We have described a case of ibuprofen-induced cholestatic liver injury who recovered completely after seven months. Hospitalization for drug-induced acute liver injury in the absence of viral infection or any other well-defined pathologic feature is a rare event. The use of NSAID has been associated with a range of hepatic abnormalities like asymptomatic increase in serum liver enzyme activity, mild reversible hepatitis, to rare instances of fatal fulminant hepatitis. The main types of acute hepatic injuries are either cyototoxic or cholestatic. Biochemical tests of the liver have been found to have inadequate sensitivity and specificity to predict serious clinical liver injury. Most abnormal liver biochemistry values found in the general population exposed to NSAID are transient. Some form of hepatic abnormality has been reported with all the currently available NSAID. Prescott concluded that diclofenac, phenylbutazone, and sulindac had a higher potential for hepatotoxicity than fenamates and piroxicam. The propionic acid derivatives currently marketed (ibuprofen, naproxen, fenoprofen) have a very low incidence of hepatotoxicity.

In the study by Garcia Rodriguez et al., of 625,307 subjects with 2,130,820 NSAID prescriptions, 23 developed liver injury, of which 5 were due to ibuprofen. Of the 23 cases, six had hepatocellular liver injury, fifteen had cholestatic liver injury, and two had mixed liver injury. In 14 of 23 patients, as in our patient, the injury developed on taking the first NSAID prescription. There was a predominance of cholestatic liver injury among patients currently using NSAID, whereas the principal type of liver injury when not using these drugs was hepatocellular. The risk factors for NSAID-induced hepatotoxicity were first dose, use of these drugs in inflammatory diseases like atrial fibrillation. We report a young man with superior mesenteric artery thrombosis, with consequent extensive intestinal gangrene extending from the proximal jejunum till the mid transverse colon. He subsequently developed dry gangrene of the digits. Further evaluation showed that he had marked hyperhomocysteinemia. The gangrenous bowel was resected, and the homocysteine level normalized with folic acid supplementation. He is well at 1-year follow up. His brother, who was asymptomatic, was also detected to have hyperhomocysteinemia, which responded to folic acid.

Case Snippets

Hyperhomocysteinemia presenting as superior mesenteric artery thrombosis

Thomas Alexander, Rajnish R, R Balakrishnan,* James F Shallam**

Departments of Gastroenterology, **General Surgery and **Cardiology, VSM Hospital, Mavelikara 690 103, Kerala

We report a 23-year-old man who presented with acute abdomen. At laparotomy, he was diagnosed to have superior mesenteric artery thrombosis, with consequent extensive intestinal gangrene extending from the proximal jejunum till the mid transverse colon. He subsequently developed dry gangrene of the digits. Further evaluation showed that he had marked hyperhomocysteinemia. The gangrenous bowel was resected, and the homocysteine level normalized with folic acid supplementation. He is well at 1-year follow up. His brother, who was asymptomatic, was also detected to have hyperhomocysteinemia, which responded to folic acid.

Superior mesenteric artery thrombosis is an important vascular cause for acute abdominal pain. It is more common among the elderly, and in those with predisposing diseases like atrial fibrillation. We report a young man with superior mesenteric artery thrombosis who on evaluation was found to have underlying hyperhomocysteinemia.

A 23-year-old man was admitted with rapid-onset, continuous, severe, non-radiating, epigastric pain of 12 hours’ duration, which was associated with a few episodes of vomiting at the onset. There was no fever, hematemesis, melena or jaundice. He was a fairly heavy alcohol consumer since five years, and had been diagnosed to have systemic hypertension since 4 months. Examination was unremarkable except for elevated blood pressure (180/110 mmHg), mild epigastric tenderness, and slugh-
glish bowel sounds. Serum amylase and lipase were normal, as was ultrasonography of the abdomen. Later on, gut infarction was suspected as his abdominal pain worsened with bowel sounds becoming absent, occurrence of melena, and development of indirect hyperbilirubinemia (7.9 mg/dL) and markedly elevated LDH (1189 U/L).

