

Kasturi in Humans: Omphalolith – The Naval Stone with Foul Odour: A Rare Case Report

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Abstract: *Omphalolith is an uncommonly encountered benign umbilical lesion. Omphaloliths (omphalos, Greek = navel; lithos, Greek = stone) are rare lesions of the umbilicus which have nothing to do with acne, although they have the appearance of great open comedones. Synonyms are omphalokeratolith, umbilical bolus, inspissated umbilical bolus, or navel stone. Omphalolith is a hard, smooth, almost black bolus found in the umbilicus, resembling a malignant melanoma. This calculus may remain undiagnosed for many years until revealed by secondary infection or ulceration. It is often accompanied by seborrhea which may lead to abscess formation. It may be related to poor hygiene. Patient is usually complaining of umbilical discharge and pain. If the clinician is aware about the entity, management is easy and comprises of evacuation of the lesion. Here we report a case of 28 yr old male presented with discharge and foul smelling through umbilicus with infraumbilical abscess and omphalolith for which Incision and drainage with removal of the naval stone was done.*

Keywords: Omphalolith, corneocytes, umbilicus, evacuation

1. Introduction

Deer musk also known as *Kasturi कस्तूरी* in Hindi, is a substance with a persistent odour obtained from a gland of the male musk deer situated between abdomen and rectal area which was previously considered as paraumbilical area of deer. The substance has been extensively used as a perfume fixative, incense material, and medicine, since ancient times. It was and still is one of the most expensive animal products in the world. As kasturi is famous for its fragrance, the correlation of kasturi with omphalolith is this case was having foul bad odour along with infraumbilical abscess. Omphalolith is uncommon and denotes a calculous lesion of umbilicus. The term is derived from Greek ('omphalos' meaning navel; 'lithos' meaning stone). The synonyms mentioned in literature include omphalokeratolith, umbilical bolus, inspissated umbilical bolus, navel stone, umbilical concretion and umbolith.[2] It is usually asymptomatic, therefore a majority of cases are unnoticed for many years. [1,3] At times, it induces a secondary infection or ulceration or abscess with accompanying symptoms, which brings it to attention. Although the pathogenesis of omphalolith is still not clearly known, it may be related to poor hygiene.

Patient is usually complaining of umbilical discharge and pain. If the clinician is aware about the entity, management is easy and comprises of evacuation of the lesion. [4] Here we report a case of 28 yr old male presented with discharge and foul smell through umbilicus with infraumbilical abscess and omphalolith for which Incision and drainage with removal of the naval stone was done.

2. Case Presentation

28 yrs old male presented to OPD with c/o discharge through the umbilicus since 15 days, pain and swelling

around the umbilicus since 15 days. The patient complains of fever since last 7 days. The pain started 15 days back with moderate severity dull aching pain started around umbilicus. The severity and frequency of the pain has increased during the last day. The pain is associated with clear malodorous mild umbilical discharge. This pain was none radiating, not related to meals, and not responded to over the counter analgesic, not associated with anorexia, nausea, vomiting, or weight loss. No change in his bowel habits and no urinary symptoms. The patient has no history of surgeries, chronic illness or allergy and with no special habits. The patient also did not give any history of difficulty in passing urine associated with watery discharge through the umbilicus. On examination, a darkish brown firm, non-tender mass was seen protruding from the umbilicus. There were thick dirty looking scales along the walls of umbilicus.[Figure 1 & 4] Swelling below the umbilicus was about 3*5 cm with localized redness, tender with signs of inflammation. Fluctuation test was positive. Clinically diagnosis of infraumbilical abscess with omphalolith was made. Routine laboratory examination of blood showed leukocytosis with increased neutrophilic count. Urine examination was unremarkable. X ray abdomen erect was Normal. [Figure 3]. Ultrasonography revealed a hyperechoic lesion in the umbilical region which was interpreted as an inflammatory mass with infraumbilical abscess.



