ejpmr, 2022, 9(2), 9-11

SJIF Impact Factor 6.222

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Case Study

ISSN 2394-3211

EJPMR

HEPATIC PENETRATION BY DISTAL END OF VENTRICULOPERITONEAL SHUNT: A RARE COMPLICATION, A CASE REPORT

Dr. Neeraj Salhotra*, Dr. Mahmood Al Hatali, Dr. Ahmed Tolba, Dr. Salim Al Abri, Dr. Ahmed Wadee, Dr. Kauthar Al Zakwani, Dr. Shalini Adhikari and Dr. Jehad Al Habsi

Consultant Neurosurgeon Khoula Hospital Muscat Oman.

***Corresponding Author: Dr. Neeraj Salhotra**

Consultant Neurosurgeon Khoula Hospital Muscat Oman.

Article Received on 28/11/2021 **Article Revised on 19/12/2021** **Article Accepted on 09/01/2022**

ABSTRACT

The most common procedure to deal with hydrocephalus is ventriculoperitoneal (VP) shunt. The purpose of the shunt is to drain cerebrospinal fluid from cerebral ventricles to abdominal cavity. Many complications of VP shunts have been reported such as infection, obstruction, overdrainage. Abdominal complications occur in ~15–25% of VP shunts in pediatric patients, such as peritonitis, hernia, abscess, perforated colon, perforated bladder and abdominal pseudocyst. However, sub-capsular effusion of liver is a rare complication of VP shunt. In this case report, We described an unusual case of VP shunt complication in a 2-year-old child who presented with intermittent fever and abdominal pain.

KEYWORD: Hepatic perforation.

INTRODUCTION

Ventriculoperitoneal (VP) shunt is one of the most frequent treatment for hydrocephalus, used to drained excessive cerebrospinal fluid (CSF) accumulated in cerebral ventricles into abdominal cavity to balance the secretion and absorption of CSF. However, the incidence of complications of VP shunt was up to 30%. Abdominal complications occurred in ~15–25% of VP shunts, such as peritonitis, hernia, abscess, perforated colon, perforated bladder and abdominal pseudocyst. In this case report and literature review, we discussed a rare case of sub-capsular effusion of liver after VP shunt distal end penetrated the hepatic substance and also discussed management method to deal with it.

CASE REPORT

This child presented to our hospital with history of headache and vomiting and ataxic gait. Patient on examination had cerebellar ataxia and papilloedema. CT and MRI revealed large vermian lesion with obstructive hydrocephalus. After explaining all possible risks and benefits of surgery and family accepting them, patient underwent a emergency ventriculoperitoneal shunt and after few days definitive posterior fossa craniotomy and near total excision of the tumour. Postoperative period was uneventful. Histopathology came to be medulloblastoma and patient was sent to paediatric oncology for chemotherapy. There patient started having low grade fever. General investigation were within normal limits. However abdominal ultrasound and CT abdomen revealed hepatic perforation by distal end of shunt and forming a pseudo cyst.

Fig. 1: CT scan of patient showing large posterior fossa medulloblastoma.

Figure 2: Postoperative scan of the patient after excision of lesion.

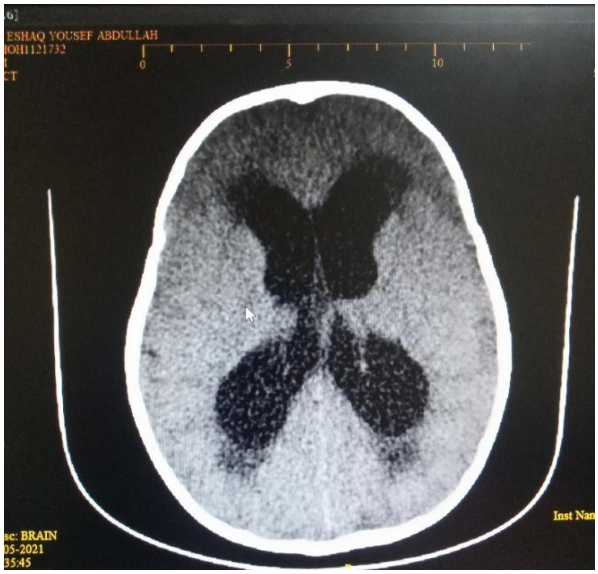

Fig. 3: Hydroephalus due to medulloblastoma.

