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Clinical associations between thyroid and liver diseases.

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Source

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Abstract

The liver has an important role in thyroid hormone metabolism and the level of thyroid hormones is also important to normal hepatic function and bilirubin metabolism. Besides the associations between thyroid and liver diseases of an autoimmune nature, such as that between primary biliary cirrhosis and hypothyroidism, thyroid diseases are frequently associated with liver injuries or biochemical test abnormalities. For example, thyroid diseases may be associated with elevation of alanine aminotransferase and alkaline phosphatase, which is mainly of bone origin, in hyperthyroidism and aspartate aminotransferase in hypothyroidism. Liver diseases are also frequently associated with thyroid test abnormalities or dysfunctions, particularly elevation of thyroxine-binding globulin and thyroxine. Hepatitis C virus infection has been connected with thyroid abnormalities. In addition, antithyroid drug therapy may result in hepatitis, cholestasis or transient subclinical hepatotoxicity, whereas interferon (IFN) therapy in liver diseases may also induce thyroid dysfunctions. These thyroid-liver associations may cause diagnostic confusions. Neglect of these facts may result in over of under diagnosis of associated liver or thyroid diseases and thereby cause errors in patient care. It is suggested to measure free thyroxine (FT4) and thyroid-stimulating hormone (TSH) which are usually normal in euthyroid patients with liver disease, to rule out or rule in coexistent thyroid dysfunctions, and consider the possibility of thyroid dysfunctions in any patients with unexplained liver biochemical test abnormalities. It is also advisable to monitor patients with autoimmune liver disease or those receiving IFN therapy for the development of thyroid dysfunctions, and patients receiving antithyroid therapy for the development of hepatic injuries.

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