

Hydatid Cyst of the Parotid Gland

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Abstract

Case Report

Hydatid cyst of the parotid gland remains an exceptional condition and an unusual location for hydatid cyst, even in countries where hydatidosis is endemic. We report a case of parotid hydatid cyst revealed by the appearance of left parotid swelling. The diagnosis was evoked preoperatively on the data of the parotid tomodensitometry which had objectified an encapsulated cystic mass and seat of calcifications. Surgical treatment consisted of exofacial parotidectomy. The cyst contained a whitish gelatinous substance with a thick fibro-inflammatory wall. The cystic contents consisted of proligerous membranes with scolices. The post-operative consequences were simple. Remote monitoring, clinical and tomodensitometric, had not detected recurrence with a follow-up of eighteen months.

Keywords: Hydatid cyst, parotid gland, computed tomography, histological diagnosis, surgical resection, monitoring.

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INTRODUCTION

Hydatidosis is a parasitic disease caused by the development in humans of the larvae of the taenia "Echinococcus granulosis", it is particularly frequent in Morocco, and poses serious public health problems.

Hepatic and pulmonary locations are the most frequent, cervical locations are rare and represent only 1% of cases; involvement of the salivary glands remains exceptional (1). The authors report a case of parotid hydatid cyst followed in the ENT department of the Avicenna Military Hospital in Marrakech.

CLINICAL CASE

62-year-old patient from a rural area in the Marrakech region, with no notable pathological history, who consulted in March 2019 for left parotid swelling, which appeared 9 months previously and gradually increasing in volume in a context of apyrexia and general condition conservation.

Clinical examination found a left parotid swelling 4 cm in diameter, well limited, without inflammatory skin signs opposite, soft, painless and mobile in relation to the superficial and deep planes (Figure 1). Exploration of the facial nerve was normal; palpation of the other salivary glands was without abnormalities, intra oral examination was completely normal. The upper digestive aero tract as well as the cervical lymph node areas were all free.

The rest of the ENT and somatic clinical examination is unremarkable. Cervical ultrasound revealed a rounded cystic mass, hypo echoic, at the expense of the left parotid gland.

The cervical scanner showed a left parotid cystic image, measuring 38 x 42mm, of fluid content and limited by a thickened, irregular capsule and site of calcifications (Figures 2 and 3).

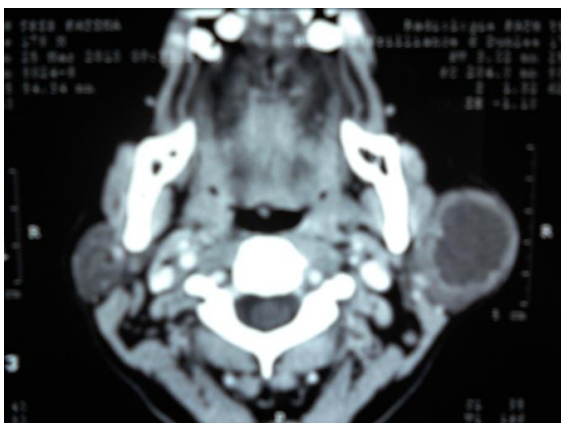
The patient was operated, an exofacial parotidectomy allowed us to remove the cyst which was surrounded by a healthy parotid parenchyma, the operative consequences were simple.

The anatomopathological examination was in favor of the unexpected diagnosis of hydatid cyst with inflammatory changes, in fact the histological study showed a cystic formation containing a whitish gelatinous substance, with a fibro-inflammatory wall, thick surrounding rare proligerous membranes (Figures 4). The cystic contents consisted of proligerous membranes with scolices (Figure 5).

An abdominal thoraco scan performed post operatively was normal. Treatment with albendazole was initiated for a period of 2 months. Clinical checks did not show any recurrence after 18 months.



Figure 1: Left parotid swelling



Figures 2: Cervical CT in axial sections showing a left parotid cystic process with a thickened wall



Figure 3: CT of the cervix in coronal slices showing the cystic process forming part of the left parotid gland

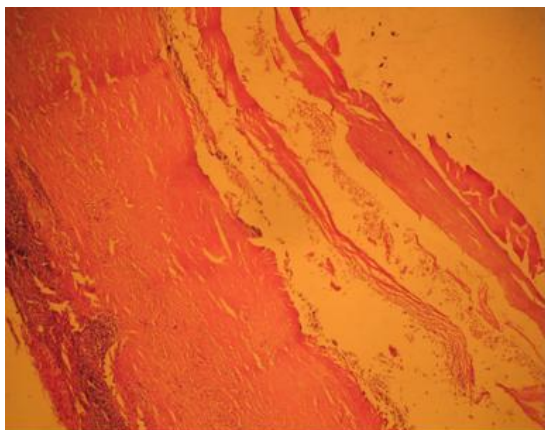


Figure 4: Histological section showing a fibro-inflammatory cystic wall surrounding rare proliferous HE membranes (x200)

