

Original Article

Hydatid Cyst of Unusual Sites, An Experience at Chandka Medical College Larkana

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ABSTRACT

Background: Hydatid cyst occurs throughout world but more in endemic areas where human beings live in close contact with cattle and dogs. Common organs affected by hydatid cyst are liver and lung but rarely occurs in other organs as well.

Objective: To evaluate the unusual sites of hydatid cyst in human beings, this will help the clinicians in early diagnosis and management.

Study Design: Observational

Place & Duration: The study was conducted in the Department of Pathology, Chandka Medical College Larkana from January 1995 to December 2009.

Patients & Methods: Total of 191 patients, admitted in various hospitals of Larkana, and operated for hydatid cyst or incidental findings at histopathological examination were included. All the fixed biopsies were cut into representative tissue blocks, processed, stained for haematoxylin and eosin and examined under light microscope.

Results: Total of 191 cases of hydatid cyst were received in 15 years, out of which 119 (62.3%) cases occurred in liver with mean age 41.27 ± 16.27 SD, 44 (23%) in lung with mean age 44.04 ± 15.81 SD and remaining 28 (14.7%) in other uncommon organs.

Conclusion: The presence of hydatid cyst in uncommon sites in Larkana is 14.7%, hence possibility of hydatid cyst in almost every organ of the body should be suspected.

Keywords: Hydatid cyst, Unusual sites, Echinococcus granulosus.

INTRODUCTION

Hydatid cyst occurs through out world but is endemic in Middle East and other parts of the world, including Pakistan, India, Africa, South America, New Zealand, Australia, Turkey & Southern Europe^{1,2,3,4,5}. It is chronic disease, posing lot of health and economical challenges for many countries⁶. Because of frequent, easy traveling many new cases are nowadays being observed in non endemic areas⁷. It is common Zoonotic disease caused by echinococcus granulosus occurring in areas where people keep cattle, sheep and dogs near their living areas^{5,8,9,10}. Humans play the role of accidental intermediate hosts¹. The growth of cyst is often insidious, and becomes symptomatic only late in the course of disease¹¹. Usually duration of cyst formation from the ingestion of the eggs by a host, up to symptomatic stage of the disease is 10-12 years. However this period depends largely on the elasticity and expandability of the organ and shortens significantly upon rupture of the primary cyst¹².

In humans the infestation by echinococcus is acquired incidentally by ingestion of eggs¹³ which are resistant to many environmental conditions and are excreted in the feces of dogs^{14,15}. The larvae spread through penetration of intestinal walls and most of them are

trapped in liver^{1,9}, hydatid disease in human occurs commonly in liver (55-70%) & lung (18-35%)², even though hydatid cyst, spreading via portal and systemic circulation can affect almost every organ or tissue in the body¹⁶ i.e. ovaries, abdominal wall & cavity, mediastinum, muscle, uterus, broad ligament, bones, kidney, thyroid, brain, spleen etc^{1,2,12,17,18,19}.

In view of above findings we looked at 15 years experience of hydatid cyst with an aim to see the difference in presentation of hydatid cyst in unusual sites in Larkana as compared to other parts of the world.

PATIENTS & METHODS

This was an observational study carried out retrospectively in the Department of Pathology, Chandka Medical College Larkana and private laboratories of Larkana, from January 1995 to December 2009, spanning a period of 15 years. All cases admitted in surgical units in Chandka Medical College Larkana Hospital, Gynecological departments of Shaikh Zaid Women Hospital, Larkana and private medical centers of Larkana and operated for hydatid cyst as primary diagnosis or incidental observations of cyst at histopathological examinations were included.

The specimens were fixed in 10% formal saline²⁰. 1 cm thick blocks were taken and processed in automatic processor (Microme Germany) for 16-18 hours²¹, later on paraffin embedded blocks were prepared and thin sections 5 micron thick were cut with the help of manual rotary microtome (SLEE Mainz Germany), and stained with haematoxylin & eosin²². The sections were mounted with dibutyl phthalate xylene (DPX) and examined under low power (x 10) objective and high power (x 40) objective. The slides were initially examined by Assistant Professor and later on verified by Professor of Pathology.

RESULTS

A total of 191 cases were diagnosed during the period of 15 years, 105 (55%) were males while 86 (45%) females with males to female ratio of 1.2:1. The age ranged from 13-73 years with mean age of 42.41 years $\pm$ 16.21 SD as shown in table 1. The distribution of hydatid cyst affecting organs / tissues is shown in table 2. Majority of cases were in liver 119 (62.3%) and lung 44 (23%) remaining 28 (14.7%) were at unusual sites involving thyroid, gall bladder, spinal cord, breast, spleen, ovary, orbit, peritoneum, kidney and soft tissues (Table-3). Statistics for hydatid cyst in various sites is shown in table-4, which indicates that mean age for hydatid cyst in kidney is quite significant 49.33 years $\pm$ 4.61 SD as compared to mean age of occurrence in other organs. Highest mean age is seen for hydatid cyst in orbit which is 54.50 years $\pm$ 9.19 SD whereas lowest mean age is seen in hydatid cyst of liver 41.10 years $\pm$ 16.23 SD.

