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Objectives

Acute Human Cytomegalovirus Infection (HCMV) is an unusual cause of venous thromboembolism, and physicians should be aware of its occurrence in immune-competent patients presenting with fever and abdominal pain.

Methods: We report on two women with splanchnic thrombosis during acute HCMV infection.

Results: **Case 1:** A 62-year-old previously healthy woman was admitted with high-degree fever and abdominal pain lasting for several weeks, impaired liver function tests (LFT) (AST/ALT 333/433 IU/ml, GGT 296 IU/ml, ALP 221 IU/L) and raised inflammatory indices. Abdominal ultrasound (US) showed a complete thrombosis of the left portal branch. Contrast-enhanced ultrasound (CEUS) and a computed tomography (CT) scan confirmed the thrombosis while excluding other abdominal abnormalities. Specific tests for the main hepatotropic agents and HIV serology were negative while HCMV laboratory tests were suggestive of acute infection (IgM 10.86 mg/dL, IgG 12.8 mg/dL, HCMV DNA real-time PCR 3434 copies/ml, cut-off >1111). No thrombophilic patterns were found with specific tests. After treatment with i.v. gancyclovir (5 mg/Kg/bid) and enoxaparin 4.000 U.I. bid for 15 days the abdominal US showed a retracted and hyperechoic clot on the portal left branch. US follow-up showed re-canalization of the left portal branch after 21 months of oral Warfarin.

Case 2: A 20-year-old Italian woman was hospitalized for upper abdominal pain, fever and headache. US showed portal thrombosis of the intra-hepatic right and left branches, splenomegaly and free fluid in the perihepatic area and in the Douglas pouch. Abnormal LFT (AST/ALT 162/243 IU/L) and increased inflammatory indexes were seen. The patient received anti-coagulant therapy (continuous infusion of unfractionated heparin 18 UI/Kg/h and oral administration Warfarin 5 mg/die). A CT scan confirmed complete portal thrombosis involving the left and the right intra-hepatic branches, superior and inferior mesenteric veins, partial thrombosis of the splenic vein, pericardial and bilateral pleural effusion. HCMV Serology resulted positive for IgM, with low IgG avidity test. HCMV DNA (real-time PCR) was positive 100 copies/ml (cut-off ≥ 100 copies). Other acute illnesses were excluded with specific tests, while no abnormal thrombophilic pattern were found. No treatment was administered for the acute HCMV infection. After 2 weeks, the patient recovered completely and US documented the regression of mesenteric thrombosis and fluid collections.

Conclusion

Venous thrombosis during acute HCMV infection is uncommon, but physicians should maintain a high index of suspicion and request abdominal US. Fever and PVT in an immunocompetent adult should alert physicians to an infectious etiology including HCMV. Early diagnosis by detection of IgM to HCMV allows to start a correct treatment.



Photo 1: Case 1: left portal branch thrombosis.