

## Clinical Scenario versus Pathological diagnosis of Hydatid in Haroti region of Rajasthan with Special emphasis on rare sites.



### Pathology

**KEYWORDS:** Hydatid, Biopsies, Pathology, Immune, Swelling.

**Dr. Akta Rasania**

MD Assistant Professor. Govt. Medical College, Kota, Rajasthan.

**Dr. Rajshree Bhati**

MD, Associate Professor. Govt. Medical College, Kota, Rajasthan.

**Dr. Sudha Pankaj Meena**

MD, Associate Professor. Govt. Medical College, Kota, Rajasthan.

**Dr. Vandna Pathak**

MD, Assistant Professor. Govt. Medical College, Kota, Rajasthan.

### ABSTRACT

The hydatid disease is prevalent worldwide and more in sheep rearing countries like Australia, New Zealand, South America etc. the disease is well recognized and documented in India too 12345. Total 28000 biopsies reviewed in the department of pathology, GMC Kota, 168 were showed hydatid pathology (0.60%). Although common sites are liver (69.6%) and lung (10%) but study includes other rare sites also. These sites are spleen (5.3%), soft tissue, mesentery, omentum, peritoneum and abdominal region (3.6%), pelvic region (2.38%), brain, kidney, retroperitoneum (1.2%) and ovary, suprapubic, tibial, pericardial, submandibular region, breast, urachus, each 0.60% of sites observed. Hence no site is immune for hydatid. Surprisingly false impression of swelling clinically over thigh, breast gluteal region revealed hydatid pathology and cause diagnostic confusion.

### Introduction

Human Echinococcosis or hydatidosis is a zoonotic disease caused by tapeworm of genus echinococcus. The definitive host is dog and canines while the intermediate host is sheep, cow, and pig. Man is an accidental intermediate host<sup>6</sup>. With an incidence of approximately 8.4/ lakh population, echinococcosis is an important health problem in Haroti region. The aim of the study is to evaluate the clinicopathological data of Echinococcosis during the study period and illustrate the rare sites.

### Material and Methods

We went through the pathology record files from Jan 2001 - Jan 2006 in the department of pathology, Govt. Medical college Kota to look for the cases of hydatid disease like complaints, signs and symptoms, age, site, investigations were tabulated. Grossly these were pearly white intact or collapsed cyst filled with clear colorless fluid. The H & E sections of paraffin embedded tissue from cyst were reviewed showed laminated layer or ectocyst, Germinal layer or endocyst with attached scolices.

### Observations

During this period out of 28,000 biopsies, 168 were diagnosed as Hydatid disease or Echinococcosis. The disease is considered to be one affecting all the age groups<sup>11</sup>. Although the infection is acquired in childhood, the cyst tends to grow in size over period of years and the disease is not usually diagnosed before adult life<sup>8</sup>. The study includes patients age ranging from 5-75 years with maximum number during 20-40 years of age with male predominance (Table 1) and has different mode of presentation (Table 2). Practically no organ in human body is immune to infestation by Taenia echinococcus. Table-3,4,5 show the comparative incidence of hydatid disease in various organs and sites as reported in literature and the present series<sup>3,4,5,8,9,10,11</sup>. These patients were investigated by different techniques but USG is found to be most cost effective means of investigation.

**TABLE 1 AGE INCIDENCE**

| AGE GROUP   | NO. OF CASES | PERCENTAGE |
|-------------|--------------|------------|
| 0-20 years  | 37           | 22.02      |
| 21-40 years | 98           | 58.33      |
| 41-60 years | 26           | 15.48      |

|              |            |              |
|--------------|------------|--------------|
| 61-80 years  | 07         | 4.17         |
| <b>Total</b> | <b>168</b> | <b>100.0</b> |

