

Budd-Chiari syndrome

Dear Editor,

I read with interest the article by Hoekstra and Janssen.¹ The authors do not mention some important causes of Budd-Chiari syndrome. Carcinoma, trauma, surgery, immobilisation, sarcoidosis, inflammatory bowel disease, and dacarbazine therapy are also risk factors for hepatic outflow tract obstruction.^{2,3}

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RESPONSE TO LETTER TO THE EDITOR

Dear Editor,

We thank Dr Kittisupamongkol for his response to our article. He mentions a number of potential causes of Budd-Chiari syndrome that were not specifically addressed in our review. We agree that the list of potential risk factors for Budd-Chiari syndrome, as given in *table 1* of the review, is not complete. However, the aetiological factors mentioned in our article represent the most important causes of this disease in patients from Western countries.^{1,2} The causes of hepatic vein obstruction cited by Dr Kittisupamongkol are only encountered in a very small number of cases.

In patients with malignancy, development of Budd-Chiari syndrome can be the result of tumoral invasion of the hepatic veins. As we mentioned in our article, this is a secondary form of Budd-Chiari syndrome which is rarely seen. Furthermore, the main focus of our review was on primary Budd-Chiari syndrome, as caused by thrombosis of the hepatic veins or inferior vena cava. Immobilisation, to our knowledge, has never been identified as an independent risk factor for Budd-Chiari syndrome. Trauma, surgery and sarcoidosis have been reported in the literature as aetiological factors of hepatic vein thrombosis but this has been limited to a few case reports.^{3,4} Inflammatory bowel disease is present in some patients with Budd-Chiari syndrome.⁵ However, this is also an infrequent cause of hepatic vein thrombosis and in many of these patients another risk factor for thrombosis is present. The last factor referred to by Dr Kittisupamongkol, dacarbazine therapy, is a known cause of

sinusoidal obstruction syndrome (SOS), previously known as veno-occlusive disease.⁶ This is a separate clinical entity that should be distinguished from Budd-Chiari syndrome.

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