

A REPORT ON THE INCIDENCE OF HYDATID CYST IN THE MUSCLES OF A SLAUGHTERED BUFFALO

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ABSTRACT

Hydatidosis is caused by the larval stage of *Echinococcus granulosus* and it is one of the major zoonoses in the world inducing economic loss and public health problems. The distribution of the disease is largely due to the adaptability of the hydatid cyst to several domestic and wild mammalian intermediate hosts including human beings. Hydatid cysts usually occur in the lungs and liver of herbivorous intermediate hosts such as sheep, goats, cattle, buffaloes etc. During routine examination of buffaloes on slaughter for the presence of hydatid cyst, a case of hydatid cyst in the muscles of the slaughtered buffalo was observed which was mostly observed in the shoulder region. The muscle hydatid cysts were collected and brought to the laboratory. On microscopic examination of the collected hydatid cysts, it was found to be fertile.

Keywords: Hydatidosis, Buffalo, Muscle

INTRODUCTION

Hydatidosis caused by *Echinococcus granulosus* is one of the most wide spread anthroponoses in agriculture based countries across the globe (Ito *et al.*, 2003). The disease in human beings and animals is an economic and public health problem particularly in livestock rearing countries (Craig *et al.*, 2007). Due to the presence of hydatid cyst in different locations in the intermediate hosts such as sheep, goats, cattle and buffaloes, it results in condemnation of the affected organs. In domestic herbivorous intermediate hosts, the hydatid cysts are normally observed in lungs and liver apart from their presence in spleen, heart, kidneys etc.

The presence of the hydatid cyst in these animals results in decreased qualitative and quantitative production of milk, meat, wool apart from causing infertility. The life cycle of *E. granulosus* involves mainly dogs as definitive hosts and the intermediate hosts are sheep, goats, cattle and buffaloes etc. including human beings.

Occasionally apart from the routine sites of predilection, the hydatid cysts have been reported from rare locations such as bone marrow, brain and muscles. Presence of hydatid cysts in the intermediate hosts like buffaloes is typically a chronic parasitic infection with viable cysts persisting throughout the life of the animal in most cases. This paper presents an unusual location of a hydatid cyst in the shoulder muscles of a buffalo observed on slaughter.

MATERIALS AND METHODS

A study was carried out to find out the incidence of hydatid cysts in food animals such as buffaloes at the time of slaughter by inspecting the carcasses and viscera of the slaughtered buffaloes in organs like lungs, liver, spleen, kidneys etc.

During such observation, protruding, soft and pliable cysts were observed in a buffalo in the pectoral girdle musculature of the shoulder region. The cysts along with the attached musculature were separated and collected in sterile normal saline and brought to the laboratory for further processing.

In the laboratory, the cysts were washed with normal saline so as to eliminate any contaminants attached to the outer layer. The cysts were punctured with an 18 gauge needle and the fluid from the cyst was aspirated. A drop of the cystic fluid was kept on a microscopic slide to identify the nature of the cyst.

RESULTS AND DISCUSSION

Results

On examination of the cystic fluid under the microscope, protoscolices of hydatid cyst were observed. The fluid from the cysts was completely aspirated. After complete aspiration of the cystic fluid, the inner germinal layer was scraped, examined. The scraped germinal layer showed the presence of protoscolices in large numbers which are collectively termed as hydatid sand.

Discussion

Although hydatid cyst can be found in different organs of the body, the presence of the hydatid cyst is normally observed in lungs followed by involvement of liver, spleen etc. in case of food animals like buffaloes. The presence of hydatid cysts in different organs in domestic animals such as sheep and goats has been reported (Sangaran and Lalitha, 2009). The incidence of hydatidosis in buffaloes was reported mostly in lungs and liver and found to be varying from 7 per cent to 12 per cent (Deka and Gaur, 1990), 13.5 per cent (Sangaran, 1994), 34.88 per cent (Hussain *et al.*, 1992) and it was reported to be as high as 48 per cent (Singh and Dhar, 1988). Getachew *et al.*, (2012) reported an incidence of 7.4 per cent of hydatid cysts in muscles of slaughtered goats. Hydatid cyst in musculoskeletal system is rare and constitutes 1% to 4.5% of all cases (Karimi *et al.*, 2011). Based on the available literature, the presence of hydatid cysts in muscles of buffaloes is rarely reported. The report on the muscle hydatid cyst in the pectoral girdle musculature of the shoulder region of a buffalo indicates that the hydatid cysts can also be observed in sites such as muscles and hence is a report on the rare incidence of hydatid cysts in the muscles of buffaloes.

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