Mesenteric vessel thrombosis and hypercoagulable states

Sir,

Mesenteric vessel thrombosis is a rare form of intraabdominal thrombosis. There is a paucity of literature considering the role of the pro-thrombotic factors, such as protein C (PC), protein S (PS) and antithrombin (AT) deficiency in these patients. Whereas anti-cardiolipin antibodies and Factor V Leiden (FVL) mutation have been frequently reported in Budd–Chiari syndrome (BCS), it is not clear whether these are also associated with mesenteric vein thrombosis.

We studied the prevalence of pro-thrombotic factors in this condition. Records of patients with thrombosis referred for workup for these prothrombotic factors over the last 10 years were reviewed. Testing was done for various parameters including prothrombin time (PT), activated partial thromboplastin time (APTT), FVL, PC, PS, AT anticardiolipin antibodies (ACA) and lupus anticoagulant (LA). Findings were compared with age-matched normal controls.

Mesenteric vessel thrombosis was rare (13 out of 2045 patients, 0.64% of all cases referred) and essentially a condition afflicting younger patients (18–60 years, median age 30.33 years) with venous thrombosis more common (11) as compared to arterial occlusion (2). Eight out of thirteen cases (61.5%) patients showed positivity for at least one of the prothrombotic factors. The inherited procoagulant states, such as PC, PS and AT deficiencies, were present in 7.7, 30.7 and 7.7% cases respectively. Mutation for FVL and LA were absent.

Two series, from India have earlier described the association of prothrombotic factors with mesenteric thrombosis. In a study of 28 patients from Western India, PC deficiency was the commonest hereditary risk factor involved (26%) followed by PS (17.4%) and FVL mutation, lupus anticoagulant and anticardiolipin antibody (8.6%) [1]. In another study of 36 patients with intraabdominal thrombosis (including BCS and splanchnic vein thrombosis (SVT)) from South India, FVL mutation was present in 11% in patients with BCS and 10% in patients with SVT[2]. Differences from these studies related to ethnic differences and sample sizes. In the Western literature, Agaoglu *et al.* reported association of pro-thrombotic factors in 57% of patients with acute mesenteric ischemia in a series of 28 cases.[3] The FVL mutation, Prothrombin G 20210 A and homozygous mutation of methylenetetrahydrofolate reductase

(MTHFR) were seen in 36, 11 and 3% cases respectively. Another study reported 18.2, 18.2 and 45.4% of the same mutations in their patients with mesenteric venous thrombosis (MVT)[4]

Our study showed a higher incidence of inherited risk factors (PS, PC and AT deficiencies) as compared to the acquired risk factors. A positive test which could determine therapeutic decisions was seen in 61.5% cases, which underscores the importance for testing for these risk factors. As a sizeable number of patients did not demonstrate any of these abnormalities, there remains scope for further research in the etiological cause for primary or idiopathic MVT.

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