

## Case Report

# Umbilical pilonidal cyst presenting as umbilical sepsis

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### ABSTRACT

Pilonidal disease comprises a spectrum of clinical presentations, ranging from asymptomatic hair containing cysts and sinuses to large symptomatic abscesses that have some tendency to recur. It is commonly encountered in the sacrococcygeal region but rarely in the umbilicus. We report a case of umbilical pilonidal cyst in an 18 year old hairy adolescent male who presented with pain, redness, swelling and discharge from the umbilicus. An abdominal ultrasonography showed an abscess cavity in the subcutaneous tissue of the umbilicus. Cyst excision with reconstruction of the umbilicus was carried out and the microscopic findings revealed umbilical pilonidal cyst. This article outlines the pathophysiology, differential diagnosis, microscopic features and management of this rare disease. Due to the risk of peritoneal extension of inflammation from this lesion, conservative treatment is not acceptable. Surgery is the choice of treatment.

**Keywords:** Umbilicus, Pilonidal cyst, Sepsis, Hairy

### INTRODUCTION

Pilonidal disease is a chronic inflammatory condition characterized by a granulomatous reaction to fragments of hair shaft penetrating epidermis from the cutaneous surface.<sup>1</sup> It was first reported in 1833. This process was first described by Anderson in 1847 and later named pilonidal sinus by Hodges in 1880.<sup>2</sup> Patey and Williams were the first to describe the umbilical pilonidal disease in 1956.<sup>3</sup> An umbilical pilonidal sinus is the rarest variant accounting for only 0.6% as reported by Goodall in his study.<sup>4</sup> Male sex, young age, hairiness, deep navel and poor personal hygiene were found to be predisposing factors.<sup>5</sup>

### CASE HISTORY

An 18 year old adolescent male presented with umbilical pain, redness, swelling and yellow, foul smelling discharge from the umbilicus. He gave a one year history of recurrent, intermittent discharge from the same site. A

differential diagnosis of patient urachus, urachal cyst and umbilical granuloma were considered. On physical examination he did not appear toxic. Local examination revealed hairy abdominal wall and a purulent discharge pooling around the umbilicus. After cleaning pus from the umbilicus, careful inspection showed a 4mm ulcer in the depth of the umbilicus. An abdominal ultrasonography showed a mixed echogenic fluid collection measuring 16x18x13 mm in the subcutaneous tissue of the umbilicus (Figure 1a). There was no intra peritoneal extension. Complete blood count showed elevated leucocyte count at 15,000/dl. Pus culture was positive for *S. aureus*. A periumbilical incision was made and the abscess cavity that opened to the skin surface was dissected out. The umbilicus was reconstructed. The biopsy specimen was fixed in 10% buffered formalin and embedded in paraffin. The sections were stained with hematoxylin and eosin (H&E). Sections from abscess cavity showed a dense neutrophilic reaction occupying the dermis with ulceration of the epidermis. Free hair shafts were seen in clusters in the inflammatory focus. A

granulomatous reaction and foreign body type giant cells were also seen around hair shaft. The abscess cavity was lined by granulation tissue. So from histopathology a final diagnosis of umbilical pilonidal cyst was made. Six months from now the patient has not shown recurrence.



**Figure 1: (a) USG abdomen showing mixed echogenic fluid collection in the subcutaneous tissue of the umbilicus. (b): Free hair shafts in clusters in the inflammatory focus (yellow arrow) and hair shaft surrounded by granuloma (blue arrow) [H and E, x200].**

## DISCUSSION

Pilonidal disease is a common problem of sacrococcygeal region.<sup>6</sup> It has also been reported in axilla, between the breasts, perineum, penile shaft and in spaces between the fingers.<sup>1</sup> A negative pressure is created 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 or cyst lined by granulation tissue.<sup>1</sup> It occurs after puberty, when sex hormones are known to affect pilosebaceous gland and body hair growth. The most common symptoms of this condition described in a study are umbilical pain (100%), purulent discharge (23 %) and umbilical mass (26%).<sup>6</sup> Our patient presented with all the above symptoms. Although conditions such as urachal anomalies, vitelline umbilical sinus, recurrent folliculitis and ulcerated umbilical hernia

may be more usual causes of umbilical symptoms, surgeons should also inspect the umbilicus for the presence of pilonidal disease.<sup>7</sup> Microscopically, cyst cavities are lined with chronic granulation tissue and may contain hair and epithelial debris. Cellular infiltration consists of neutrophils, lymphocytes and plasma cells in varying proportions. Foreign body giant cells in association with dead hairs are a frequent finding. Although umbilectomy is the treatment of choice, this may be more radical than necessary as it has a low recurrence rate.<sup>8</sup> Some authors advocate conservative treatment in the form of hair extraction, antibiotics, skin care and regular dressing as the first line of treatment with surgery being reserved for resistant and /or recurrent cases.<sup>6</sup>

## CONCLUSIONS

In summary, we report a case of umbilical pilonidal cyst presenting as umbilical sepsis in an 18 year old male. He was treated by excision of the cyst with reconstruction of umbilicus to prevent recurrence and final diagnosis was made by histopathology. The present case report highlights the importance of considering it in the differential diagnosis of patients with discharge from umbilicus especially in young hairy males and also successful management by excision without the need for umbilectomy.

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