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Surgery: Current Research

Case Report

# Multiple Intracerebral Intraventricular Hydatid Cysts

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## ABSTRACT

**Introduction:** Intracranial multiple hydatid cyst is a rare entity, caused by parasite Echinococcus granulosus. Patients are usually children and present with sign and symptoms of raised intracranial pressure. Excision of the cyst is treatment of choice.

**Case Description:** This is a case of 7 years old child presents with nonspecific symptoms and diagnosed as multiple cranial hydatid cysts and underwent complete excision followed by medical therapy.

**Conclusion:** This rare entity needs careful complete excision as rupture may cause a fatal anaphylactic reaction and need albendazole therapy.

**Keywords:** Hydatid cyst of the brain; Multiple intracerebral Hydatid cysts; Intraventricular hydatid cyst of brain

**Abbreviations:** GCS: Glasgow Comma Score; CT: Computed Tomography; MRI: Magnetic Resonance Imaging; ICP: Intra Cranial Pressure

## CASE DISCUSSION

This is a case of 7 years old boy came to the clinic with complaints of headache, low-grade fever and vomiting for last 1 and a half year and one episode of fits 1 week back. He had a history of contact with pet animal. On examination he was drowsy but arousable GCS was 13/15 that is eye-opening to speech, obeying command and confused. There was bilateral papilledema on fundoscopy. Cranial nerves were normal and no signs of meningeal irritation. The child was admitted in Pediatric ward.

Hematological workup showed positive echinococcus titers. MRI done, showed multiple cystic lesions on left hemisphere involving the left lateral ventricle as shown in (Figure 1). CT scan abdomen was done which showed calcified hydrated cyst in liver as shown in (Figure 2).

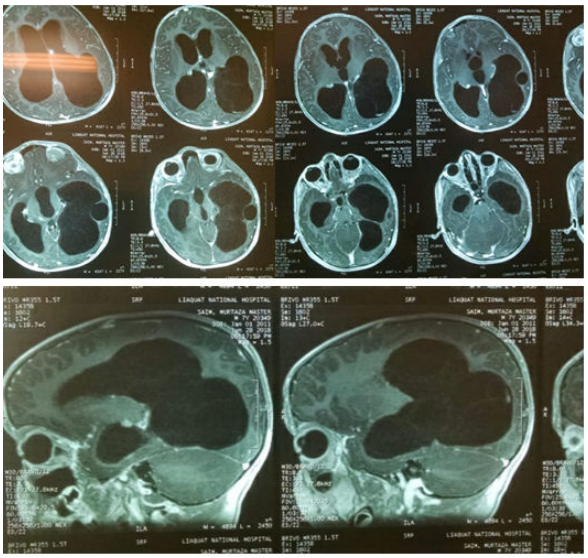

**Figure 1:** Showing multiple hydatid cysts of the brain involving lateral ventricles.

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**Received date:** September 12, 2019; **Accepted date:** September 20, 2019; **Published date:** September 25, 2019

**Citation:** Saghir MA, Hussain F, Rafay M (2019) Multiple Intracerebral Intraventricular Hydatid Cysts. Surgery Curr Res 9:329. doi: 10.35248/2161-1076.19.9.329

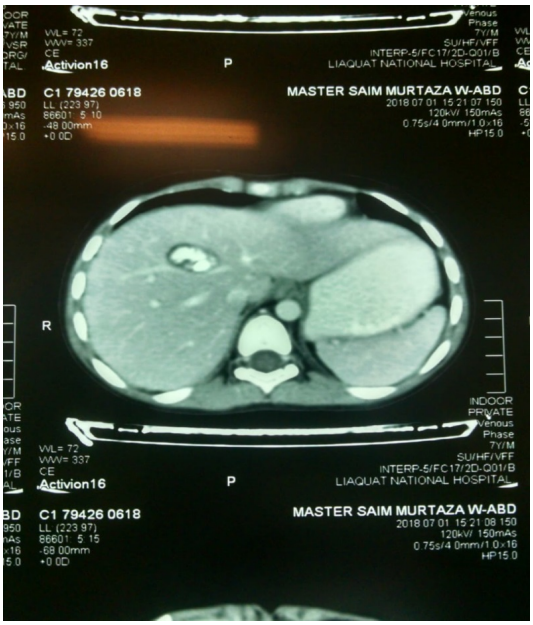


**Figure 2:** CT scan abdomen showing calcified hydatid cyst of the right lobe of liver.

He underwent insertion of external ventricular drain and Left parieto-temporal craniotomy with excision of the cyst. Cysts were communicating with all horns of lateral ventricle and were blocking foramen of Monroe, causing hydrocephalus. Multiple daughter cysts were found within a cyst. Post-operative CT scan is shown in (Figure 3).


**Figure 3:** Post-operative CT scan.

## DISCUSSION

Echinococcus granulosus is a zoonotic parasite which basically causes Hydatid Disease. It is more common in China, India, Australia, New Zealand, South America, Russia, France, and the Middle East countries [1,2]. Humans develop echinococcosis by ingesting viable parasite eggs with foods [3], the definitive hosts are dog, wolf, fox, and other sylvatic carnivores and the intermediate hosts are sheep, goat, cattle, camel, horse and sometimes humans, it is transmitted by ingestion of contaminated foods or water which is caused by scolex or eggs.

Most commonly they are seen in children (50%-75%) and young adults [4-6]. The liver is the organ which gets affected most commonly (77%) which is followed by the lungs (43%) [7-10], and rarely in other organs such as brain, heart, muscle, bone, and eye. In 2% of cases Hydatid cysts have been reported in the brain [4,5]. In brain they can be classified as primary and secondary. Primary only involves brain and secondary disease also involves other organs [11]. Primary is usually single and secondary is usually multiple [12,13]. They usually involve tertiary of middle cerebral artery [4,7]. Involvement of brain is more commonly seen in children. Cerebral involvement is seen in 1%-2% of patients, predominantly in the parietal lobe [13]. Intracranial hydatid cysts are usually solitary. Multiple intracranial intraventricular cysts are very rare. Treatment is complete excision of cyst and antihelminthic therapy i.e. albendazole.

hydatid cysts in the brain can grow as fast as 1-10 cm a year and symptoms are often related to elevated intracranial pressure and focal neurological deficit [14]. MRI and CT scans demonstrate non- enhancing spherical cysts [15,16]. Mostly in our patients, typical symptoms of rising ICP were not present and the main problems and complaints which comes from the patient and seeking treatment, were fever, headache. The principal part of treatment is Operative removal of the cyst. In our patient around 53 daughter cysts were counted at the end of surgery.

Ruptures of the cyst could cause hypersensitivity reaction reactions and this can be the foremost common complication of the surgery, however different complications like hematoma, pneumocephalus or herniation can also occur [2]. Despite the numerous numbers of the cyst [3] and adhesion to close tissue in our patient, he failed to expertise any complication. It seems that different connected factors like adhesion to close tissue [2], the severity of intracranial pressure, access to the field, and expertise of the surgeon could influence the result.

The technique which does best for excision of the cyst is gentle decortication, adequate craniotomy, and enough time spending while performing the surgery. Dowling-Orlando technique is a method of choice, in which the cyst is delivered by lowering the head of the operating table and pushing warm saline between the cyst and the surrounding brain tissue to break adhesions [17].

## CONCLUSION

Multiple intracerebral hydatid cysts are rare disease usually caused by ingestion of larva of Echinococcus granulosus. These cysts need complete excision and rupture may cause a fatal anaphylactic reaction. Prognosis is good with complete removal of disease.

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