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RESEARCH ARTICLE

ANEURYSM OF THE HEPATIC ARTERY IN AN 8-YEAR-OLD CHILD REVEALED BY A MINIMAL ABDOMINAL TRAUMA

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Abstract

Introduction: The aneurysm of the hepatic artery is a rare entity, Hepatic artery aneurysms are the second major cause of splanchnic aneurysms and account for 20% of all visceral aneurysms. The prevalence in children not determined its incidence in general and 0.5%, they are more frequent in men than in women. The clinical presentation is variable according to the compilations. n. The major risk is the rupture. Angiography is essential for the diagnosis and the treatment is based on embolization. (10)

Objective: to report the rare case of a child who presented with hemorrhagic shock following a fissure of a hepatic artery aneurysm

Observation: This is a case of an 8-year-old child (N.) who presented 20 days before her admission with a minimal abdominal trauma. The patient presented to the pediatric emergency for abdominal pain with bilious vomiting complicated one day later by a state of hemorrhagic shock, with abdominal examination of a painful mass on palpation at the level of the right hypochondrium at the level of the liver the patient presented an abdominal distension. An initial abdominal CT scan showed a large intrahepatic hematoma measuring 60 x 57 mm centered on segments IV and VII, the initial management consisted of stabilizing the patient with multiple transfusions as needed and the use of intravenous morphine for pain management. An arteriogram with hepatic artery catheterization showed a pseudoaneurysm of the proximal part of the left hepatic artery. The evolution after the embolization was marked by an improvement with a reduction of the abdominal perimeter and normalization of the biological balance the control scan objectified.

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Conclusion: Hepatic aneurysms are extremely rare. Current imaging should allow for early diagnosis before the occurrence of complications, especially rupture. CT angiography and MRI angiography is the essential examination to make the diagnosis and provide a detailed mapping of the lesion, and allows to perform an endo-vascularization

Introduction:-

The aneurysm of the hepatic artery is a rare entity, was discovered for the first time with James Wilson in 1908 following an autopsy of a priest's death. The Hepatic artery aneurysms are the second major cause of splanchnic aneurysms and account for 20% of all visceral aneurysms. the prevalence in children not determined its incidence in general and 0.5%, they are more frequent in men than in women. The clinical presentation is variable according to the compilations, it remains in general asymptomatic. The most frequent symptom is the occurrence of epigastric or right hypochondrium pain. The major risk is the rupture. Angiography is essential for the diagnosis and the treatment is based on embolization. (10)

Objective: to report the rare case of a child who presented with hemorrhagic shock following a fissure of a hepatic artery aneurysm

Observation: This is a case of an 8-year-old child (N.) with no previous medical history who presented 20 days before her admission with a minimal abdominal trauma following an indirect fall on a smooth floor during domestic play with no repercussions.

The patient presented to the pediatric emergency for abdominal pain with bilious vomiting complicated one day later by a state of hemorrhagic shock, the examination on admission showed intense skin and mucous pallor, conjunctival subicterus, tachycardia at 140, and systemic arterial hypotension at 80/50 cmhg with abdominal examination of a painful mass on palpation at the level of the right hypochondrium at the level of the liver the patient presented an abdominal distension with increase of the abdominal perimeter which was 47 cm then 49 cm.

The patient was initially admitted to the pediatric intensive care unit. The biological work-up showed a microcytic anemia at 6.7 g/100ml, with the liver work-up: ALT: ASAT: TP: GGt An initial abdominal CT scan showed a large intrahepatic hematoma measuring 60 x 57 mm centered on segments IV and VII, spontaneously dense and subcapsular ruptured, with a nodular structure measuring 14 x 12 mm intensely enhanced by PDC and coming into contact with the hepatic artery and the portal confluence, probably related to a ruptured aneurysm of the hepatic artery.



Figure 1 hepatic artery thrombosis image



Figure 2 hepatic artery thromboses image 2

the initial management consisted of stabilizing the patient with multiple transfusions as needed and the use of intravenous morphine for pain management. An arteriogram with hepatic artery catheterization showed a pseudoaneurysm of the proximal part of the left hepatic artery measured at 3x3 mm. Embolization downstream and upstream of the left hepatic artery aneurysm was performed.

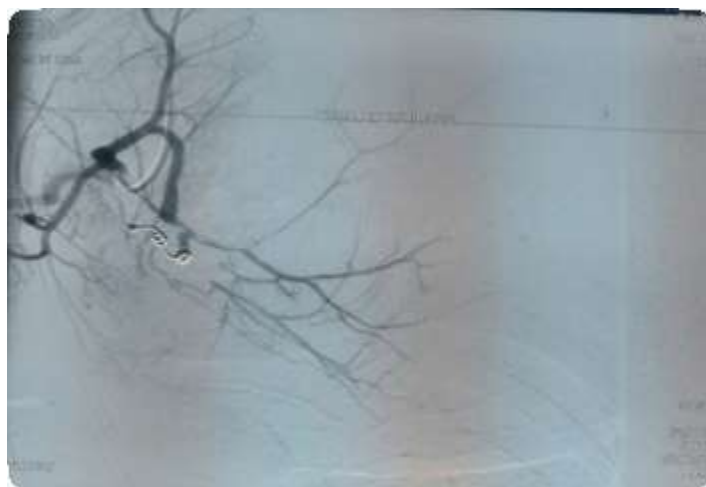


Figure 3 : aneurysm embolization



Figure 3 : embolization

the evolution after the embolization was marked by an improvement with a reduction of the abdominal perimeter and normalization of the biological balance the control scan objectified.

Discussion:-

The pathologies of the hepatic artery are multiple while the aneurysm remains a rare entity, it represents 5% of all aneurysms (10) with a predilection at the splenic site the latter represented in 1951, 20% of all aneurysms. (3)

Aneurysms of the hepatic artery are exceptional; we cannot establish a comparison due to the lack of important series; with the presence of a few rare cases in adults. This pathology was described for the first time in 1809, when James Wilson presented an autopsy to the Royal College of Surgeons, which showed a ruptured aneurysm of the left branch of the hepatic artery (1). In 1903 Keher performed the first ligation of an aneurysm and Paul performed the first revascularization. (2) Are generally described according to 3 forms: they can be circumscribed, saccular, dissecting or secondary false aneurysm (41% of cases) (4), the localization is characterized by a predominance on the right branch in 47% of cases, while our patient had a left localization. (5,6)

The etiologies in the majority of cases are not specified, as it can be mycotic in 3% of cases in adults, inflammatory in 6% of cases (8) Most of the aneurysms are not expressed clinically, or during a complication can give epigastralgia or digestive hemorrhage, or they can be manifested by a pancreatitis picture (7). Ultrasound and CT scan may suspect an aneurysm, while angiography is necessary to confirm the location, site and extent (3,8). Various treatment options are available for patients with hepatic artery aneurysms. Driven primarily by the need to maintain distal perfusion, treatment options include traditional and laparoscopic surgical techniques, endovascular embolization methods, and stenting. (11) The treatment of arterial lesions remains one of the most important difficulties of surgery given the close anatomical relationships. Hepatic artery embolization is a therapy that consists on the occlusion of the hepatic artery branches by emboli injected via selective catheterization (6,9)

Conclusion:-

Hepatic aneurysms are extremely rare. Current imaging should allow for early diagnosis before the occurrence of complications, especially rupture. CT angiography and MRI angiography is the essential examination to make the diagnosis and provide a detailed mapping of the lesion, and allows to perform an endo-vascularization.

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