OPEN ACCESS Freely available online

Pediatrics & Therapeutics

ISSN: 2161-0665

Opinion Article

Pediatric Hepatocellular Carcinoma: An Overview of Diagnosis and Treatment

Ann O Scheiman*

Department of Pediatric Gastroenterology and Nutrition, Johns Hopkins University, Baltimore, USA

DESCRIPTION

Hepatocellular Carcinoma (HCC) is the most common type of primary liver cancer in adults. However, it is relatively rare in children, accounting for only 0.5% to 2% of all pediatric malignancies. Pediatric HCC is a highly aggressive tumor with poor prognosis, and its treatment requires a multidisciplinary approach involving surgery, chemotherapy, and/or radiation therapy. This article will provide an overview of the diagnosis and treatment of pediatric HCC.

The diagnosis of pediatric HCC is often challenging due to its rarity and nonspecific symptoms. The most common symptoms include abdominal pain, weight loss, and jaundice. Laboratory tests may reveal elevated levels of Alpha-Fetoprotein (AFP) and liver enzymes. Imaging studies, such as ultrasound, Computed Tomography (CT), and Magnetic Resonance Imaging (MRI), are essential for the diagnosis and staging of HCC. Imaging features of HCC may include a mass with arterial enhancement and delayed washout on CT or MRI. In some cases, a liver biopsy may be required to confirm the diagnosis.

The risk factors for pediatric HCC differ from those in adults. In children, chronic hepatitis B or C infection, which are the primary risk factors for HCC in adults, are rare. Other risk factors include metabolic disorders such as glycogen storage disease type I and III, tyrosinemia, and Wilson disease. Additionally, exposure to aflatoxin, a toxin produced by a fungus commonly found in contaminated food, has been implicated in the development of HCC in some children.

Staging of HCC is essential for determining the appropriate treatment strategy. The most widely used staging system for HCC in children is the PRETEXT (pre-treatment extent of disease) system, which is based on the extent of tumor involvement and vascular invasion. The PRETEXT system divides the liver into four segments and assigns a score based on the number of involved segments and the presence of vascular invasion.

The treatment of pediatric HCC depends on several factors, including the stage of the disease, the age of the child, and the underlying liver function. The treatment may involve surgery, chemotherapy, radiation therapy, or a combination of these modalities.

Surgery is the preferred treatment for localized HCC in children. The goal of surgery is to remove the tumor with clear margins while preserving adequate liver function. Liver transplantation may be considered for children with advanced disease or underlying liver cirrhosis. However, the availability of donor organs may limit the feasibility of this approach.

Chemotherapy has been used as an adjuvant therapy for HCC in children. The most commonly used chemotherapy agents include cisplatin, doxorubicin, and 5-fluorouracil. Combination chemotherapy regimens have also been used with some success.

Radiation therapy may be used for palliation of symptoms in advanced disease or as a neoadjuvant therapy prior to surgery. The use of radiation therapy in pediatric HCC is limited due to the risk of radiation-induced liver toxicity.

The prognosis of pediatric HCC is poor, with a 5-year survival rate of less than 30%. The prognosis is influenced by several factors, including the stage of the disease, the presence of vascular invasion, and the underlying liver function. The presence of metastases is also a poor prognostic factor. Pediatric HCC is a rare but aggressive tumor that requires a multidisciplinary approach for optimal management. Early diagnosis and appropriate treatment are essential for improving the prognosis of this disease.

Correspondence to: Ann O Scheiman, Department of Pediatric Gastroenterology and Nutrition, Johns Hopkins University, Baltimore, USA, E-mail: scheimananno@gmail.com

Received: 03-Mar-2023; Manuscript No. PTCR-23-22673; **Editor assigned:** 06-Mar-2023; PreQC. No. PTCR-23-22673 (PQ); **Reviewed:** 20-Mar-2023; QC. No. PTCR-23-22673; **Revised:** 27-Mar-2023; Manuscript No. PTCR-23-22673 (R); **Published:** 03-Apr-2023, DOI: 10.35841/2161-0665.23.13.504.

Citation: Scheiman AO (2023) Pediatric Hepatocellular Carcinoma: An Overview of Diagnosis and Treatment. Pediatr Ther. 13:504.