A TYPICAL CASE OF BILATERAL HYDATID CYST IN BUFFALO CALF

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ABSTRACT

A 6 month old male buffalo calf was presented to the hospital with bilateral swelling on the maxilla. Diagnosis of the case was made on the basis of history, clinical findings and parasitological examination. Radical surgery was performed under local infiltration. Post-operative follow up done for 5 days with the help of antibiotic, analgesic and antiseptic dressing. The animal was completely recovered on 10th postoperative days.

Keywords: hydatid cyst, male, buffalo, bilateral, maxilla

INTRODUCTION

Several zoonotic diseases which occurs during sudden exposure with the affected animals and by products. Hydatidosis is one of the major zoonotic diseases that cause great economic loss and public health problem in all over the world and considered as a second in helminthic disease of significance. The disease mostly dangerous in livestock rearing countries (Craig *et al*., 2007). Economic loss occurred in the form of decreased qualitative and quantitative production of milk, meat, wool apart from causing infertility (Sangaran *et al*., 2014). Mostly the animals are infected either by direct contact with dogs or by consumption of water or foods contaminated with feces of dogs containing eggs of parasite (Bondya *et al*., 2013; Sharma *et al*., 2013).

Hydatidosis is caused by the tape worm *Echinococcus granulosus* which is found in the small intestine of carnivores and the metacestode (hydatid cyst) is found in a wide variety of ungulates and humans (Verma *et al*., 1994). Especially cattle, buffalo, sheep, goat, pig and horse are intermediate hosts in which the hydatid cysts occur (Daryani *et al*., 2007). Due to the presence of hydatid cyst in different locations in the intermediate hosts, it results in condemnation of the affected organs. It causes characteristic cystic lesions most commonly found in the liver and lungs, but it can arise anywhere in the body (Oryan *et al*., 1994; Boudaya *et al*., 2014). According to Sangaran *et*

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al. (2014) the hydatid cysts are normally observed in lungs and liver apart from their presence in spleen, heart, kidneys etc. Occasionally apart from the routine sites of predilection, the hydatid cysts have been reported from rare locations such as bone marrow, brain and muscles as also found in present case. In buffaloes a typically viable cysts persisting throughout the life of the animal in most cases. This paper presents an unusual location of a hydatid cyst on the muscles of the maxilla and surgical management in a male buffalo calf.

HISTORY

A 6-months-old male buffalo calf was referred from the local paravet to the District Veterinary Hospital, Bilaspur, Chhattisgarh (India) with a history of large hard swelling on the maxilla. Owner also said that the mass was gradually increases in their size. On further anamnesis about previous medications and telephonic discussion with the paravet revealed, general treatment with anti-inflammatory for 5 days, without any satisfactory response was done. On 6th day due to lack of response of medication, the paravet suggested for the surgery and referred to the hospital.

CLINICAL OBSERVATIONS

On clinical examination found that the mass was bilateral on the maxilla with two separate hard mass (Figure 1). Growth was broad based without fluctuation. Peripheral blood vessel was so tensed, clearly seen from outside. Due to enlargement over the maxilla, animal could not be able to take milk and water properly. Skin tenting showed mild dehydration with pale mucous membrane of the conjunctive. Physiological parameters were under normal range. Grossly and on palpation the mass was feel like neoplastic growth. For confirmation, the mass was punctured with 20 gauze sterile needle and on aspiration straw coloured fluid was observed. On the basis of history, clinical findings and exploratory puncture the case was tentively diagnosed as a case of cyst. Owner was agreed for surgery after discussion. Finally it was decided to perform surgery for complete removal of the cyst to prevent further enlargement and complications.

TREATMENT

The animal was secured in left lateral recumbency. Aseptic preparation of the site was done by clipping, shaving and application of antiseptic solution. Desensitization of the operative site was achieved by local infiltration of the 2% lignocaine HCl (6 ml) at the base of the growth. A circumferential skin incision was given at base of the mass. It was observed that the mass was attached with the muscles. The attachments between the cyst and muscle layers was bluntly separated with the myoscissor (Figure 2). Entire cyst along with some healthy tissue were resected out (Figure 3). The cavity was flushed with normal saline solution and antibiotic powder sprinkled inside the cavity. The muscle layers were sutures with catgut no.1 with simple continues whereas skin layer approximated with sterile cotton thread in simple interrupted manner (Figure 4). Similar procedure were adopted for right side (Figure 5). The wound was dressed with povidone iodine, neosporin powder and soframycin ointment. The resected masses were sent for parasitological examination to the disease investigation lab (Figure

Figure 1. Lesion at the time of presentation.

