

## HYDATIDOSIS OF TIBIA

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### ABSTRACT

A 71 year old female from a village was admitted to Ahwaz Imam Khomeini hospital in southwestern part 7 years ago with pain and swelling at the upper and middle third of right tibia. Operation was performed and permanent sinus secretion of the midportion occurred. After 7 years the patient returned to hospital recently with warmth, swelling and edema and sinus secretion in middle and upper of right leg. Radiological examination revealed osteolytic metaphyseal and diaphyseal lesion with honey combs appearance transitional zone was narrow without reactive bone and incomplete fractures were also noted. Abdominal sonography was normal. Wound discharge culture indicated *Klebsiella*, *Proteus* and *E. coli*. After antibiotic therapy the patient was put under general anesthesia and complete excision of middle part of tibia from proximal metaphysis to distal metaphysis was performed. During the operation laminated layers and daughter cysts of hydatid cysts were seen. The lesion was washed with 0.5% of NO<sub>3</sub>Ag and 3cm under the tibia plateau to 7cm of tibia planoid was debrided and cement spacer was used for filling the spaces. Histopathologic examination of the resected specimen confirmed the hydatid cyst. The patient was prescribed albendazole and discharged from the hospital. She is being followed up now.

**KEY WORDS:** Hydatid cyst , Tibia , Bone.

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### INTRODUCTION

Hydatid cyst is a parasitic infection caused by larval stage of *Echinococcus granulosus* in man and domestic animals.<sup>1,2</sup> The adult worm resides in the intestine of canine which functions as definitive hosts. Ingestion of ova is passed with the faeces of definitive host by man and domestic animals as intermediate hosts hatch in the small intestine and enter the blood circulation and locate in different tissues and produce hydatid cyst.<sup>3</sup>

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The incidence of hydatid cyst in liver is from 59-75%, in lung is 27%, the kidneys and brain each account for 3 and 1-2% of cases respectively.<sup>4</sup> Hydatid cyst in bone is extremely low as most of the larvae are trapped by the liver and lungs upon release of embryos into the portal blood stream.<sup>1-3</sup> Skeletal hydatid cyst is found in only 0.5-2% of cases. The growth of cyst in bone is slow and might lie dormant for as many as 20 years.<sup>5-7</sup> The diagnosis of osseous hydatidosis is still primarily based on roentgenography findings.<sup>3,6</sup> Plain radiography, Computed Tomography (CT), and Magnetic Resonance Imaging (MRI) are helpful in the diagnosis of Skeletal hydatidosis.<sup>6,7</sup>

### CASE REPORT

A 71 year old female from a village near by Ahwaz city southwestern part of Iran was admitted to Imam Khomeini hospital in 2003 with swelling, edema and sinus secretion in middle and front of right leg. The patient had an operation 7 years ago because of pain and

Table-I: Laboratory findings of patient in the first day of admission

Hb	Hct	ESR	CRP	FBS	Bun	Creatinin	Na	K	SGOT	SGPT	Alk	BG
10	29.7	102	2+	105	10	0.7	141	4.2	29	28	97	O+

swelling at the upper and middle third of right tibia. After the operation she had permanent sinus secretion in the middle of her leg, but she has not any information from previous operation. She was under antibiotic therapy. Recent admission was because of warmth, edema, swelling, and sinus secretion in middle and upper of right leg (Fig-1). Radiologic examination revealed osteolytic honeycomb appearance lesions with no reactive bone and incomplete fractures were also noted (Fig-2). Abdominal sonography was normal. Laboratory findings in the first day of admission are shown in Table-1.

Culture of wound discharge indicated *Klebsiella*, *Proteus* and *E.coli*. Antibiotic therapy was prescribed and the patient received Keflin Amp (1gramQID), Gentamycin Amp (80mg TID) and Albendazol tab (4g BID) before operation and anemia was corrected by blood transfusion. The patient was operated under general anesthesia. Complete excision from proximal to distal metaphysis of tibia was performed (Fig-3). During the operation laminated layers of hydatid cysts and daughter cysts were observed. The cavities were washed with 0.5% NO3Ag and 3cm under the tibia plateau to 7cm of proximal part of tibial plafond was debrided and methyl metacrylate

was used for filling the dead spaces. After operation clindamycin (300mg TID) was added to the previous medicines (Fig-4).

Histopathological examination of the resected specimen confirmed the hydatid cyst. The patient left the hospital and continued the treatment using 3 course of 400 mg Albendazol for 4 weeks with two weeks interval and checking the CBC and liver function tests. She has been followed up till now.

## DISCUSSION

Osseous hydatidosis is a rare occurrence of hydatid cyst.<sup>8</sup> The hydatid cyst may lie dormant in the bone for many years and most of skeletal hydatid cases have been adults. Skeletal cystic echinococcosis lesions may be single or multiple.<sup>5</sup> The lesions though usually secondary to hepatic or pulmonary hydatidosis may on occasion occur as a primary disease. Cases of bone hydatid cyst have been reported in vertebrate, femur, tibia and pelvis.<sup>2,7,9-12</sup> Intraosseous lesion usually start at the epiphysis and may be either polycystic or less often in the form of a solitary hydatid cyst.<sup>13</sup> As the hydatid cyst of bone remain asymptomatic over a long period, it is usually detected after a pathologic fracture or secondary infection, or following the onset of



Fig-1: Edema, swelling and sinus secretion of right leg lesion



Fig-2: Preoptical X-ray of right leg



Fig-3: Bone destruction due to hydatid cyst



Fig-4: Postoperative X-ray with methylmetacrylate spacer

compressive myelopathy in cases of vertebral lesions. However a definite pre-operative diagnosis without histologic examination is often difficult as there are no pathognomonic signs, radiologic findings may be confused with those of other tumoral lesions and serological tests are of limited value.<sup>14-16</sup> The unusual feature in the present case was the ignoring of hydatid cyst in first admission. Although no evidence of liver or lung hydatid cysts revealed even though hydatid cysts were present in tibia and diagnosis occurred 7 years after no cureness and during histological examination of resected specimen. This case emphasizes the importance of considering osseous hydatidosis in the differential diagnosis of destructive tumoral bone lesions and rare diaphyseal involvement.

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