

Hypersplenism

Liver Diseases

Description:

- Liver diseases (acute or chronic) can induce thrombocytopenia via multiple distinct mechanisms:
Splenic sequestration and destruction: In the setting of hepatosplenomegalies of diverse etiologies (e.g., cirrhosis, storage diseases, portal hypertension, hematologic malignancies, etc.), there is an accelerated sequestration and destruction of platelets.
- Latent or overt disseminated intravascular coagulation (DIC): Due to the impairment or failure of the reticuloendothelial system, procoagulant metabolic end-products and cellular debris accumulate in the systemic circulation. The resulting systemic activation of the coagulation cascade leads to consumptive thrombocytopenia.
- Impaired synthesis of thrombopoietin (TPO): Thrombopoietin is primarily synthesized in the liver. Functional impairment of hepatic protein synthesis leads to a reduction in TPO production, consequently dampening both megakaryopoiesis and thrombopoiesis.

References:

Thomas L, Labor und Diagnose, 2023, Release 5: <https://www.labor-und-diagnose.de/index.html>

Parameterkatalog des Klinischen Instituts für Labormedizin, Med.Univ.Wien und AKH Wien:

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Leistungsverzeichnis der Klinischen Chemie, Univ.Klinikum Ulm:

<https://www.uniklinik-ulm.de/zentrale-einrichtung-klinische-chemie/leistungsverzeichnis.html>

Taylor FB, Jr, Toh CH, Hoots WK, Wada H, Levi M Scientific Subcommittee on Disseminated Intravascular Coagulation (DIC) of the International Society on Thrombosis and Haemostasis (ISTH) Towards definition, clinical and laboratory criteria and a scoring system for disseminated intravascular coagulation. Thromb Haemost. 2001;86:1327–1330.