After CT scan of abdomen, he was taken up for emergency laparotomy. This showed a 2-cm thrombus in the trunk of the superior mesenteric artery, with extensive intestinal gangrene extending from the proximal jejunum to the mid transverse colon. The proximal 90 cm of jejunum appeared relatively viable. The gangrenous intestine was resected and end-to-end anastomosis was performed.

On the second postoperative day, he developed painless, blackish discoloration of the hallux and second toe of the right foot, and was started on low-molecular-weight heparin. By the seventh postoperative day he developed a similar superficial dry gangrene of the left hallux. He was evaluated for vasculitis and hypercoagulable states (ANA, RA factor, anticardiolipin antibodies, protein S, protein C, and homocysteine). All of these were normal, except serum homocysteine which was grossly elevated (178.30 µmol/L; normal <15). Ectopia lenti, skeletal deformities and mental retardation were absent.

He was started on oral folic acid (5 mg/day) to which he had good clinical response, with progressive recovery of the digital gangrene. No further vascular events occurred. Serum homocysteine was normal (8.65 µmol/L) after 6 months' therapy with folic acid. At one-year follow up, he is asymptomatic.

His brother, who was asymptomatic, was also found to have elevated serum homocysteine (88.8 µmol/L). He too was administered folic acid and after 6 months his homocysteine levels also had normalized (12.02 µmol/L).

Hyperhomocysteinemia is a well-recognized cause of macrovascular thrombosis and associated sequelae. The most common site of involvement appears to be the coronary arteries. The cerebrovascular arteries and retinal vasculature are some of the other commonly affected sites. To the best of our knowledge, there has been only one earlier report of superior mesenteric artery thrombosis due to hyperhomocysteinemia.

The postulated mechanisms of thrombosis in this metabolic disorder include endothelial dysfunction, proliferation of vascular smooth muscle cells, lipid peroxidation and oxidation of LDL, which are presumably mediated by reactive oxidant stress. Various causes for hyperhomocysteinemia have been described, with a genetic inborn error of metabolism being often found in those with very high serum levels. The markedly elevated homocysteine level in our patient and his sibling suggests that a genetic cause was operative.

References

Inflammatory pseudotumor of gall bladder fossa of liver

Deepali Jain, Ashim Das, Vikas Gupta, Madhu Gulati

Departments of Histopathology, *General Surgery and **Radiodiagnosis, Postgraduate Institute of Medical Education and Research, Chandigarh 160 012

Inflammatory pseudotumor has been described in the lung, liver and other sites, but pseudotumors of the gall bladder fossa have not been reported earlier. We report a 39-year-old woman with inflammatory pseudotumor of the liver in the gall bladder fossa that resembled carcinoma gall bladder. [Indian J Gastroenterol 2005;24:79-80]

Inflammatory pseudotumor is a tumor in the sense of a mass lesion, which is known to occur in almost every organ. Some of these fibroinflammatory masses are associated with infection and are characterized by proliferation of spindled histiocytes and follicular dendritic cells, in contrast to myofibroblast proliferation, also known as inflammatory myofibroblastic tumor. The liver is the second most common site of inflammatory pseudotumor, but none of the reported series has described its occurrence in the gall bladder fossa.

A 39-year-old woman presented with pain in the right hypochondrium since 12 months. Her appetite, and bowel and urinary habits were normal. She had no history of intake of oral contraceptives. The liver and renal function tests and hematological parameters were normal. Serum was negative for HBsAg and anti-HBs. Alpha-fetoprotein level was 8 ng/mL (normal <15). Ultrasonography showed a mass in the gall bladder fundus with infiltration into the liver; the common bile duct (CBD) was normal. A possibility of carcinoma gall bladder was considered. Ultrasound-guided fine-needle aspiration cytology showed benign epithelial cells in a background of inflammatory cells. A contrast-enhanced CT scan showed thick-walled gall bladder forming a heterodense mass with infiltration into segment IV of the liver. The CBD was normal and no significant lymphadenopathy was seen. The other viscera were normal.

At surgery, there was a gall bladder mass that was infil-