**TABLE 2 MODE OF REPRESENTATION**

| S.NO | SIGNS & SYMPTOMS                       | NO. OF CASES |
|------|--|--------------|
| 1.   | Pain, right hypochondrium              | 115          |
| 2.   | Swelling, right hypochondrium          | 80           |
| 3.   | Tenderness, right hypochondrium        | 88           |
| 4.   | Pain, left hypochondrium & Epigastrium | 07           |
| 5.   | Fever                                  | 19           |
| 6.   | Jaundice                               | 01           |
| 7.   | Cough                                  | 14           |
| 8.   | Chest pain                             | 15           |
| 9.   | Dyspnoea                               | 11           |
| 10.  | Haemoptysis                            | 06           |
| 11.  | Headache                               | 02           |
| 12.  | Neurologic deficit                     | 02           |
| 13.  | Anaphylaxis                            | 02           |
| 14.  | Difficulty in micturation              | 01           |
| 15.  | Loss of weight                         | 08           |
| 16.  | Lump breast                            | 01           |
| 17.  | Lump submandibular gland               | 01           |
| 18.  | Lump gluteal region                    | 02           |
| 19.  | Ascitis                                | 01           |

**TABLE 3 INCIDENCE OF HYDATID IN VARIOUS ORGANS COMPARED WITH OTHER REPORTS**

| Author Year City                 | Total No. Of cases | Liver | Lung | Spleen | Soft tissue | Peritoneum | Ovary | Kidney |
|----------------------------------|--------------------|-------|------|--------|-------------|------------|-------|--------|
| Dutta, Gupta & Das 1963 Calcutta | 20                 | 50    | 15   | -      | 5.0         | 5.0        | -     | 15     |

|                                  |     |      |      |     |     |      |     |     |
|----------------------------------|-----|------|------|-----|-----|------|-----|-----|
| Gupta et al, 1966<br>Indore      | 31  | 22.5 | 48   | 3.3 | -   | -    | -   | 3.2 |
| Shah et al, 1969<br>Ahemdabad    | 50  | 28   | 26   | 2.0 | 6.0 | -    | -   | 6.0 |
| Islam et al, 1976<br>Bangladesh  | 18  | 38.9 | 38.9 | -   | -   | 16.7 | -   | -   |
| Kattan et al, 1977<br>Iraq       | 136 | 69.1 | 4.4  | 5.2 | -   | -    | -   | 3.7 |
| Mehta et al, 1982<br>Pondicherry | 48  | 34.6 | 28   | 2.7 | 8.0 | -    | 2.7 | 1.3 |
| Bhobhata et al, 1984<br>Nagpur   | 79  | 34.2 | 40.5 | 6.3 | 7.6 | 6.3  | 1.3 | -   |
| Present series<br>2005<br>Kota   | 168 | 69.6 | 10.0 | 5.3 | 3.6 | 3.6  | 0.6 | 1.2 |

**TABLE 4 INCIDENCE OF SPLENIC INVOLVEMENT COMPARED WITH OTHER INDIAN CITIES**

| CITIES                | INCIDENCE |
|-----------------------|-----------|
| Ahmadabad             | 2.0       |
| Delhi                 | 4.2       |
| Indore                | 3.3       |
| Nagpur                | 6.3       |
| Pondicherry           | 2.7       |
| Srinagar              | 4.1       |
| Present study at Kota | 5.3       |

**TABLE 5 % INCIDENCE OF RARE SITES**

| SITES                   | NO. OF CASES (%) |
|-------------------------|------------------|
| Abdominal wall & cavity | 3.6              |
| Pelvic region           | 2.4              |
| Brain                   | 1.2              |
| Retroperitoneal         | 1.2              |
| Pericardial             | 0.64             |
| Suprapubic              | 0.60             |
| Urachus                 | 0.60             |
| Breast                  | 0.60             |
| Submandibular           | 0.60             |
| Tibial                  | 0.60             |

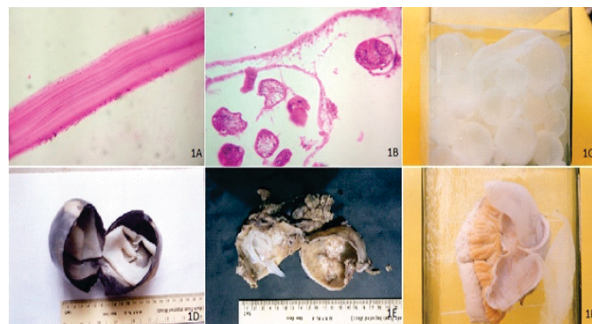


Fig. 1A: Laminated membrane of Hydatid cyst. (H & E x400).

