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Case Report

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A hydatid cyst of right lateral neck in Iran (a rare case report)

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ABSTRACT

Hydatid cyst disease (HCD) is one of the most significant zoonotic parasitic illnesses, which is known to be caused by the larval stage of *Echinococcus granulosus*. The present article is the first paper to report the first case of hydatid cyst of neck as a right lateral cystic mass in Iran. For this purpose, A 54 year-old Iranian man with the complaint of mass and swelling in the right lateral part of the neck was hospitalized in general surgical ward of Velayat hospital, Qazvin, Iran. It is concluded that hydatid cyst of neck soft tissue is uncommon and unusual even in endemic regions and therefore, it should be considered as a differential diagnosis of neck swelling.

Keywords: Hydatid cyst, Echinococcosis, Neck swelling, Iran.

INTRODUCTION

Hydrated cyst disease (HCD) is one of the most important zoonotic parasitic diseases produced by the larval stage of *Echinococcus granulosus* [1]. *Echinococcus granulosus* is mainly kept in a dog-sheep-dog cycle, however several other domestic animals may be involved, including goats, pigs, horses, cattle, camels and yaks. Humans are accidental intermediate hosts and are not capable of transmitting disease. [2] Hydatid cysts occur in the liver in 75% and in the lungs in 15% of cases. Head and neck involvement is rare (perhaps as low as 1%) [3] The prevalence of the disease varies from region to region but is most commonly seen in

Latin America, the Middle East, other parts of Asia and SubSaharan African countries [4]. Based on epidemiological reasons, World Health Organization has introduced Iran as a hyperendemic region for hydatid cyst [5]. Here in this article, we report the first case of hydatid cyst of neck as a right lateral cystic mass in Iran.

CASE PRESENTATION

A 54 year-old Iranian man with the complaint of mass and swelling in the right lateral part of the neck, was hospitalized in general surgical ward of Velayat hospital, Qazvin, Iran. This swelling appeared during 2 months and had not increased or

enlarged in size. Patient had no history of fever, pain, dysphagia, odynophagia, hoarseness, otalgia, or weight loss. He had no history of close contact with cat and dog or living in rural regions but he had a recurrent history of using fast foods. In physical examination, patient had good general appearance and was afebrile. In the right lateral side of the neck, there was a round shaped, 8 × 4 × 4 cm sized, firm, immobile, non-tender mass. It had no erythema, warmth or discharge. It did not move with swallowing or protrusion of tongue. The

overlying skin was intact and showed no inflammation or ecchymosis. No lymphadenopathy was detected. No other swelling was seen in other part of the body. Other physical examinations were revealed no abnormality. Laboratory work-up such as Complete Blood Count, biochemistry, urine analysis were within normal range and eosinophilia was not seen (Eosinophil:4%). Neck ultrasonography demonstrated a hypoechoic, round, unilocular cyst, measuring 8 cm in diameter [Figure 1].



Figure 1: The hypoechoic, round, unilocular cyst

Spiral computerized tomography (CT) scan without contrast of neck soft tissue showed a cystic mass of regular shape and septum with a size of 8 × 4.5 × 4 cm, which is located in carotid artery and jugular vein in right side of the neck with compressive effect on right part of hypopharynx with effacement of right vallecula [Figure 2]. The primary differential diagnosis was bronchial cyst. Chest x-ray (PA) and abdominal ultrasonography were normal and revealed no hepatic and pulmonary involvement. Hydatid serology was not performed. Fine needle aspiration of cyst (FNA) was not diagnostic. Surgical removal of the cyst

was then planned. Under general anesthesia and after preb and dreb, horizontal incision was done on the right lateral neck mass and then the neck was explored and the cyst with 8 cm in diameter was seen near carotid artery and jugular vein. Intact cyst and surrounding tissue were excised and was sent for histopathological examination. Histological examination of the cyst confirmed the diagnosis of hydatid cyst. After surgery, Albendazole 400 mg twice a day for 6 months were prescribed for patient. The post-operative course was uneventful. The patient was followed up for 3 months and no recurrence of disease was observed.



Figure 2: A cystic mass of regular shape and septum with a size of 8 × 4.5 × 4 cm

DISCUSSION

Echinococcosis, also known as hydatid disease, is a common zoonotic infection caused by Echinococcus tapeworms, Echinococcus granulosus, and Echinococcus multilocularis are the main forms of hydatid disease [6]. Echinococcus granulosus is a 5 mm long worm that completes its life cycle in dogs as a definitive host and sheep, goats, cattle, or pigs as intermediate hosts. Humans are accidentally infected following ingestion of the eggs, which are excreted through the feces of the definitive hosts [7]. The parasitic eggs are taken in orally and then transferred to the portal system. These eggs are usually kept in the liver, ultimately leading to an infectious process. The second most frequently affected organs in the human body are the lungs, as the parasitic eggs not

arrested in the liver migrate through the pulmonary circulation. The liver and the lungs retain these parasitic eggs like a filter and prevent their access to the systemic circulation. Eggs that inadvertently escape these filtering mechanisms gain access to the systemic circulation and may cause infections in various distant organs, such as the spleen, kidneys, bones, heart, brain and even soft tissues [8].

Hydatid cyst generally involves liver and lung and it has been rarely found in spleen, thyroid, breast, kidney and soft tissue [5]. Hydatid cyst has worldwide distribution, but the most contamination has been reported from Mediterranean region, Middle East, South-America, Central America, Australia, Chile, Eastern Europe, New Zealand and parts of Western Africa. Because of close contact

of a large part of Iranian society with dogs and herbivores during traditional husbandry, WHO has introduced Iran as a hyperendemic region for hydatid cyst [9, 10]. The incidence of soft tissue and neck hydatid cyst in endemic regions is very rare [11]. Therefore, this article is the first report of hydatid cyst involving the soft tissue of neck in Iran as a hyperendemic region. Singal et al. (2017) also reported the isolated hydatid cyst of neck. In our patient Blood cell count was normal but another study reported a rare Case of a Hydatid Cyst of the Neck in a Kazakh Boy with

eosinophilia (7%). Complete surgical removal of HC is the gold standard treatment [12]. In our case and the in all previous cases of neck hydatid cyst the surgical incision were and no recurrence were detected in the post-surgical follow-ups.

CONCLUSION

Hydatid cyst of neck soft tissue is rare and unusual even in endemic regions, so it should be considered as a differential diagnosis of neck swelling.

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