.

*Results:* Minor complications were encountered in two cases: seroma and hyperaemia of the skin treated conservatively at out patient clinic. No recurrent disease was found in two years of follow up. All the patients were satisfied with the cosmetic results of the procedure. This technique was cost effective since it was carried out as an ambulatory procedure.

*Conclusions:* A simple surgical technique for the treatment of umbilical pilonidal sinus is proposed. Besides its satisfactory results in eradicating the disease it is cost effective.

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*Keywords:* Umbilicus; Pilonidal sinus; Surgery

### 1. Introduction

Pilonidal sinus is an acquired disease caused by hair penetrating the skin, a foreign body reaction and the development of a sinus lined by granulation tissue.

Although the sacrococcygeal area (or internatal cleft) is the commonest site for pilonidal sinus, it has been described in unusual sites such as: the umbilicus, interdigital clefts in barbers, healed mid-thigh amputation stumps, the axilla, the presternal area, the clitoris and mons pubis, the shaft of the penis, the ear lobe, the sole of the foot, the nipple, the pos-

terolateral abdominal wall, the brow and the upper eyelid [1–8].

The umbilical pit is a natural receptacle where hairs can lodge, especially, in young obese hirsute adults with poor personal hygiene. It is more common in male subjects [9,11]. The resulting inflammation of the sinus may extend beyond the subcutaneous fat to the peritoneum [10,12].

Conservative, non-surgical, treatment of umbilical pilonidal sinus consists of removal of the hair tufts, shaving the area around the umbilicus and careful cleaning of the umbilicus. Since the conservative treatment depends mainly on the patient's cooperation, it usually fails and surgical excision of the umbilicus becomes unavoidable. Elliptical excision of the umbilicus and the involved subcutaneous tissue, with or

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without reconstruction of the umbilicus, is an acceptable surgical procedure [11,13,14].

We propose a simple ambulatory surgical procedure which, in our experience, was effective in eradicating the disease in 12 cases.

## 2. Patients and methods

Twelve cases of umbilical pilonidal sinus were treated at our day-hospital during the period 1998–2002 (5 years). The patients comprised 8 men and 4 women (Table 1). Their ages ranged from 18 to 30 years. All complained of a discharging umbilicus, 11 patients had local pain, 2 had recurrent umbilical abscesses and repeated incisional drainage, and 2 patients had recurrent bleeding. The duration of their symptoms varied from two months to nine years. Patients were referred to surgery only after the failure of conservative treatment. All patients underwent elective surgery under general anesthesia and were discharged from the hospital at 5–6 h postoperatively. Follow-up in the outpatient clinic for two years after surgery showed no recurrent disease. Postoperative complications were seen only in two patients: one had a serosanguinous discharge from the umbilicus and the other had a mild peri-incisional hyperaemia. Both were controlled by conservative treatment which included antibiotics and dressings, and subsided within 10 days.

All the patients were satisfied with the cosmetic results of the operation. In our opinion, the resulting shallow umbilical pit was the basis for recurrence prevention, since it is easier to be kept clean and dry.

### 2.1. Surgical technique

Transverse incision 2 cm below the umbilicus through the subcutaneous fat towards the anterior sheath of the rectus abdominis. Dissection of the subcutaneous tissue around the umbilicus and its deep connection to preperitoneal fat through the linea alba. Excision of the umbilical complex 3–5 mm below the umbilical ostium.

Table 1  
Data on 12 patients treated for umbilical pilonidal sinus

Age	Gender	Pain	Discharge	Bleeding	Duration	Abscess
20	F	+	+	–	12 Months	
30	F	+	+	–	9 Years	Recurrent
20	M	+	+	–	2 Months	
23	M	+	+	–	6 Months	
28	M	+	+	–	6 Months	
27	M	–	+	+	2 Years	
19	M	+	+	–	1 Years	
26	F	+	+	–	3 Years	
18	F	+	+	–	2 Years	Recurrent
23	M	+	+	–	4 Years	
24	M	+	+	+	2 Years	
26	M	+	+	–	3 Years	

Closure of the umbilicus with subdermal interrupted absorbable sutures.

Approximation of the subcutaneous tissue with interrupted absorbable sutures.

Closure of the skin incision with skin stapler.

The specimen, including the umbilical complex (skin and subcutaneous tissue), was transferred to department of pathology for histopathological examination.

### 2.2. Pathology

The histopathologic features of an umbilical pilonidal sinus were seen in all the specimens and included sinuses lined with granulation tissue and containing hair shafts. The sinuses were surrounded by reactive inflammatory cells. In one case with a history of recurrent abscesses, no hair shafts were seen, but there were sinuses lined with granulation tissue and surrounded by a reactive inflammatory process. The sinuses extended through the surrounding fat tissue for 1–3 cm from the sinus orifice at the umbilical skin.

## 3. Discussion

Umbilical pilonidal sinus is a rare disease and fewer than twenty cases were reported before 1980 [9]. It is considered an acquired disease and its aetiology does not differ from that of the more common pilonidal sinus in the sacrococcygeal region. Hirsutism, obesity, poor hygiene, deep navel and hot climate, all play a role in its aetiology. It is more common in young males (age 20–35 years) than in females. The rarity of umbilical pilonidal sinus compared with sacrococcygeal disease is believed to result from the hardness of the umbilical cicatrix and less effective driving force [10].

Unless it is complicated by cellulitis or suppuration, the patient may seek medical consultation only in the chronic phase of the disease. Extension of the inflammatory process to the peritoneum has been reported [10,12].

The potential for peritonitis in patients with umbilical pilonidal sinus often warrants surgical intervention. When suppuration is present, incision and drainage is required. Conservative treatment of a pilonidal sinus that consisting of removal of hair tufts, cleaning the umbilical pit and shaving the area of umbilicus may relieve the symptoms but does not cure the disease. Aggressive omphalectomy with omphaloplasty or leaving the wound open to heal by secondary intention, usually necessitates expensive hospitalization [11].

Elective ambulatory surgery and close follow-up was carried out in the treatment of 12 cases with umbilical pilonidal sinus. A simple surgical technique: excision of the deep part of the umbilicus with the adjacent subcutaneous tissue and primary closure of the wound and the remnant of the umbilicus, was introduced in all our cases. Good results were achieved: no recurrent disease in two years of follow-up and acceptable shape of the partially preserved umbilicus, as it is shallow and easy to clean. This technique is cost

effective: ambulatory compared to hospitalization of 4 days [11], shorter postoperative home rest when the wound is closed primarily.

In conclusion the surgical technique reported here is simple, cost effective, and prevents recurrent disease.

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