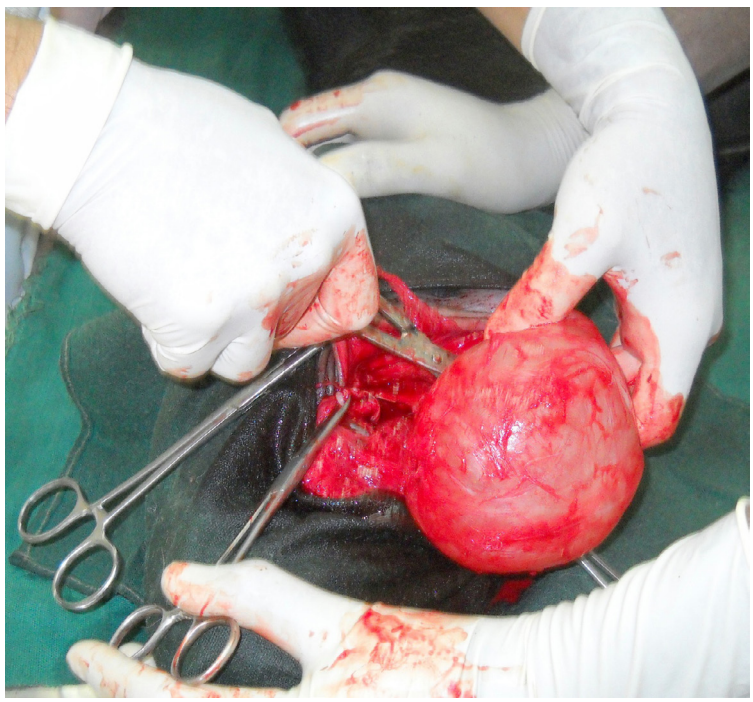

Figure 2. Blunt dissection with myoscissor.

Figure 3. Separation of cyst with muscle attachment.

Figure 4. Skin suture on left side after removal cyst.

Figure 5. Skin suture on right side after removal cyst.

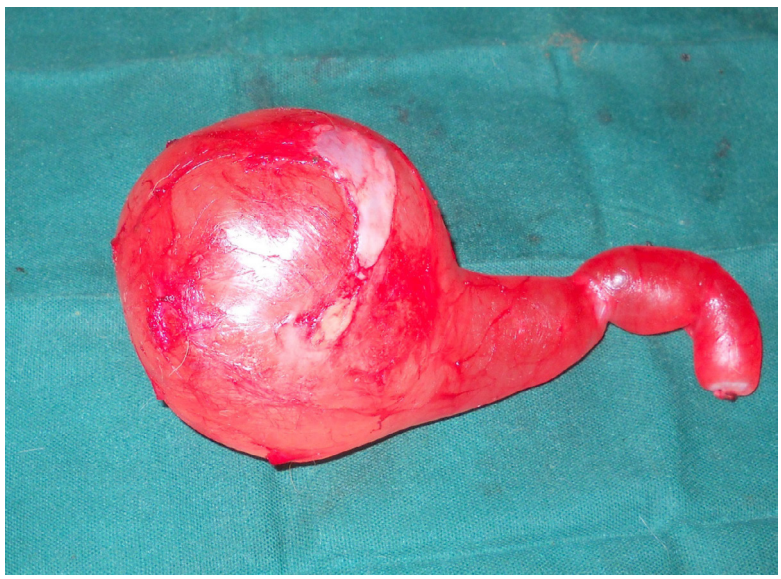

Figure 6. Collected cyst for parasitological examination.

6). Postoperatively, injectable streptopenicilin (500 mg) and Meloxicam 0.2 mg/kg body weight intramuscularly were given. Similar treatment was followed for 5 days. Skin sutures were removed on 10th postoperative days without any complications.

LABORATORY FINDINGS

Parasitological examination report brought to the hospital on 2nd post-operative day and the lesion was diagnosed by expert as hydatid cyst caused by *Echinococcus granulosus*.

DISCUSSION

As hydatid cyst found in different organs or parts of the body, the presence of the hydatid cyst is normally observed in lungs followed by involvement of liver, spleen etc. but rarely on the muscles as the present case. The prevalence rate at the muscle region was very less as compare to the other organs body. The literatures regarding hydatid cyst over muscle are very less. Sangaran *et al.* (2014) reported that the rare incidence of hydatid cysts in the muscles of buffaloes, presented on the pectoral girdle musculature of the shoulder region. Other studies, the incidence of hydatidosis in buffaloes was reported mostly in lungs and liver and found to be varying from 7% to 12% (Deka and Gaur, 1990), 13.5% (Sangaran, 1994), 34.88% (Hussain *et al*., 1992) with highest as 48% (Singh and Dhar, 1988). According to Karimi *et al*. (2011) hydatid cyst in musculoskeletal system is rare and constitutes 1% to 4.5% of all cases. Khan *et al.* (2013) observed that females outnumbered the prevalence in heifers and adult buffaloes with 82.19% and 84% prevalence as against the calves, where the males showed a higher incidence 63.88%. In present study, as per history the etiological factor might be due to poor management and contaminated feed by eggs of parasite.

Diagnostic methods including certain serologic and laboratory tests including immunofluorescency (IF), enzyme-linked immunosorbent assay (ELISA), and imaging or scanning techniques such as abdominal ultrasound (US), X-ray, computed tomography (CT) and magnetic resonance imaging (MRI) (Brunetti *et al*., 2011; Busic *et al*., 2012; Buttenschoren and Buttenschoren, 2003; Li *et al*., 2011; Zahariei *et al*., 2013). After diagnosis the treatment should be performed to prevent complications such as secondary infection, rupture of the cyst to adjacent tissues, rupture with intraperitoneal dissemination of the disease, anaphylactic reaction, and pressure on adjacent organs (Buttenschoren and Buttenschoren, 2003). The treatment of hydatidosis done by chemical or medical therapy, surgery and puncture aspiration injection reaspiration (Ahmadnia *et al*., 2011; Zahariei *et al*., 2013).

Based on the referred literature, it was concluded that the hydatid cyst on the muscles of buffalo was rare and present case was one of them.

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