Figure 1

Volume 4 Issue 1, January 2015

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Figure 2



Figure 3



Figure 4

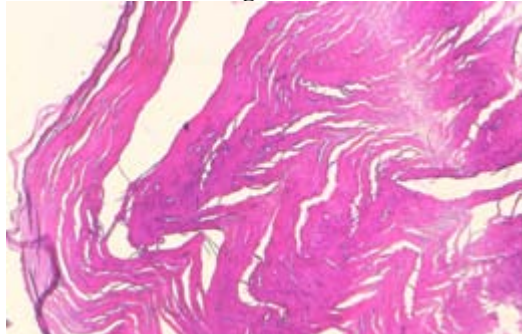


Figure 5

Patient was taken for emergency incision and drainage. Under spinal anaesthesia, the patient was placed in a supine position. The part was cleaned and draped. An elliptical incision was made around the umbilicus. The incision was deepened and the lower flap was retracted upwards, when a single calculus was encountered and was extracted in toto. [Figure 2] The wound was left open. Daily dressing done for 7 days. The patient was given parenteral broad spectrum antibiotics in the post operative period. Immediate post operative period was uneventful. After seven days, secondary suturing of the wound was done. The wound healed well and the patient was discharged. The patient was counselled about umbilical hygiene. The patient remained asymptomatic when reviewed six months later.

Histopathology Microscopic examination showed laminated horny material, frequently interspersed with amorphous material resembling sebum. The amorphous material

contained terminal and vellus hairs as well as bacteria, mostly clustered gram-positive cocci and pleomorphic gram-negative micro-organisms. [Figure 5]

3. Discussion

At birth, the umbilical cord contains two arteries and a vein, the rudimentary urachus (allantois) and the vitelline (omphalo-mesenteric) duct enveloped in Wharton's jelly [2]. After separation and retraction of the stump, an umbilicus, a puckered scar in the centre of the anterior abdominal wall is formed. This umbilicus may have variable depth. In some cases persistence of the urachus or vitelline duct at the umbilicus may cause trouble in early or adult life [2,9]

Omphalolith is an accumulation of keratinous and sebaceous material in the umbilical cleft. It is also known as Cullen's umbilical concretion, inspissated umbilical bolus, omphalith, omphalokeratolith or umbolith.[1,3] The condition tends to occur in people with deep, invaginated umbilicus. Corneocytes (differentiated keratinocytes in stratum corneum) get retained within the deep recess of the umbilicus and over time (usually years), these cells along with sebum get compressed into a hard and compact bolus forming a kind of a pseudocomedone with firm attachment at the base of umbilicus. [2,5]The mass is blackish to brown corresponding to the skin colour of the patient. This colour is attained due to the presence of melanin and oxidised lipids.[2]

Some studies have related the development of omphalolith to poor umbilical hygiene. There is no race or gender predilection. [6]cases have been reported in association with seborrheic keratosis.[8] Omphaloliths are generally asymptomatic may present clinically only when complicated by infection or inflammation or infection resulting in symptoms like relapsing discharge, redness or pain.[6,7] There are reports of rare cases presenting as peritonitis due to rupture of umbilical abscess secondary to omphalolith.[3] Occasionally pyogenic granulomas may appear and grow rapidly bringing the patient to clinician.[5]

Malignant melanoma is often the first but incorrect diagnosis. Sometimes a chronic irritation (omphalitis) may lead to retention of cellular debris, often associated with a foul odour. Umbilical metastasis, Sister Joseph's nodule, should also be ruled out. Some authors have seen an analogy to cholesteatomas of the ear, and consequently called it cholesteatoma of the umbilicus, or corps etranger (etranger, French = stranger). [6] Invaginated scars with deep recesses sometimes form similar solid impactions, also with a brown-black surface. The diagnosis is generally arrived at on the basis of history and clinical examination though occasionally imaging like trans abdominal ultra sonogram, MRI and CT scan may be needed in early symptomatic or doubtful cases.[1,4] Rarely, the diagnosis may be arrived at, only after surgical exploration of umbilicus.[2]

In case of plain omplalolith without any complication, management is non-invasive evacuation of the concretion and cleansing of the umbilicus. Many a times, gentle extraction with a forceps after softening with 10% salicylic acid is sufficient to lift the bolus out of its deep hole.

Management of complications include incision and drainage for abscess, excision of granuloma etc. To prevent recurrence, proper hygiene should be emphasized, but in unusual cases, it may be necessary to excise the umbilicus [2,5,6].

4. Conclusion

Kasturi with fragrance can be ironically correlated with malodorous, foul smelling omphalolith. Omphalolith (umbolith) is an uncommon entity under normal circumstances. However, in a deeply retracted umbilicus in an obese individual, the accumulation of sebum and keratin may lead to the formation of a stone. This calculus may remain undiagnosed for many years until revealed by secondary infection or ulceration. Clinicians should be aware of the entity so that the patient can be reassured and treated and complications can be managed.

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