

Clinicopathologic challenge

Solitary subcutaneous nodule in the preauricular region

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Clinical Findings

A 32-year-old Indian man presented with a 2-month history of an asymptomatic gradually increasing swelling on the left preauricular region. He denied a history of close contact with animals or trauma to the affected site. Physical examination revealed a 2 x 2 cm skin-colored nodule on the left preauricular region (Fig. 1). It was nontender, firm in consistency, and nonadherent



Figure 1 Skin-colored subcutaneous nodule on the left preauricular region

What is your diagnosis?

to the underlying structures. There was no regional lymphadenopathy. Computed tomography scan of the chest, abdomen, and pelvis did not show any abnormality. The nodule was completely excised and sent for histopathological examination.

Histopathological Findings

Gross examination of the excised specimen revealed a well-circumscribed cystic mass with part of the translucent laminated membrane lying outside the cyst (Fig. 2). The inner lining of the cyst showed acellular, avascular, eosinophilic, refractile, and chitinous laminated membrane, and the outer adventitial layer



Figure 2 Excised specimen showing thick-walled cyst with translucent membrane lying outside of the cyst

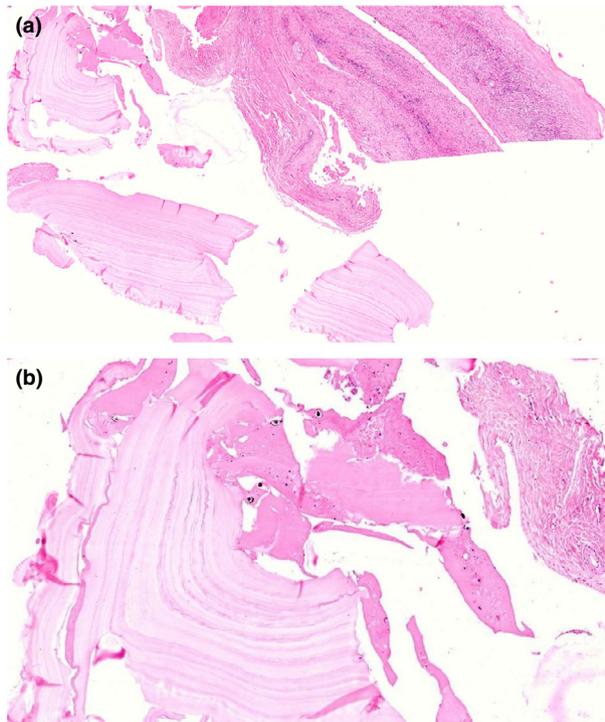


Figure 3 (a) The inner cyst wall shows eosinophilic, acellular laminated membrane, and the outer wall is made of fibrovascular tissue. The outer layer is infiltrated by lymphocytes and histiocytes (hematoxylin-eosin, $\times 40$). (b) Higher magnification showing the laminated membrane which forms the inner lining of the cyst wall (hematoxylin-eosin, $\times 400$)

consisted of dense fibrovascular tissue. The outer layer was infiltrated by lymphocytes and histiocytes (Fig. 3a,b).

Diagnosis

Primary subcutaneous hydatid cyst.

Discussion

Hydatid disease is a zoonotic parasitic infestation caused by the larval stage of *Echinococcus granulosus*. Humans are the intermediate host and acquire the infection after ingestion of eggs in the contaminated food transmitted through the feces of dogs or sheep. The liver and lungs are most commonly affected, although any organ may be involved including the subcutis.¹

The prevalence of subcutaneous hydatid cyst ranges between 0.6% and 2.6%.¹ It can be either primary, when the cyst is localized only to the subcutaneous tissue with no other foci of hydatidosis, or secondary, when in addition to the subcutaneous tissue, it is present in at least one of the extracutaneous sites like the lung, liver, or spleen.² Primary subcutaneous hydatid cyst is rare and often poses a diagnostic challenge. It commonly manifests as a painless, slowly enlarging, mobile swelling on the thigh (77.8%) and infrequently in the head and neck area (17.5%).³ In a review of 22 cases of primary subcutaneous hydatid cysts, those located in the head and neck region were smaller in size and more common in younger patients.¹ The hypothesis proposed for the formation of primary cyst includes direct subcutaneous contamination through the injured skin or subcutaneous colonization of the ingested eggs after passing through the liver.² A preoperative diagnosis of subcutaneous hydatid cyst is made in only 45% of the cases.¹ Fine needle aspiration cytology, though, can precipitate an anaphylactic reaction, may demonstrate remnants of laminated membrane, scolex, or hooklets. Radiological investigation such as ultrasound is preferred in making the diagnosis, while magnetic resonance imaging and computed tomography are useful in delineating the relationship of the cyst to the surrounding structures and to identify any additional organ involvement.¹ Serological tests are negative in almost 81% of subcutaneous cysts.³ Treatment of choice for primary subcutaneous hydatid cyst is complete surgical excision.² In case of intraoperative rupture of the cyst, irrigation of the cyst pouch with protoscolicidal solution and a course of antihelminthic therapy like albendazole is suggested.² In a review of 40 cases, only one case relapsed during a follow-up period of 10 months.³

The present case exemplifies that hydatid cyst must be considered as a differential diagnosis for any subcutaneous or soft tissue swelling even in the absence of an underlying visceral involvement, particularly in endemic regions.

References

- 1 Kayaalp C, Dirican A, Aydin C. Primary subcutaneous hydatid cysts: a review of 22 cases. *Int J Surg* 2011; **9**: 117–21.
- 2 Moravvej H, Haghighatkah HR, Abdollahimajid F, et al. Primary subcutaneous hydatid cyst of the leg: an unusual location and review of the literature. *Indian J Dermatol Venereol Leprol* 2016; **82**: 558–62.
- 3 Salamone G, Licari L, Randisi B, et al. Uncommon localizations of hydatid cyst. Review of the literature. *G Chir* 2016; **37**: 180–5.