



CASE REPORT

Omphalolith: An underdiagnosed entity

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Abstract

Omphalolith is a rare and underdiagnosed entity due to the accumulation of sebum and keratin in the umbilicus. It usually occurs in the elderly with deep and narrow umbilicus. Early recognition of omphalolith is important to prevent complications, unnecessary investigations, and anxiety. We report herein two new cases of omphalolith.

KEYWORDS

endometriosis, Mary Joseph's nodule, metastasis, Omphalolith, umbilicus, Wilson's disease

1 | INTRODUCTION

The umbilicus is a remaining scar in the center of the abdomen following the removal of the umbilical cord.¹ It has different shapes. Multiple affections can raise in this area including metastasis (Mary Joseph's nodule) and endometriosis. Less commonly reported yet benign conditions are important to diagnose. Omphalolith, also known as omphalokeratolith, omphalith, or umbolith,² is a rare and underdiagnosed entity due to the accumulation of sebum and keratin in the umbilicus. Omphalolith is derived from two Greek words: omphalos (navel) and lithos (stone).³ It usually occurs in the elderly with deep and narrow umbilicus. Neglect and poor corporal hygiene represent the main risk factors. Early recognition of omphalolith is important to prevent unnecessary investigations and anxiety. Delayed diagnosis may lead to complications including irritation, erosions, bleeding, pyogenic granuloma, abscess formation, cellulitis, or even peritonitis. We report herein

two new cases of omphalolith and provide a comprehensive summary of its characteristics.

2 | CASE PRESENTATION

2.1 | Case 1

A 28-year-old female patient presented with a dark nodule on the umbilicus. She did not report pain, bleeding, discharge, or trauma and denied recent fever or weight loss. Past medical history was consistent with Wilson's disease with cirrhosis and hyperkinetic extrapyramidal symptoms. She was entirely dependent on her mother for daily activities. Clinical examination revealed a firm, keratotic, black nodule protruding out of the umbilicus, measuring 2 × 1 cm (Figure 1A). The surrounding skin was otherwise normal. Gentle traction of the nodule using dermal forceps allowed its extraction (Figure 1B).

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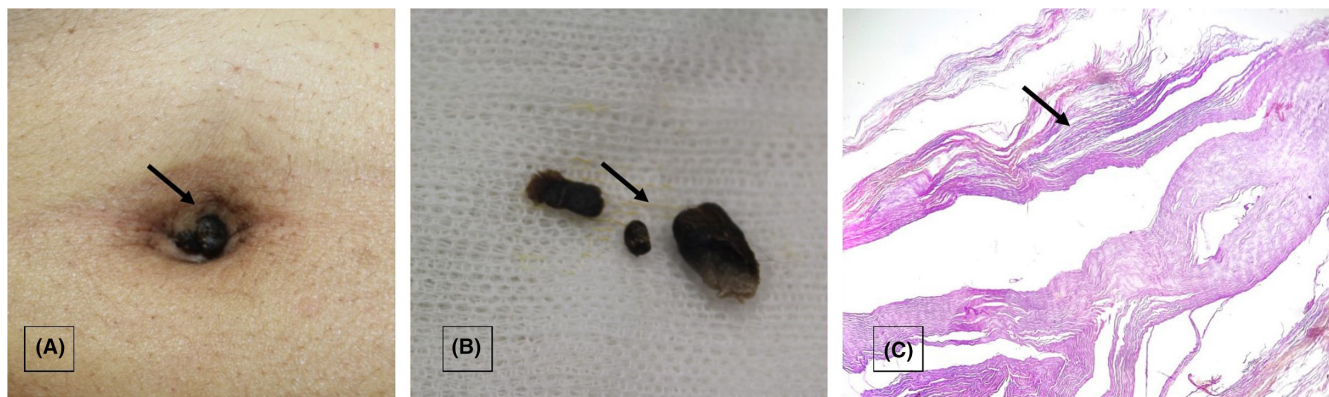


FIGURE 1 (A) Black nodule of the umbilicus (black arrow); (B) Omphalolith after removal. Three black nodules with horny-like projections (black arrow); (C) Histopathological aspect of the omphalolith showing laminated keratin (black arrow) (HE x20)

The underlying skin did not show signs of inflammation. Histopathological examination revealed laminated keratin (Figure 1C). The diagnosis of omphalolith was made. Proper hygiene was advised.

