ORIGINAL RESEARCH PAPER

General Surgery

A STUDY ON EPIDEMIOLOGY OF HYDATID CYST OF LIVER PRESENTING TO A TERTIARY CARE HOSPITAL IN SOUTHERN PART OF ODISHA.

KEY WORDS: Hydatid Cyst, Partial Deroofing, Echinococcus.

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ABSTRACT

Background :- Hydatid disease of liver is caused by *Echinococcus* species. Main two species Echinococcus multilocularis and *Echinococcus granulosus affect humanbeings.* Definitive host being dog and Humans are incidental hosts. Hydatid cyst is more commonly found rural population; where close contact between various domestic animals and human seen. Aim of my study is to know the epidemiology, various clinical pictures and burden of hydatid disease in southern part of Odisha and management modalities with follow up studies.

Method:- Study is being carried out in department of general surgery, M.K.C.G Medical College and Hospital, Berhampur. All the patients attending outpatient department or admitted with hydatid cyst of liver during the study period is taken into consideration.

Results:- majority of cases were from rural population(90%) and female(70%). h/o contact with cattle present in 90% cases and beef consumption in 80%. Chief presenting complaint is pain abdomen. Majority of cases 70% treated with partial deroofing with omental packing of cavity. Recur

Conclusion:- As hydatid disease is a burden upon the tribal population of southern odisha due to lack of awareness, proper screening/awareness programme should be carried out for the control of disease in this part of odisha.

INTRODUCTION :-

Hydatid cyst is still a major health problem in certain parts of the world. Larval stage of echinococcous granulosus (Dog tape worm) is the cause of hydatid cyst. It is acquired after ingestion of food contaminated with tapeworm eggs excreted in dog faeces.[1-3] Predominantly two species of echinococous affect humanbeings Echinococcos granulosus (cystic echinococus or hydatid disease) and Echinococus multilocularis (alveolar echinococus).

It is a commonly found in sheep rearing countries like Australia, South Africa,north Africa, central America, Turkey, Iran, Iraq . hydatid disease also exists in India and highest prevalence reported from Andhra Pradesh and Tamilnadu[4-5]. Hydatid disease is also common in sourthen part of Odisha.

Primary site of infection is liver as it is the first filter. Lungs being the second filter is the second most common site of hydatid cyst. These two sites account for more than 90% of all hydatid cyst cases; right lobe of liver counts for arround 60-70 % of cases. It may also reach systemic circulation to reach muscle, bone, kidney, brain, kidney .

Eichnococcus is the adult tapeworm measuring about 4-6 mmlong, reciding in dog's intestine. It consists head with scolices and body comprising of three segments, last one contains about 500 ovas. Ovas get expelled into intestine and expelled to ouside. Humanbeings are infected feco-orally. Eggs hatch in intestine to form oncosphere, which by crossing enter portal circulation and reach liver.

Hydatid cyst disease remain asymptomatic for years after the initial infestation. In course of time a visisble swelling appear in right upper quadrant of abdomen. Majority of cases are detected during routine abdominal sonography for other pathology. When cyst size increases patients may complain of non specific upper abdominal pain, abdominal fullness and complications like obstructed jaundice and liver abcess.

METHODS

A prospective study was done in the Department of General Surgery of M.K.C.G Medical College and Hospital, Berhampur. 20 cases are being studied admitted to general surgery department with Hydatid Cyst of Liver from southern Odisha from july 2016 to may 2018 .

Inclusion criteria:-

- Patients presenting to surgery opd with sign and symptoms of hydatid disase of liver.
- Patients presenting with complications like infection , obstructed jaundice.

Exclusion criteria:-

- Patients with extrahepatic Hydatid disease.
- Patients with complications where diagnosis is difficult to achieve.

RESULTS

Table No 1. Sex Of The Patients.

TOTAL CASES	MALES	PERCENTAGE	FEMALES	
20	6	30	14	70

The most common sex affected is female. Female accounts for 70% of the study population and male only 30% of the study population.