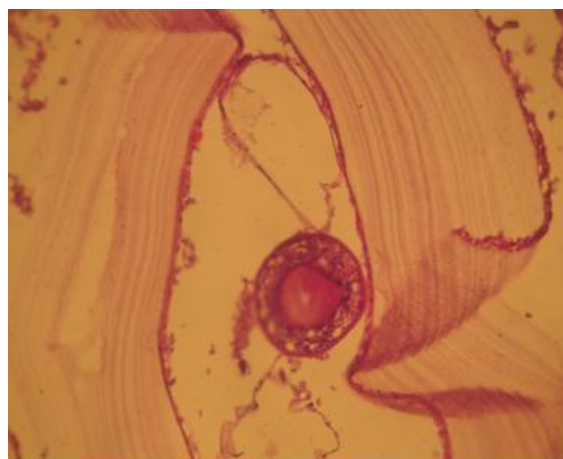


Figure 5: Proligerous membrane and scolex HE (x400)

DISCUSSION

Hydatidosis is a cosmopolitan anthroponosis common to humans and animals; it is rampant in the Mediterranean basin due to clandestine slaughter and the presence of stray dogs. It is caused by the infestation of often young humans (21-40 years) by the larval form of *Echinococcus granulosus* [1, 2]. The cycle of this parasite includes two hosts: a definitive host (the dog) and an intermediate host (the sheep), humans accidentally intervene in the cycle of the parasite [3]. Contamination occurs by ingestion of the eggs through the digestive tract, either by direct contact with dogs or indirectly by consumption of water or raw vegetables contaminated by the feces of infested dogs. The eggs will release hexacanth embryos which cross the intestinal mucosa and arrive at the portal system, the majority of embryos are retained in the liver (50-70%) or in the lung (15-40%), more rarely the parasite can pass in the systemic blood circulation to localize in various organs including the ENT sphere [1, 3].

Hepatic and pulmonary locations are the most frequent (85 to 90% of cases). Isolated cervical involvement is rare, one of the atypical locations and is estimated at 1% [3]. Primary parotid hydatidosis is very rare; few cases have been reported in the literature [1-3]. The clinical symptoms consist of an isolated parotid swelling of progressive, painless and without inflammatory signs. The cystic nature of the tumor precludes any needle puncture which can be a source of serious complications [4].

The contribution of imagery is essential in the diagnosis and assessment of the extension of hydatid disease, ultrasound can confirm the cystic nature of the swelling and analyze its content: partitions, vesicles, hydatid sand and calcifications [3, 5].

The CT makes it possible to better appreciate the relations with the neighboring vasculo-nervous structures. The appearance of a floating membrane or doubling of the wall is very suggestive of hydatid cyst [4]. MRI is more efficient for the exploration of parotid

swelling, the images of hydatid vesicles result in a hypointense in T1 and a hypersignal in T2, the wall of the cyst when it appears in hypointense in T1 and T2 and classically not enhanced after injection of gadolinium [3, 4].

Biologically, hypereosinophilia and positive Casoni IDR are neither pathognomonic nor constant [3, 5]. The direct diagnosis of hydatidosis is based on serological reactions, either qualitative (immunoelectrophoresis) or quantitative (indirect hemagglutination, ELISA, immunofluorescence). However, the positivity rate for these examinations in primary neck and facial locations is 10 to 14% while it is 60 to 90% in visceral and deep locations [6].

Very often parotid hydatidosis is only diagnosed intraoperatively when a hydatid membrane, vesicles and rock water fluid are found [5]. The inflammatory changes observed in aged cysts often allow diagnosis only after careful and systematic histological examination of the part, this is the case in our patient.

The treatment of choice for hydatid cyst of the parotid is surgical and must respect two imperatives: avoid contaminating the surrounding anatomical structures by protecting the operative fields with a scolicalid substance, perform a complete surgical procedure with whole resection of the hydatid cyst and parenchyma parotid with dissection of the facial nerve [1].

The medical treatment of hydatid cyst with benzimidazoles has been the subject of several trials, the results are variable [6]. Its indications are currently limited to the absolute contraindication of the surgical act or in the event of rupture of the cyst intraoperatively to reduce the risk of recurrence [3-6].

The best treatment for hydatid cyst remains prophylactic. To eradicate this scourge, in an endemic area, the parasite's evolutionary cycle must be broken by respecting prophylactic measures [6]:

- Health education of populations in endemic areas.
- Surveillance of the slaughter of animals.
- Treatment of domestic dogs with Praziquantel.
- Caution in contact with dogs.

CONCLUSION

The parotid location of the hydatid cyst remains exceptional, its rarity and the absence of specific and evocative criteria explain the difficulties of diagnosis, its management involves surgical exploration and histological examination which allow diagnostic certainty. Prophylactic treatment is of utmost importance, especially in endemic areas.

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