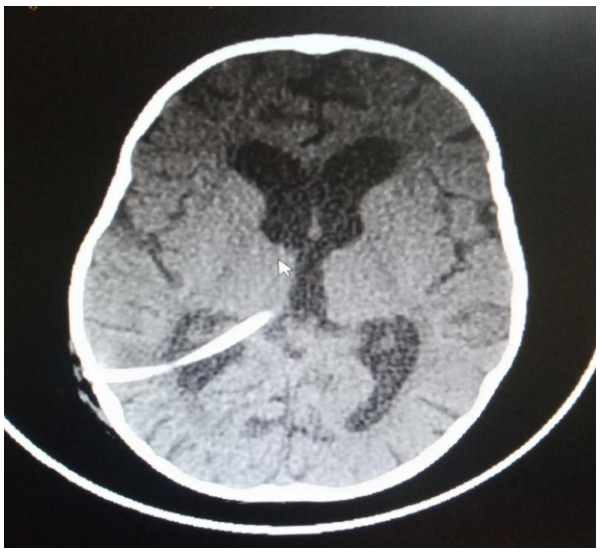

Fig. 4: CT brain of patient after VP shunt insertion for hydrocephalus prior to tumour excision.

Fig. 5: Hepatic pseudocyst created by the distal end of VP shunt.

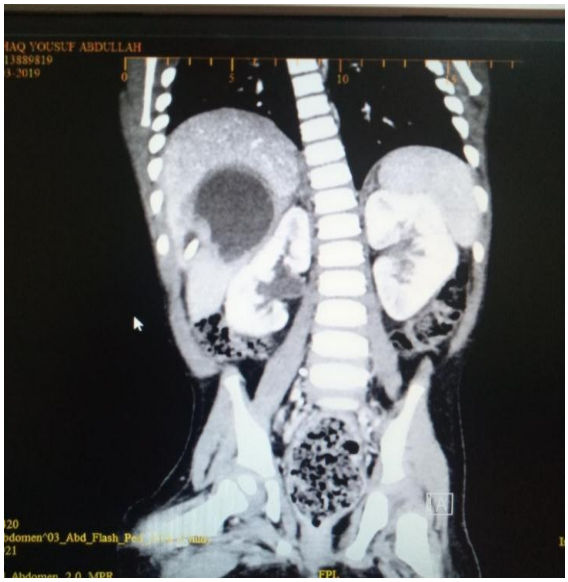

Fig. 6: Coronal view of pseudocyst in liver due to the shunt.

Fig. 7: Sagital view of the shunt pemetration.

Patient underwent removal of the shunt and an external ventricular drain was kept in situ closed with instructions to be opened if any deterioration. However child remained fine and EVD was removed after 8 days.

Child completed his chemotherapy and is now on follow up.

DISCUSSION

HuangLT in 1998 described their case of heaptic perforation by the shunt catheter resulting in a pyogenic liver abscess.[1] Ruiping Zhang in 2017 reported their patient where subcapsular effusion resulted due the shunt penetration similar to our case.[2] Shen MC in 2003 reported another liver abscess following shunt and Yang TK in 2013 reported multiple liver abscesses following cathter perforation.[3,5] Kolic Z in 2010 described his patient developing after VP shunt a pseudocyst developing after distal end penetrated the liver substance.[4]

CONCLUSION

Here, we presented a rare case of sub-capsular effusion of liver to improve the knowledge of VP shunt complications. We are aware of careful operation to avoid the occurrence of complications related to VP shunt. Furthermore laparoscopic abdominal insertion is nowadays considered very important to reduce these complications. Additionally, regular postoperative follow-up is most important to monitor possible complications. The prevention is always the best treatment.

REFERENCES

1. Huang LT, Chen CC, Shih TT, Ko SF, Lui CC. Pyogenic liver abscess complicating a ventriculoperitoneal shunt. Pediatr Surg Int, 1998; 13: 6–7.
2. J Surg Case Rep., Oct, 2017; 2017(10): rjx211.Published online 2017 Oct 20. doi: 10.1093/jscr/rjx211PMCID: PMC5798134P MID: 29423150 Sub-capsular effusion of liver as a rare complication of ventriculoperitoneal shunt in a child Ruiping Zhang, Jungang Liu, Yizheng Wang, Lirong Cao, and Chunquan Cai
3. Liver abscess caused by an infected ventriculoperitoneal shunt. Shen MC, Lee SS, Chen YS, Yen MY, Liu YC.J Formos Med Assoc, Feb., 2003; 102(2): 113-6. PMID: 12709741
4. Kolić Z, Kukuljan M, Bonifačić D, Vukas D. CSF liver pseudocyst as a complication of a ventriculoperitoneal shunt. Wien Klin Wochenschr, Nov., 2010; 122(21-22): 641-4. doi: 10.1007/s00508-010-1474-2. Epub 2010 Oct 22. PMID: 20963636.
5. Multiple liver abscesses associated with ventriculoperitoneal shunt infection: case report and review of the literature. Yang TK, Sim KB.J Korean Neurosurg Soc., Nov. 2013; 54(5): 441-3. doi:10.3340/jkns.2013.54.5.441. Epub 2013 Nov 30.PMID: 24379956