Study population is devided into different age groups varying from 15 years to 45 years. Most common age group affected is 25-30 years followed by 30-35 years. 10% of cases were from age group of 15-2- 1nd 20-25 years. 10% cases were from age group 35-45 years.

TABLE NO 2. AGE OF PRESENTATION

AGE GROUP	FREQUENCY	PERCENTAGE
15-20	2	10
20-25	2	10
25-30	9	45
30-35	5	25
35-45	2	10
TOTAL	20	100

TABLE NO 3. RESIDENT OF THE PATIENTS

RESIDENT	FREQUENCY	PERCENTAGE
RURAL	18	90
URBAN	2	10

Among all the cases studied , 90 % population were from rural

area, only 10 % reside in urban area. Similarly contact with ship cattle is present in 90% of the population, h/o consumption of Beef is present in 80 % of population.

TABLE NO 4. CONTACTS WITH SHIP/ CATTLE

H/O CONTACT	FEQUENCY	PERCENTAGE
YES	18	90
NO	2	10

TABLE 5. CHIEF COMPLAINT OF PATIENT

CHIEF COMPLAINTS	FREQUENCY	PERCENTAGE
PAIN ABDOMEN	16	80
PRODORMAL SYMPTOMS	8	40
MASS ABDOMEN	07	35
JAUNDICE	01	05
OTHERS	06	30

Majority of patients presented to outdoor with complaints of pain abdomen i.e. 80% , followed by any prodormal symptoms and mass in the abdomen. On clinical examination hepatomegaly is found to be present in 80% of the cases, right hypochondriac tenderness is found in 60% of cases. Only 5 % of cases have icterus.

TABLE 6. CLINICAL FINDINGS

CLINICAL FINDING	FREQUENCY	PERCENTAGE
ICTERUS	01	05
HEPATOMEGALY	16	80
TENDERNESS	12	60
OTHERS	08	40

TABLE 7. ORGAN AFFECTED

ORGAN AFFECTED	FREQUENCY	PERCENTAGE
ONLY LIVER	17	85
LIVER +LUNGS	2	10
LIVER+SPLEEN	1	05

After proper investigations it is found that only liver is involved in 85% of cases. Among all cases right lobe of liver was involed. Both lungs and liver involved in 10% of cases. Both liver and spleen involved in 5% of cases.

TABLE 8. TREATMENT GIVEN

TREATMENT GIVEN	FREQUENCY	PERCENTAGE
PAIR	02	10
OPEN CYSTECTOMY	04	20
PARTIAL DEROOFING OF CYST WITH OMENTAL PACKING	14	70

All the patients were first treated with preoperative albendazole at a dose of 10mg/kg/day in two devided doses for 15days to 1 month. Among all the patients majority were treated by partial de roofing of cyst with omental packing. Open cystectomy was performed in 20 % of cases.. only 10 % cases were managed by percutaneous aspiration instillation and reaspiration.

Table 9. FOLLOW UP

POST OPERATIVE FOLLOW	FREQUENCY	PERCENTAGE
PATIENT WITHOUT RECURRENCE	19	95
PATIENT WITH RECURRENCE	0	0
PATIENT DIED	1	5

All the patients were followed up post operatively. Recurrence of cyst is not found in any case, but 1 of the cases died in 4th post operative day.

DISCUSSION :-

"Hydatid disease is characterized by cystic space - occupying lesions in the liver, lungs and rarely in other parts of the body"[7]. Hydatid disease of liver is one of the endemic disease in India. The annual incidence is varying, 1 to 200 per 100000 population[6]. Hydatid cysts are usually slow growing and diagnosing a case or appearance of symtoms may require 6 months to several years after exposure.[8] A retrospective study is been carried out in the Departmet of General Surgery in M.K.C.G medical college for a period of 18 months. A total of 20 cases of Hydatid disease of liver cases are being studied and analysed in accordance with their age, sex, residence, symptoms, clinical feature ,affected site and treatment given.

n our study it is found that the majority of the affected public are females (70%) and the most common age group affected is 25-30 years (45%). In southern odisha females are usually engaged in various household activities alomg with care of cattle and sheeps ; which may be the reason for increased number of cases among females. Distribution of sex shows a varied result in different study it is in accordance with few studies. In a similar researches done by Al Barwari et al, and Jawed Akther et al, maximum cases were females, housewives [9-10].

