

Original article

Pediatric Hepatoblastoma: A Case Report in Misrata, Libya

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Abstract

Hepatoblastoma is primary liver tumor, as a pediatric cancer representing 1% and mainly affect infancy to 5 years of age. it's most common malignant in young children, Representing about 79% of all liver tumors in children. 100 cases reported per year of hepatoblastoma, most common site of hepatoblastoma is right lobe of liver; the most common site of metastasis is lung and the etiology of hepatoblastoma is unknown. We report the case of A 6- months- old male, admitted to the pediatric surgery department on April 20, 2024. The patient physical exam was abnormal due to liver palpable below costal margin more than 2 cm and diagnostic as hepatoblastoma. Hepatoblastoma is uncommon liver cancer in young children, that's representing 1.5 cases per million of population in the world wide, we are early discovered of the hepatoblastoma case and treated surgically.

Keywords: Children, Hepatoblastoma, Liver.

Introduction

Hepatoblastoma is primary liver tumor, it's the most common in young children. As a pediatric cancer representing 1% and mainly affect infancy to about 5 years of age. it's the most common malignant in young children, representing about 79% of all liver tumors in children. 100 cases reported per year of hepatoblastoma. Most common site of hepatoblastoma is right lobe of liver and the most common site of metastasis is lung. Hepatoblastoma more common in white young children than black one and its more common in boys than girls. Mainly cause of hepatoblastoma unknown, but there are many risk factors of hepatoblastoma including familial adenomatous polyposis, hemihypertrophy, Beckwith- Wiedemann syndrome, biliary atresia, premature children. and long exposed to hepatitis B as an important risk factor of hepatoblastoma. The following case of hepatoblastoma discussed a 6-months old male, admitted to the pediatric surgery department. Presented with Right Hypochondrium swelling Noticed by his mother associated with fever, loss of feeding, vomiting, loss of weight.

Case presentation

A 6- months- old male, admitted to the pediatric surgery department on April 20, 2024. The patient physically was abnormal due to liver palpable below costal margin more than 2 cm. Lab results including: WBC {18.29*10(9)/L}, Hemoglobin {11*10(9)/L}, platelet count {531*10(9) /L}, Total Bill {0.34*10(9)/L}, ALT {215*10(9)/L}, AST {86*10(9)/L}, ALP {236.6*10(9)/L} and CRP {162.2*10(9)/L}; also viral screening was negative. Abdominal ultrasound performed; Which revealed to hyperechoic vascular was defined mass 7*8 cm limited at right lobe of liver. CT scan showing Right Hypergenic mass at Right lobe of liver Figure (1). Fine Needle Aspiration Cytology (FNAC) done; was consistent small blue round cells tumor indicated to Hepatoblastoma. The partial hepatectomy and Cholecystectomy, done due to compressing the tumor on gall bladder and surrounding structure. The resection of mass with part of normal liver tissue and drain tube inserted in Harrison pores and given 1 unit blood. Histopathology biopsy sent and the results; Tumor mass measuring 8cm in greatest diameter in 4 segment or two sections of right lobe, no evidence of perineural invasion, no evidence of lymph vessel invasion, no evidence of blood vessel invasion, no evidence of tissue necrosis. Gleason hepatic capsule free of tumor tissue invasion. Free left medial surgical margin of tumor tissue invasion (The closed margin to tumor tissue 3mm). gall bladder and related lymph node free of tumor tissue metastasis. TNM classification

(PRETEXT 2, One L.N0, V0, L0, pn0, R0). The patient was conscious, crying and vitally stable. Given claforan 400 mg 1*3, gentamycin 18mg 1*2, perfelgan 70 mg 1*1*3 Ds, IVF (33ml/hrs. to 45 ml/hrs.) and milk feeding orally after NPO. discharged on April 24, 2024 with Augmentin 600mg 1*2*5Ds and Paracetamol suppository 125mg 1*3*3Ds and the child underwent just on follow-up after six month and ultrasonography showed liver normal and Normal investigation included; (WBC $10.4 \times 10^9/L$), HGB $12.3 \times 10^9/L$ }, PLT $468 \times 10^9/L$ }, Glu 102 mg/dl, T-Bil 0.11, D-Bil $0.09 \times 10^9/L$ }, ALT $17.1 \times 10^9/L$ }, AST $44 \times 10^9/L$ }, ALP $397 \times 10^9/L$ }, AST/ALT $2.6 \times 10^9/L$ }, TP 4.9 g/dl, Urea 8.37 mg/dl, CREA 0.35 mg/dl, IBIL 0.5, ALB 4.7, Glo II 1.9, A/G II 24.8}; and improved progressively.

