

Case Report

Umbilical Pilonidal Sinus

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Abstract: Pilonidal sinuses are commonly encountered, but their occurrence in the umbilical area is rare. The author presents one such case of an umbilical pilonidal sinus in an obese male patient that presented with recurrent episodes of umbilical discharge. The condition was treated with sinus excision and umbilical reconstruction. There was no recurrence of the disease until one year of follow up.

Key words: Umbilical pilonidal sinus, hair, granulation tissue, excision, recurrence

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Introduction:

Pilonidal sinus is a chronic inflammatory disease which is characterized by a granulomatous reaction to fragments of hair shaft penetrating epidermis from the cutaneous surface.⁽¹⁾ This disease is a well known in medical literature and has been described by Mayo as far back as 1833 as a hair-containing cyst located just below the coccyx.⁽²⁾ However pilonidal disease of umbilicus is very rare and Patey and Williams were the first to describe the umbilical pilonidal disease in 1956.⁽³⁾ In medical literature, treatment of umbilical pilonidal disease ranges from conservative non-surgical treatment to a more aggressive approach such as total excision of the umbilicus followed by delayed reconstruction. Herein, one such case is reported that was managed by a complete sinus excision with reconstruction of umbilicus from the retained portion (2 cm) of umbilical wall. At a 1-year follow-up, the condition did not recur, and patient had excellent cosmetic results regarding the abdominal wall and high satisfaction.

Case presentation:

A 26-year-old, male university student presented with a 3-year history of a foul-smelling discharge from the umbilicus. The discharge would increase periodically, and the area would become painful. The painful episodes usually responded to oral antibiotics and analgesics. The patient had no other significant medical or surgical history. Upon examination, the patient was obese (BMI, 39.1), and the concerned area revealed a foul-smelling, purulent discharge from the umbilicus (Fig 1 A). Contrast enhanced CT scan done in other healthcare center revealed increased soft tissue density in umbilical region with considerable enhancement (Fig 1 B) with no visceral attachment. While retracting the umbilicus, one would see multiple hairy bodies and loose hair shafts. Initially, the hairy materials were removed, and the patient was prescribed antibiotics for 10 days. While the amount of purulent discharge would decrease, it did not completely stop, even with repeated wound care visits. The patient was counseled, and various surgical options were discussed. After informed consent, an operation was

performed under general anesthesia. After proper part preparation and draping, a circumferential mark was made with a dark skin marker about 2cm inside the umbilicus (Fig 1 C). 1 ml of 5% methylene blue dye filled into umbilicus for proper delineation of sinus tract. A circumferential incision along the mark and the sinus was dissected out completely by sharp peri-sinus dissection (Fig 1 D). The sinus was extending up to but not breaching through the rectus sheath. Reconstruction of the umbilicus after undermining and approximation of the left over (2 cm) sidewall skin of the umbilicus. Before approximation, the skin flaps were buttressed to deeper tissues by 2-0 polydioxone sutures to create inversion of neo-umbilicus. The patient was regularly followed up in outpatients' clinic and instructed to keep the area clean and dry while frequently shaving the adjacent skin. The follow up period lasted for one year and no complications or recurrence was observed. At one year, patient has a shallow umbilicus with minimal hypertrophy of scars (Fig 1 E). The patient was satisfied with the outcome and was referred to bariatric management services for management of obesity.

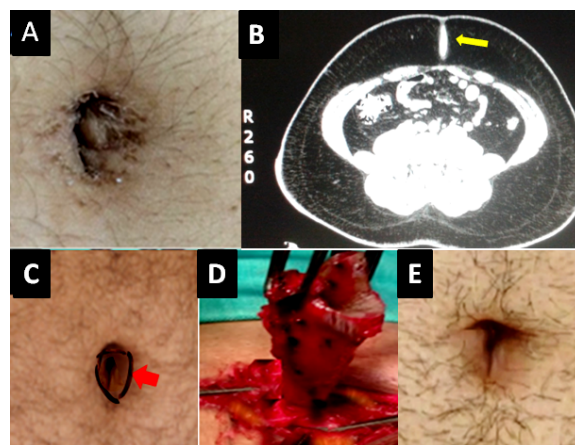


Fig 1: (A) Discharging umbilicus as presentation of pilonidal disease (B) CT Scan showing highly enhanced umbilicus [yellow arrow] (C) Marking of umbilicus before incision [red arrow] (D) Dissection of sinus to the level of sheath (E) Shallow umbilicus with acceptable scars at one year follow up

Discussion:

Pilonidal sinus disease is a common surgical disorder. In 1833, Herbert Mayo first coined the term, pilonidal. The word, pilonidal, means *nest of hair* and includes the etymological roots (Latin) of *pilus* (a hair) and *nidus* (nest).⁽²⁾ The disease generally occurs in the sacrococcygeal region but has also been reported in other locations in which an anatomical cleft facilitates an accumulation of hair, including the axilla, between the breasts, the perineum, and the penile shaft, or in spaces between the fingers (in particular, in the case of barbers). A negative pressure is created during body movements at the above-mentioned sites, leading to penetration of the hair shafts into the skin with a resultant foreign body reaction and development of a sinus lined by granulation tissue. An umbilical pilonidal sinus is the rarest variant accounting for only up to 0.6% of cases.⁽⁴⁾ The first case of an umbilical pilonidal sinus was reported in 1956 by Patey and Williams,⁽³⁾ and since then, only a few hundred cases have been reported in medical literature.

The clinical features of an umbilical pilonidal sinus result from inflammation in the sinus. Pain and swelling, as well as a purulent discharge, are the usual symptoms. Patients may present with an acute abscess. The predisposing factors mentioned in medical literature include hairiness, male gender, a young age, a deep navel, and poor personal hygiene.^(1, 5) The differential diagnosis includes other umbilical region anomalies such as an umbilical hernia, endometriosis (for women), a Sister Mary Joseph nodule, a pyogenic granuloma, and urachal and epidermoid cysts.⁽⁵⁻⁷⁾ Although a diagnosis is usually made clinically by the detection of hair nests,⁽⁷⁾ preoperative intra-abdominal imaging may be required for questionable cases.

Conservative treatment in the form of hair extraction on an outpatient basis, improved umbilical hygiene, and instructions on preventive measures can be used as first-line therapy for the management of an umbilical pilonidal sinus.⁽⁸⁾ Incomplete extraction of the hair from the sinuses is the main cause of failure with conservative treatment.⁽⁸⁻¹⁰⁾ Occasionally, an incision and drainage of an abscess may be necessary.⁽⁵⁾ For cases that are resistant to conservative management,

surgical excision would be the definitive treatment with reconstruction of the umbilicus.⁽¹¹⁾ Some surgeons have recommended umbilical excision and wound closure by secondary intention and found the subsequent scar to resemble a normal, depressed umbilicus.⁽¹²⁾ The author found the technique of leaving a portion at the mouth of the umbilicus followed by sinus excision and subsequent reconstruction with left over umbilical walls to be effective in producing a cosmetically acceptable and easy to clean / shallow umbilicus. Fazeli et al⁽¹¹⁾ used a similar technique in their series of 45 cases and recommended complete sinus excision after everting the umbilicus and leaving a portion for reconstruction, as primary treatment of umbilical pilonidal disease.

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