Epidemiology Of Bone Haydatidosis in Eastern Libya From 1995 to 2013

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Key wards: bone infection, Haydatid disease, Eastern Libya.

INTRODUCTION:

Hydatid disease is caused by parasitic tapeworm Echinococcus: E. Granulosus: species most responsible, E. multilocularis and E. oligaetas.

Bone haydatidosis is infection worldwide distribution, serious health problem in sheep-raising areas of Mediterranean countries, U.K., Australia, South America and Central Asia. Usually diagnosed late and can be confused with Tuberculosis, Chondrosarcoma, Malignant fibrous histiocytoma, Myeloma, Metastatic disease, Giant cell tumor, A neurysmal bone cyst and Fibrous dysplasia

There is no evidence in literature on Bone haydatid disease in Libya, although there are several Authors have described some studies on prevalence of human haydatid disease in different regions of Libya. (1,3,4,7,10)

AIM OF OUR WORK:

We tried to present the first national clinical study on the Epidemiology of Bone Haydatidosis in Eastern Libya during the period from 1995 to 2013

MATERIALS AND METHOD:

- We conducted a retrospective study to evaluate the epidemiology of Haydatid Bone Disease in Eastern Libya from 01-01-1995 to 30-06-2013, 3 Hospitals were included in our study:

1- TUBROK HOSPITAL (nearest to Libya-Egypt limits)

2- ALBEDA HOSPITAL (Green mountain region of Libya)
3- Al JALLA HOSPITAL (Referred trauma hospital, Benghazi)

- we depended on the information contained in the file of each patient, in absence of the current addresses of all our patients.

- The following information was reviewed: sex of the patient, age, address, job, symptoms at presentation, time of the diagnosis and site of infection.

RESULTS:

In spite of absence of proper documentation system, lack of current information of our patients after admission to the hospitals or after diagnosis of the cases, we observed that:

Total cases 5 as following:
- No case was documented in TUBROK hospital
- 1 case admitted to ALBEDA Hospital
- 4 cases were admitted to ALJALLA hospital

Table (1): Number of the Haydatid Bone disease cases in 3 Hospitals in period between year of 1995 to year of 2013

<table>
<thead>
<tr>
<th>Name of the Hospital</th>
<th>Total NO. of musculoskeletal infection</th>
<th>Bone Haydatid infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBROK Hospital</td>
<td>382</td>
<td>0</td>
</tr>
<tr>
<td>ALBEDA Hospital</td>
<td>491</td>
<td>1</td>
</tr>
<tr>
<td>ALJALLA Hospital</td>
<td>1321</td>
<td>4</td>
</tr>
</tbody>
</table>

- 4 cases of them were male, 1 case was female, ages from 35 to 52 years,

- All of them are farmers in sheep and goats – raising areas with at least 4 sheep dogs and 2 owned dogs which has direct contact with each patient

- Address: 2 cases from Al marj city, the other 2 from Albeda (sheep-raising areas) and one from Benghazi

Fig. 1: Map of Libya showing Eastern Libya Illustrated by Green circle
- In all cases Presenting symptoms was pain whereas swelling in 3 cases and paraplegia in 1 case were noted.

- The time disease was diagnosed: one case after 3 weeks while 2 cases were treated as tuberculosis for 6 months and remaining 2 cases treated as non specific infection for 3 months.

- CT Scan was the best radiological method for diagnosis

- Diagnosis was confirmed by Histopathology, 3 cases in Libya and 2 cases in Italy

- There was a case of one mortality because of lung pathology.

- Site of infection:

**Table (2): Common sites of infection in our study**

<table>
<thead>
<tr>
<th>Site of infection</th>
<th>Number of the cases</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Bones</td>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>Spine</td>
<td>2</td>
<td>40%</td>
</tr>
<tr>
<td>Pelvis and Hips</td>
<td>2</td>
<td>40%</td>
</tr>
</tbody>
</table>

**Fig. (2): Case No. 1: Spine involvement**
Fig. (3): Case No. 2: Long bone involvement (Lt humerus)

Fig. (4): Case No. 3: Hip and Pelvis involvement
Fig. 5: Case No. 4: Hip and pelvis involvement

Fig. (6): A – Case No. 5: Sacro-iliac Cut Section

Fig. (6): B – Case No. 5: Sacro-iliac Intra-osseous

Fig. (6): C – Case No. 5: Sacro-iliac Extra-osseous
DISCUSSION:

- Even the statistical evidence from northern Africa countries suggests that Haydatid Disease in certain regions is extremely high endemic (1).

- With review of related literature, we observed that there is no statistical study on the prevalence of Haydatid Bone Disease in Libya.

- Our study reconfirm that the prevalence of Haydatid Bone Disease is high in sheep-raising areas (Albeda zone and El marj zone) (5,6,7,8).

- This agreed (Duran H. and co-authors) regarding the most infected sites are the spine, hips and pelvis and the late diagnosis of Bone Haydatid disease in almost all our cases (2,5,6,8,9).

- In our study we did not concentrate on the methods of treatment: Antihelminthic drugs but radical surgery remain the most effective treatment (11).

CONCLUSION:

This study provides data about the status of Haydatid Bone Disease in Libya that need further researches and studies and enable more precise planning for effective control strategies for all dogs (Stray, Owned, Sheep, Guard and Household dogs). Restraining of dogs that did not receive any de-warming could be alternative solution.

Lack of knowledge about *E. Granulosis* transmission is also significant risk factor for transmission of the disease. By educating owners of these animals measures to avoid the serious complication that might happened from delay of diagnosis of this bone disease will be achieved.

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