Fig. 1B: Hydatid cyst with scolices. (H & E x400).

Fig. 1C: Pearly white, various sized, ball like cyst of Hydatid.

Fig. 1D: Specimen of spleen showing Hydatid cyst.

Fig. 1E: Bisected specimen of kidney infested by Hydatid cyst.

Fig. 1F: Specimen of intestine showing Hydatid cyst.

**Discussion**

Although hydatid disease is common in sheep rearing countries like Australia and Newzealand but a good number of cases are also reported in this study.

Liver and Lung are the commonest site of involvement as observed by Authors 1,3,10,12 which is due to the fact that these sites acts as a first and second filter for hydatid ad contributing for the symptoms like pain and tenderness, right hypocondrium. One case was presented with jaundice and fever which is due to pressure effect of the cyst leading to obstructive jaundice. Cough and chest pain, dyspnoea, haemoptysis were present in case of lung involvement, less number of thoracic cases might be due to the lack of well developed cardiothoracic unit in the previous years.

Splenic hydatid constitutes 5.3% which is higher than the endemic areas where it is 0.5-4% of all cases of Echinococcosis. The mean incidence of splenic hydatid in India is 4.3% with highest incidence in central India (Nagpur) 6.0%.11 (Fig-1D).

Other rare sites are also observed which were described in the literature 15. Mesentry, abdomen (wall+cavity), peritoneum were the part of multiple sites presentation and constitutes 3.6% (6 cases) of all cases.

The soft tissue swelling constitutes 3.6% includes lump gluteal region, thigh region, chest wall and infrascapular region. One of the thigh swelling was presented as lipoma while other as lymphadenopathy near the inguinal region but preoperatively as well as histopathologically confirmed as hydatid cyst. Vice versa one case was a swelling chest wall thought to be hydatid but turned out to be cavitary fungal lesion.

One of the abdominal hydatid was a case of 35 years old female from rural area presented with distension of abdomen for last 7 years which is progressively became 45 inches in circumference. When operated abdominal cavity contained liters of fluid and a bucket full of various sized ball of hydatid cyst. (Fig-1C)

The brain, kidney, retroperitonium, and pelvic region are the next in this sequence and constitute 1.2%. 8 year old child presented with the headache, hemiparesis and lesions in the parietal lobe which was confirmed on CT while the ovarian hydatid cyst presented with liver cyst.

A case of renal hydatid complaints of swelling and pain in left hypochondrial region for last two years, gradually increasing in size. On examination it was a retroperitoneal rounded mass which is movable and cystic. USG showed mesenteric cyst, preoperatively it was arising from lower pole of kidney, colon and mesacolon was adherent to it. These were separated by surgeons with the blunt and sharp dissection and left nephrectomy was done. (Fig-1E)

Suprapubic, breast, urachus, tibia, ovary and submandibular region are the rarest of all (0.60% or 1 case) each. Total 29 cases of breast hydatid reported in the literature out of which ten is from India 12,13.

A single case of breast hydatid was presented as hanging lump, attached to the breast tissue below nipple, USG showed a cyst. During aspiration clear fluid was aspirated, centrifuged and scolices were seen in the wet preparation microscopically, hence confirmed by FNAC.

The submandibular lump was a cystic mass, ms 8x10 cm while the tibial hydatid presented as pathological fracture, both were turned out to be hydatid, intraoperatively. Suprapubic and urachal cysts were confirmed sonographically.

Nine cases were presented with multiple site involvement. Practically no organ is immune to infestation by hydatid disease. In India incidence of hydatid at unusual site is higher as compared with other parts of the world<sup>14</sup>. The fact is supported by our study also.

Hydatid disease at unusual sites may create confusion and can give false diagnosis on clinical examination, but all were confirmed and diagnosed histopathologically.

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