The symptoms in the patients varied according to organ / site involved and some vague symptoms with fatigue and weight loss in some cases. Cases with spinal cord involvement presented with paraplegia. In one case of spinal cord there was history of rupture of main cyst with formation of multiple small cysts retroperitoneally.

Table-1: Mean age of the cases of Hydatid cyst.

N	Valid	191
	Missing	0
Mean		42.41
Median		44.00
Mode		51.00
Std. Deviation		16.21
Variance		262.80

Table-2: Distribution of cyst in various sites of body

Sites	No	%
Liver	119	62.3 %
Lung	44	23%
Unusual	28	14.7%
Total	191	100%

Table-3: Distribution of Hydatid cyst at unusual sites

Site	No	%
Thyroid	4	14%
Gallbladder	1	3.6%
Spinal Cord	5	18%
Breast	1	3.6 %
Spleen	1	3.6%
Ovary	3	10.5%
Orbit	2	7.2%
Peritoneum	7	25%
Kidney	3	10.5%
Soft tissue	1	3.6%
Total	28	100%

Table-4: Statistics for hydatid cyst

Sr. #	Site	Mean age	Std: Devi:	95 % confidence interval for mean	
				Lower Bound	Upper Bound
1.	Liver	41.10	16.23	38.15	44.04
2.	Lung	44.45	15.86	39.63	49.27
3.	Thyroid	51.50	13.02	30.77	72.22
4.	Spinal cord	43.60	18.18	21.01	66.18
5.	Ovary	51.33	9.50	27.72	74.94
6.	Orbit	54.50	9.19	-28.09	137.09
7.	Peritoneum	41.57	19.74	23.30	59.83
8.	kidney	49.33	4.61	37.85	60.80

DISCUSSION

Hydatid disease though eradicated in many countries, is still prevalent in agriculture based countries like Pakistan^{9,23}.

The Hydatid disease is more common in males than females as reported by Fahim and Salamah⁸ (males 63 %, females 33 %), which is in agreement with our study, (Males 55%, Females 45%), while in some endemic areas females are affected more than males because of living in close contacts with the parasite⁹.

The disease more commonly affects liver and lung but in 10% cases unusual sites are involved^{24,25}, whereas Elizondo¹⁹ has found hydatid cyst in 17.5 % cases to be at unusual sites and we found hydatid cyst at unusual sites in 14.7% which is quite significant.

In one of the study from India it has been reported to occur even in broad ligament of uterus¹⁷ and in an other report from Lahore it has been found in breast and neck⁹ but we did not find its presence in uterus and neck. Etaiwi & Mabreh²⁶ have reported its presence in superior rectus muscle but we could not find this in the present study. Masroor et al¹⁷ have reported a hydatid cyst of breast which we also found in our study in one case. Still a very rare presentation was reported by S Abdullah Iqbal²³ as disseminated intra abdominal hydatidosis but it was not documented in our present study.

Our study of 191 patients has revealed mean age of 42.41 years $\pm$ 16.21 SD which is comparable to mean age of 40.91 years $\pm$ 20.7 years in Middle East as reported by Fahim & Salamah⁸.

The present study has shown lowest mean age for hydatid cyst in liver is 41.1 years $\pm$ 16.23 SD and highest mean age for hydatid cyst in orbit is 54.5 years $\pm$ 9.12 SD, but other studies have not mentioned mean ages for hydatid cyst in different organs of the body^{6,7,17,23}.

Hydatid cyst of soft tissues is said to be present in less than 1% cases and we found the incidence in our study to be 0.5% which is almost similar study of Sahin et al¹⁵. In one case we found multiple small cysts retroperitoneally which were possibly because of rupture of main hydatid cyst in the spinal cord this has not been reported by any in literature to date

We found almost similar incidence of hydatid cyst in our study as compared to other studies as far as liver and lungs are concerned. We found 62.3% cases of hydatid cyst in liver as compared to 55-70%, and 23% in lungs as compared to 18-35% reported by Abu-Eshy¹⁸, Asku et al¹².

CONCLUSION

In conclusion we can summarize that cystic echinococcus is a disease manifesting in middle aged

with slight male predominance. It can affect primarily liver & lungs but no organ is spared as shown in our results, hence Physicians and Surgeons should always look for possibility of hydatid cyst in almost every organ of body.

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