CLINICO-EPIDEMIOLOGICAL PROFILE AND OUTCOME OF CASES OF HYDATID CYST- A PROSPECTIVE AND RETROSPECTIVE STUDY

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ABSTRACT

BACKGROUND

Hydatid cyst is the most common cause of cystic Liver disease world-wide. Hydatid disease is a zoonoses caused by small taeniid-type tapeworm Echinococcus. Man is an accidental intermediate and dead end host. Man does not harbour the adult worm.^[1]

The objectives of this study were- 1. to compare the treatment of retrospective and prospective cases of hydatid cyst disease & 2. to study the hydatid cyst disease.^[2]

MATERIALS AND METHODS

The study comprises of all treated cases of hydatid cyst in Dept. of Surgery, M.G.M. Medical College and M.Y Hospital, Indore retrospectively from 2007 to 2017 (100 cases) and prospectively from 1 year after the date of approval (20 cases) by local ethical committee.

RESULTS

In this study, more than half of the subjects were men with higher prevalence of disease in patients from rural areas. The mean incidence of Hydatid disease is 1.256 per 1000 admissions in general surgical wards. The disease is more prevalent among illiterate people because of more contact with cattle, poor hygiene and sanitation. Liver is the most common site of hydatid cyst disease and mostly cysts are located in the right lobe.²

CONCLUSION

1. High prevalence seen from the districts of Nimar region as compared to Malwa region because of more contact with cattle, low level education, poor sanitation and poor hygiene.
2. CECT of abdomen can be used as a tool for guiding the approach towards surgery, laparoscopic surgery being safe and yielding better results.^{[3][4]}
3. Prevention plays an important in the overall management of this disease. Proper education, creating awareness, deworming of dogs and implementing strict rules regarding the disposal of the remains of slaughtered animals can help in eradicating this disease.

KEY WORDS

Hydatid CYST, Pericystectomy, Albendazole.

HOW TO CITE THIS ARTICLE: Shukla AK, Dhakad V, Ansari M. Clinico-epidemiological profile and outcome of cases of hydatid cyst- a prospective and retrospective study. J. Evolution Med. Dent. Sci. 2019;8(07):458-462, DOI: 10.14260/jemds/2019/101

BACKGROUND

Hydatid cyst is the most common cause of cystic liver disease world-wide. Hydatid disease is a zoonoses- a group of cestode infections, caused by small taeniid-type tapeworm Echinococcus. Man is an accidental intermediate host. Man is dead-end host. Man does not harbour the adult worm.

There are 4 Species of Echinococcus which cause hydatid Disease-

- E.granulosus: the most common causative organism worldwide. In man infective larva causes "unilocular" type of echinococcosis.
- E.multilocularis: restricted to northern hemisphere. It causes "alveolar" type of echinococcosis. It has poor prognosis as compared to E.granulosus.^[5]

'Financial or Other Competing Interest': None.

Submission 21-12-2018, Peer Review 01-02-2019,

Acceptance 07-02-2019, Published 18-02-2019.

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DOI: 10.14260/jemds/2019/101

- E.oligarthus.
- E.vogeli: causes polycystic hydatidosis.

Objective

To compare the treatment of retrospective and prospective cases & to study the hydatid cyst disease.

MATERIALS AND METHODS

The study comprises of all treated cases of hydatid cyst in Dept. of Surgery, M.G.M Medical College and M. Y Hospital, Indore retrospectively from 2007 to 2017 (100 cases) and prospectively from 1 year after the date of approval (20 cases) by local ethical committee.

This study was approved by Ethical Committee and it was a part of post graduate dissertation in M. Y. Hospital, Indore.

Duration of study

10 years.

Study Design

Observational study.

Study Period

1 year from the date of approval.

Place of Study

Department of Surgery, M.G.M medical college and M.Y. Hospital, Indore.

Sample Size

Retrospective 100 cases. Prospective 20 cases.

Statistical Analysis

The data was collected and analyzed using standard statistical Pearson Chi Square, $P < 0.05$ – statistically significant. Data was entered in Microsoft excel and analysis was done using SPSS version 22.

Inclusion Criteria

- All diagnosed cases of hydatid cyst.
- Age > 18 years and above.
- Patients who give written informed consent.

Statistical Tests Applied

SEX		Group		Total
		Retrospective	Prospective	
Female	Count	42	10	52
	%	42.0%	50.0%	43.3%
Male	Count	58	10	68
	%	58.0%	50.0%	56.7%
Total	Count	100	20	120
	%	100.0%	100.0%	100.0%

Table 1. Association Between Gender and Patient Groups

Pearson Chi Square = 0.434, df = 1, P value = 0.510 Non-Significant

The above table shows the Pearson Chi square test value for the association between the gender and the patient's group.

Religion		Group		Total
		Retrospective	Prospective	
Hindu	Count	76	18	94
	%	76.0%	90.0%	78.3%
Muslim	Count	24	2	26
	%	24.0%	10.0%	21.7%
Total	Count	100	20	120
	%	100.0%	100.0%	100.0%

Table 2. Association Between Religion and Patient Groups

Pearson Chi Square = 1.925, df = 1, P value = 0.165 Non-Significant

The above table shows the Pearson Chi square test value for the association between the religion and the patient's group.

Education		Group		Total
		Retrospective	Prospective	
Illiterate	Count	68	8	76
	%	68.0%	40.0%	63.3%
Primary	Count	32	12	44
	%	32.0%	60.0%	36.7%
Total	Count	100	20	120
	%	100.0%	100.0%	100.0%

Table 3. Association Between Education and Patient Groups

Pearson Chi Square = 5.627, df = 1, p Value = 0.018 Significant

The above table shows the Pearson Chi square test value for the association between the Education and the patient's group.