2.2 | Case 2

A 54-year-old obese female patient with no medical history presented with a firm, keratotic, brownish nodule protruding out of the umbilicus, measuring 1.5 × 1 cm (Figure 2A). The surrounding skin was otherwise normal. Dermoscopic examination revealed a dry crusted pigmented lamellar keratotic material (Figure 2B). The diagnosis of omphalolith was suspected. After 15 mn application of petroleum jelly, gentle traction using dermal forceps allowed its extraction (Figure 2C). It revealed a narrow and deep umbilicus with no signs of inflammation or ulceration (Figure 2D). The patient was reassured of the benign character of the condition, and proper body hygiene was advised.

3 | DISCUSSION

Omphalolith or umbilical concretion is a rare and benign affection due to the accumulation of sebum and keratin in the umbilicus.^{3,4} It usually presents as a firm black mass. The pigmented color of the majority of omphaloliths is explained by melanin accumulation and lipid oxidation.⁵

Omphalolith mainly affects elderly women with deep and narrow umbilicus and poor corporal hygiene.⁶ Obesity is another predisposing factor.^{6,7} In the first case, a deep and retracted umbilicus associated with insufficient hygiene led to the formation of the omphalolith in a young and non-obese female patient. Having Wilson's disease with neurological symptoms and being dependent on her mother may explain insufficient hygiene in this case. In

the second case, a narrow and deep umbilicus associated with obesity predispose to omphalolith.

Omphalolith usually remains asymptomatic for several years. It can be noticed by chance or after secondary complications.⁴ Repetitive trauma can cause irritation, erosions, bleeding, and pyogenic granuloma. Secondary infection, abscess formation, cellulite, or even peritonitis can also be the revealing symptoms of this condition.^{4,5,7}

The diagnosis of omphalolith is based on clinical examination. Dermoscopy shows aggregates of pigmented keratin. If a histopathological examination is performed, it reveals laminated keratin associated with amorphous sebaceous material.

Differential diagnoses include malignant tumors comprising Mary Joseph's nodule and malignant melanoma. Benign affections can mimic umbilical concretion such as keloids, umbilical endometriosis, dermatofibroma, cholesteatoma, foreign bodies like terminal hairs (trichobezoar), and persistent omphalomesenteric duct.^{1,3,7} Therefore, early recognition of omphalolith is important to prevent unnecessary investigations. However, in some difficult and complicated cases, imaging like magnetic resonance imaging (MRI) can be useful to rule out an umbilical sinus.²

The treatment consists of a gentle extraction of the calculus using forceps.^{6,7} In our cases, it allowed the extraction of the entire mass with no bleeding. A prior softening with glycerin or olive oil may facilitate its extraction.⁷ Excision of an associated pyogenic granuloma can be necessary in some cases. Patients' education on proper corporeal hygiene is paramount to prevent recurrences.^{4,5,7} The excision of the umbilicus may be recommended in some recalcitrant cases.¹

In conclusion, omphalolith is an underdiagnosed condition due to poor awareness of its clinical characteristics. The treatment is simple and consists of the extraction of the mass with forceps. However, a delay in the diagnosis and treatment may lead to complications, mainly infections. Omphalolith should be included in the differential