It is also found that majority of cases were from rural area (90%), specifically of gajapati distirct of odisha. And mainly belonging to tribal community. History of contact with sheep and cattle is positive in majority of cases(90%). So its a alarming situation in the tribal area of southern part of odisha . Due to typical nature of the disease maximum cases are reported late to our hospital .

Among various complain with which patient presented to us pain abdomen was the complain of the majorities(80%) followed by prodermal symptoms and mass in the abdomen. This result shows similar criteria to that of study done by veenukumar.R in astudy conducted in Mount Zion Medical College, Chayalode, Adoor, Kerala [11]. Similarly in clinical examination hepatomegally is found in majority of the cases and tenderness in right upper quadrant is also observed in 60% cases. This is mainly due lack of routine examination and health consciousness among rural population in southern part of odisha.

Similarly in clinical finding it is found that hepatomegaly is present in 80% cases. As Hydatid disease remain asymptomatic for many days , it allows the cyst to grow in size to become as a palpable mass per-abdomen. Tenderness was present in 60% cases . it may be due to infected hydatid or as a pressure effect. Icterus is only found in 5% of cases. Icterus may be due to cyst compressing common bile duct or invasion of bile duct. Former is less dangerous complication than the later one.

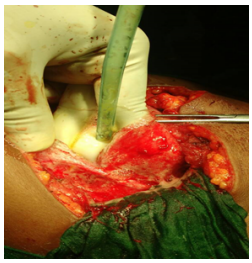
Among all the cases of hydatid disease of liver only liver is affected in 85% of cases. Next common organ to get affected by hydatid disease was lungs in 10% of cases. Liver acting as first filter gets the maximum load second filter being lungs get the next highest load. Hydatid disease of lung may present with hydrothorax and shortness of breath or any similar complains. It is diagnosed by ultrasound or HRCT of thorax . Only 5% of cases had another cyst in spleen along with liver .



PICTURE 01. DAUGHTER HYDATID CYSTS

In treatment all the cases were first treated with oral albendazole at dose of 10mg/kg/day in two devided doses for 15 days to 1 month time. Maximum patients were being treated by partial de roofing of the cyst and omental packing inside the cavity. After visualisation of the cyst fluid is aspirated and scolicidal agents like hypertonoic saline/hydrogen peroxide/25% povidine iodine is instillated into the cavity and held for few times. Then with proper abdominal packing with scolicidal soaked tetra pericyst opened and all the contents evacuated. Then a partial deroofing is done along with sutring of margins and omental packing. As many of the cases represent late with huge cyst size so this is found out to

be a safer surgery with better long term follow reports. 10 % of the cases were done percutaneous aspiration instilation and reaspiration with scolicidal agents under ultrasonic guidance. 20% cases open cystectomy was performed.



PICTURE 02. PARTIAL DEROOFING OF CYST WALL

All the cases were followed post operatively. One case died in 4th post operative day as it had a infected cyst. So patient developed septicaemia .patient was shifted to ICU in 2nd post operative day. But succumbed to it in 4th post operative day. All the other cases recovered well without any major complications. Cases were treated with post operative albendazole at doses 10mg/kg/day for 1 year. During follow ups recurrence is not seen any of the cases.

CONCLUSION:-

Majority of cases were from rural/tribal communities. Majority cases were treated with partial deroofing of cyst with better follow up result. As majority of cases are from beef eating tribal population of southern odisha ; it may be urged upon the Govt authorities to take up an awareness/screening programme to contain the spread of this disease.

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