Liver		Group		Total
		Retrospective	Prospective	
Yes	Count	100	20	120
	%	100%	100%	100%
Total	Count	100	20	120
	%	100.0%	100.0%	100.0%

Table 4. Association Between Liver and Patient Groups

a. No statistics are computed because Liver is a constant

Single/Multiple		Group		Total
		Retrospective	Prospective	
Multiple	Count	7	0	7
	%	7.0%	0.0%	5.8%
Single	Count	93	20	113
	%	93.0%	100.0%	94.2%
Total	Count	100	20	120
	%	100.0%	100.0%	100.0%

Table 5. Association Between Single/Multiple and Patient Groups

Pearson Chi Square = 1.487, df = 1, P value = 0.223 Non-Significant

The above table shows the Pearson Chi square test value for the association between Single/ Multiple and the patient's group.

Complicated		Group		Total
		Retrospective	Prospective	
No	Count	95	19	114
	%	95.0%	95.0%	95.0%
Yes	Count	5	1	6
	%	5.0%	5.0%	5.0%
Total	Count	100	20	120
	%	100.0%	100.0%	100.0%

Table 6. Association Between Complicated and Patient Groups

Pearson Chi Square = 0.000, df = 1, P value = 1.000 Non-Significant

The above table shows the Pearson Chi square test value for the association between Complicated and the patient's group.^[6]

RESULTS

In our study 56.7% patients were males while the rest were females. 78.3% of patient were Hindu while 21.7% were Muslim. The disease was more common in illiterate population (63.3% of total patients).

The liver was the most common organ affected with 100% of cases showing disease. In liver the right lobe was involved in all cases whereas in 5.8% of cases both lobes were involved. Biochemical studies revealed a raised LFT in 5.8% of cases while it was within normal limits in 94.2% cases.

In retrospective cases due to late presentation of patients mainly due to illiteracy and ignorance towards initial symptoms only 9% of patients could be managed conservatively.^[7] These stats increased to 15% patient treated with medical therapy in prospective group due to increased awareness towards symptoms and early diagnosis.

DISCUSSION

In our study total 120 cases had been taken, out of which 100 cases are retrospective and 20 cases are prospective. The lowest and highest age group infected were between 20-30 yr and more than 60 yrs. respectively. In our study, young adults and middle-aged individuals made up the largest proportion of surgical cases.

In this study, more than half of the subjects were men and were from rural area. Reasons such as eating raw vegetables,

close contact with domestic animals and poor hygiene were the major factors affecting disease causation.

Higher prevalence of disease in rural areas especially in district of Nimar region as compared with Malwa region was found because of close contact with soil, cattle, and dogs. In urban areas it is related to lifestyle of the population in which poor hygiene and unhealthy eating behaviors leading to hydatidosis are common. In our study we found that the mean incidence of Hydatid disease patient admitted in general surgical wards is 1.256 per 1000 admissions in general surgical wards.

The disease is more prevalent among illiterate people because of more contact with cattle, poor hygiene and sanitation. It is believed that in our sub-continent with lack of proper sanitation, the infestation of hydatid disease is more common due to ingestion of water or vegetables contaminated by the excreta of carriers and is not so frequently attributable to direct contact of the patient with the infested dog.

Abdominal pain is the most common presentation whereas lump in abdomen is second most common. The patient residing in rural area because of their ignorance usually tend to neglect an asymptomatic lump in the abdomen which does not cause any problem in their daily routine activities. When this lump gets symptomatic, they tend to seek medical advice.

In our study maximum number of patients presented to the hospital within 6 months of appearance of their symptoms. Pulmonary hydatid patients presented early as compared to hepatic hydatid.

Liver is the most common site of hydatid cyst disease and mostly cysts are located in the right lobe. Hydatid cysts can be solitary or multiple. Imaging findings depend on the stage of cyst growth. In our study Jaundice and raised LFT usually seen in very less number of patients who eventually proved to have biliary communication with their cyst or infection. The results of most laboratory screening examinations are usually normal. The diagnosis can be confirmed when radiological imaging (X-RAY USG & CT SCAN) is combined with serological tests.^{[8][9]} But serological test was not available in our case.^[10] CT Abdomen finding included simple or multicystic round lesion with water attenuation with ring like pattern of calcification in lobes of liver. Size, site, cyst wall thickening, intrahepatic or extra hepatic ruptured of hydatid cyst, subdiaphragmatic collection portal vein involvement is seen.^[11] The most common finding on plain x-rays were calcification of cyst wall or in the case of concomitant pulmonary disease, cystic shadows in the lung fields. Calcification is usually curvilinear or ring like and involves the pericyst^{[12][13]}.

CONCLUSION

1. Incidence of hydatid disease in M. Y. Hospital Indore is 1.256 per 1000 admissions in general surgical wards.
2. In our study, high prevalence is seen from the district of Nimar as compared to Malwa region because of more contact with cattle, low level education, poor sanitation and poor hygiene.
3. Disease mostly affects the liver and that too the right lobe of liver and less to left lobe of liver and when left lobe is involved right lobe is usually involved and often multiple lesions are seen.

4. CECT of abdomen can be used as a tool for guiding the approach towards surgery for assessment of depth of cyst, relation with biliary channels and venous system, hence ease of laparoscopic approach.^{[14][15]}
5. Laparoscopic surgical treatment is considered as safe and offers better results for the management of hydatid disease in liver.^{[16][17]}
6. As with other zoonotic diseases, prevention plays an important role in the overall management of this disease. Proper education, creating awareness, deworming of dogs and implementing strict rules regarding the disposal of the remains of slaughtered animals can help in eradicating this disease.

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