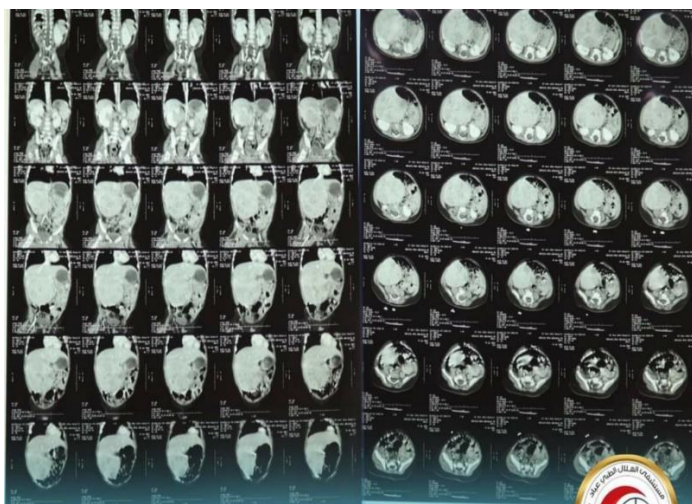


Figure 1. CT-scan showing mass at Right lobe of Liver,

Conclusion

Hepatoblastoma is uncommon liver cancer in young children, that's representing 1.5 cases per million of population in the world wide, it was difficult to have international staging criteria prior to the PRETEXT staging criteria. We are early discovered of the hepatoblastoma case and was a treated by surgically (partial Hepatectomy) only as a mainly typically treated of hepatoblastoma in pediatric surgical department of Al-Helal Abbad Medical Misrata Hospital. After surgery the child underwent just on follow-up with an improved progressively. The patient didn't have chemotherapy or Radiotherapy after surgery according to histopathology results and TNM classification was PRETEXT 2, one LN0, V0, L0, pn0, R0. But as we know that many clinical trials showing combination. Chemotherapy, Radiotherapy and surgical options and lobectomy, to be the standard of care for this condition mainly of advanced case of hepatoblastoma.

Discussion

The most of hepatoblastoma cases presented with palpable enlarged abdominal mass. The right lobe involved commonly than left lobe and both affected in 20-30% of cases and multicentric in 15%. Hepatoblastoma may be associated with uncommon symptoms as anorexia, weight loss and pain. Lab and imaging investigation done. The biopsy it's important to confirm the diagnosis of hepatoblastoma and PRETEXT staging was; PRETEXT 2, one LN0, V0, L0, pn0, R0. And we used PRETEXT stages to help us in the treatment:

Stage I: Complete surgical resection.

Stage IIa: residual intrahepatic microscopic disease, Complete macroscopic surgical resection.

Stage IIb: residual extrahepatic microscopic disease, Complete macroscopic surgical resection.

Stage IIIa: Incomplete surgical resection with macroscopic residual and/or significant tumor spill and/or positive lymph node disease.

Stage IIIb: Tumor not resectable.

Stage IVa: Distant metastatic disease, primary tumor completely resected.

Stage IVb: Distant metastatic disease, primary tumor incompletely resected.

The etiology of hepatoblastoma unknown, and the metastasis occurred in 10-20% of patients. The common site of metastasis is lung, and other sites of metastasis is brain and bone as a rare site of metastasis. The standard care in patient with hepatoblastoma is surgically (Lobectomy) as an initial treatment and achieve long- term disease free survival by eradicated all areas of disease. But in some cases, underwent for liver transplantation due to non

resectable tumors or chemotherapy resistance. Non resectable tumors associated with large in size, excessive bleeding, involvement both the right and left lobe, extended to major hepatic vein or IVC; or presented as diffuse multifocal disease. We depended mainly on surgical treatment as an initial therapy and the patient followed for 6 months with improved progressively. And there were some case report studies also used a surgical treatment in early stage of hepatoblastoma case as a most care treatment and they had an improved progressively. While surgical resection provides the best outcome and is the primary goal of the therapy; Congenital Hepatoblastoma Tumor (CHT) has implied a multimodal approach to treatment from surgery alone [1], Although one of the cases did not respond to chemotherapy very well a complete resection was achieved and therefore a disease-free survival of 15 years [2], Complete surgery is the mainstay of therapy in hepatoblastoma [3], The mainstay of the treatment is complete surgical removal of the mass [4] and some other case report studies used the combination treatment of chemotherapy and surgery in late staging of hepatoblastoma case. Combining surgery and chemotherapy could increase the percentage of patients with hepatoblastoma [5], In this case, the onset of hepatoblastoma was early, and the tumor grew rapidly, resulting in an obvious compression effect. Chemotherapy was started early after birth, and the curative effect was satisfactory [6], Management of CHs generally involve complete surgical resection of the tumor, chemotherapy and possible liver [7], Chemotherapy treatment depends on standard versus high-risk patients as well as early versus delayed tumor resection. Typically, 5 to 6 chemotherapy treatments are standard for high-risk patients. Cisplatin is the most active single agent used to treat hepatoblastoma [8].

Consent

Informed written consent was taken from the patient's parents.

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