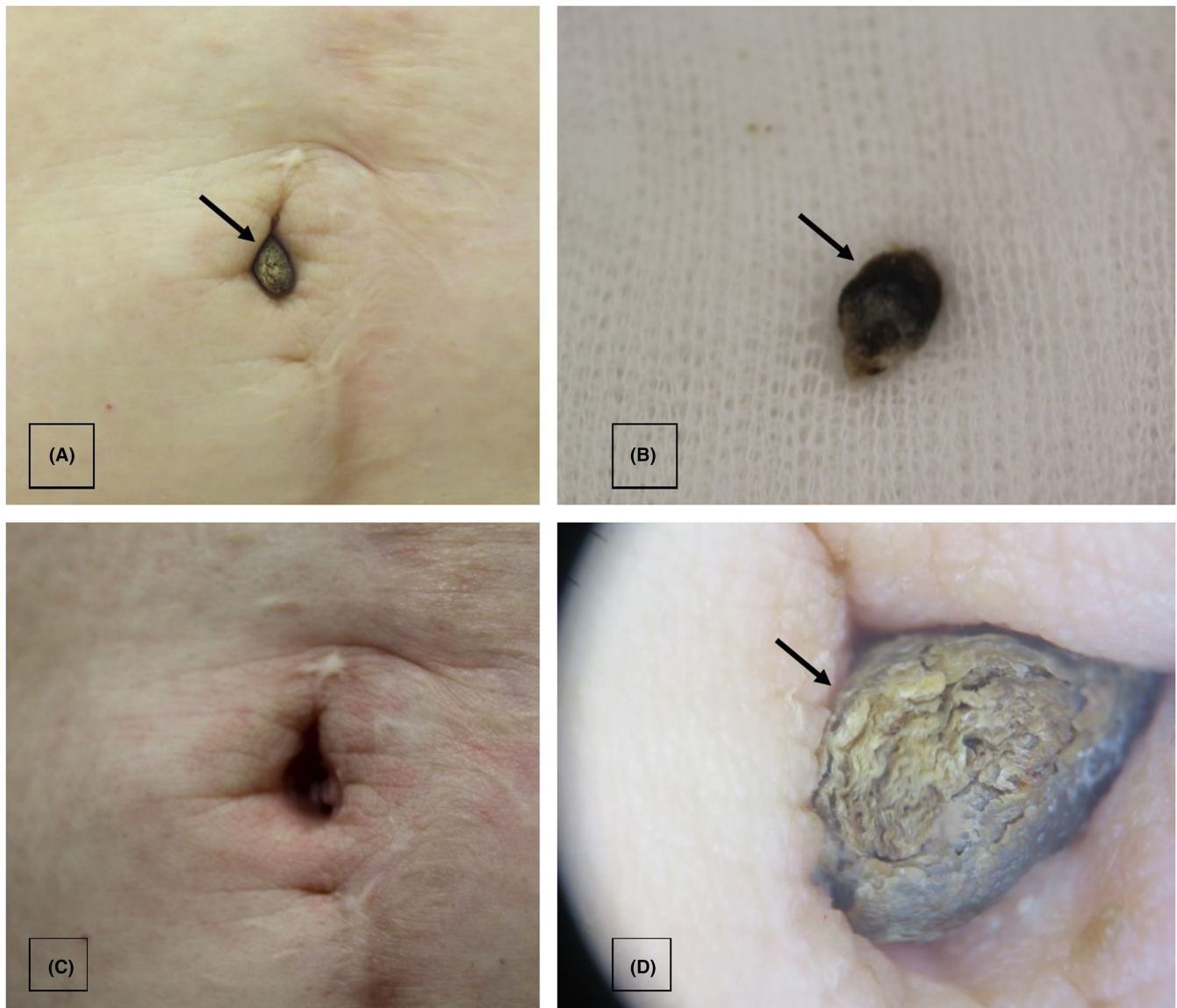


FIGURE 2 (A) Keratotic, brownish nodule protruding out of the umbilicus (black arrow); (B) Omphalolith after removal: black keratotic nodule (black arrow); (C) Narrow and deep umbilicus with no signs of inflammation or ulceration; (D) Dermoscopic aspect: dry crusted pigmented lamellar keratotic material (black arrow)

diagnosis of an umbilical nodule to avoid misdiagnosis and unnecessary overtreatment. The prevention focuses on patients' education about the importance of personal hygiene.

AUTHOR CONTRIBUTIONS

Dr Wafa Jouini and Pr Noureddine Litaïem contributed to the first draft of the manuscript, took the clinical pictures, and managed the literature search. Pr Faten Zeglaoui revised and approved the final version of the manuscript. All the authors contributed to and have approved the final manuscript.

ACKNOWLEDGEMENT

None.

DATA AVAILABILITY STATEMENT

Data are available upon reasonable request from the corresponding author.

ETHICAL APPROVAL

Personal data have been respected.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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How to cite this article: Jouini W, Litaïem N, Zaimi Y, Mouelhi L, Debbeche R, Zeglaoui F. Omphalolith: An underdiagnosed entity. *Clin Case Rep.* 2022;10:e06443. doi: [10.1002/ccr3.6443](https://doi.org/10.1002/ccr3.6443)