Journal of the Postgraduate Institute of Medicine 2026; 13(1): E294 1-3

DOI: https://doi.org/10.4038/jpgim.v13i1.8619

Case Report

Persistent umbilical discharge in a five-year-old child: An unusual presentation of worm granuloma with helminthic aetiology

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Key *words:* *umbilical discharge, worm granuloma, helminthic aetiology*

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Received: 01 Jan 2025, Accepted revised version: 27 Jan 2026, Published 29 Mar 2026

Competing Interests: Authors have declared that no competing interests exist

Introduction

Persistent umbilical discharge beyond infancy is uncommon and warrants careful evaluation to exclude congenital anomalies and infectious aetiologies. We report a pictorial educational case of a five-year-old child presenting with a two-month history of purulent umbilical discharge without systemic symptoms. Laboratory evaluation revealed mild eosinophilia and elevated inflammatory markers. Ultrasonography demonstrated an umbilical granuloma. The patient showed marked clinical improvement following albendazole therapy and topical anti-inflammatory treatment. This case highlights the importance of considering parasitic infection in endemic regions as a potential contributing factor to chronic umbilical inflammation.

Case Presentation

A five-year-old male child presented with a two-month history of persistent purulent discharge from the umbilicus. There was no associated fever, abdominal pain, altered bowel habits, urinary symptoms, or constitutional complaints. Growth and developmental milestones were appropriate for age. The child was born via normal vaginal delivery with a birth weight of 2.6 kg and had no significant antenatal or perinatal complications. Immunizations were up to date, and there was no history of allergies.

On examination, the child was afebrile and clinically stable. Local examination of the umbilicus revealed erythema with purulent discharge but no surrounding cellulitis.

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Laboratory investigations are demonstrated in Table 1.

Table 1: Laboratory investigations

FBC	WBC 12.1*10^5 ,N/L 52/34,E-12%
Blood picture	Moderate eosinoplilia noticed. No abnormal cells
ESR	32 mm/hour
CRP	5mg/l
Umbilical swab	No bacterial growth
Stool Full report	Normal
Toxocara Elisa test	IgG positive

Wound swab culture showed no bacterial growth. Ultrasonography of the umbilical region revealed findings consistent with an umbilical granuloma, without evidence of urachal or vitelline duct anomalies (Figure).

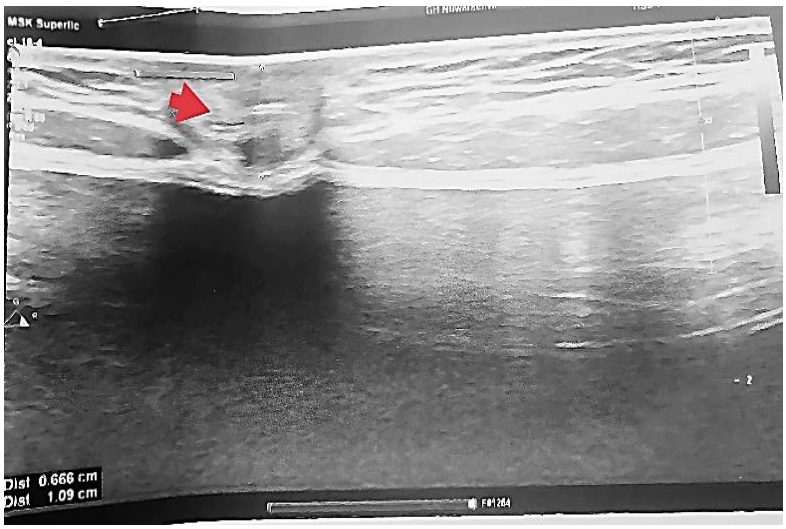

Figure: Arrow showing well defined subcutaneous lesion measuring 0.6cm* 1 cm size over the umbilicus and the appearances are keeping with worm granuloma. No intraabdominal extension noted.

Given the eosinophilia and regional parasitic prevalence, a presumptive diagnosis of helminth-associated umbilical inflammation was considered with available investigations. The patient was treated with oral albendazole for five days along with topical anti-inflammatory therapy. Significant clinical improvement was observed, with resolution of discharge on follow-up.

Discussion

Persistent umbilical discharge beyond the neonatal period is rare and should prompt evaluation for congenital anomalies such as urachal remnants, patent vitelline duct, or omphalitis [1].

Worm granuloma refers to a localized granulomatous inflammatory response that occurs when helminths, their larvae, or eggs become embedded within host tissues, leading to a chronic immune-mediated reaction [2]. This process is characterized by eosinophil-rich inflammation involving macrophages, lymphocytes, and multinucleated giant cells, reflecting a type 2 helper T-cell immune response typical of parasitic infections [3]. Although worm granulomas most commonly involve the gastrointestinal tract and perianal region, ectopic presentations have been reported due to aberrant parasite migration or local tissue entrapment [2a]. Peripheral eosinophilia and mildly elevated inflammatory markers may support the diagnosis, particularly in endemic areas [4]. Resolution following anti-helminthic therapy further supports a parasitic aetiology and highlights the importance of considering worm granuloma in children presenting with chronic localized inflammatory lesions without evidence of bacterial infection or congenital anomalies [5].

Eosinophilia raises suspicion for parasitic infection, particularly in endemic regions. Helminths such as *Enterobius vermicularis* and *Toxocara* sp. have been reported to cause ectopic inflammatory responses. Albendazole remains an effective broad-spectrum anthelmintic and may contribute to resolution even in atypical presentations [3].

Conclusion

This educational case illustrates the importance of a broad differential diagnosis in children presenting with chronic umbilical discharge. In appropriate epidemiological settings, parasitic infection should be considered, and empiric anti-helminthic therapy may be beneficial after exclusion of structural anomalies.

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