



AP&T Alimentary Pharmacology and Therapeutics

REVIEW ARTICLE

Review article: iron disturbances in chronic liver diseases other than haemochromatosis – pathogenic, prognostic, and therapeutic implications

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Summary

Background

Disturbances in iron regulation have been described in diverse chronic liver diseases other than hereditary haemochromatosis, and iron toxicity may worsen liver injury and outcome.

Aims

To describe manifestations and consequences of iron dysregulation in chronic liver diseases apart from hereditary haemochromatosis and to encourage investigations that clarify pathogenic mechanisms, define risk thresholds for iron toxicity, and direct management

Methods

English abstracts were identified in PubMed by multiple search terms. Full length articles were selected for review, and secondary and tertiary bibliographies were developed.

Results

Hyperferritinemia is present in 4%-65% of patients with non-alcoholic fatty liver disease, autoimmune hepatitis, chronic viral hepatitis, or alcoholic liver disease, and hepatic iron content is increased in 11%-52%. Heterozygosity for the C282Y mutation is present in 17%-48%, but this has not uniformly distinguished patients with adverse outcomes. An inappropriately low serum hepcidin level has characterised most chronic liver diseases with the exception of non-alcoholic fatty liver disease, and the finding has been associated mainly with suppression of transcriptional activity of the hepcidin gene. Iron overload has been associated with oxidative stress, advanced fibrosis and decreased survival, and promising therapies beyond phlebotomy and oral iron chelation have included hepcidin agonists.

Conclusions

Iron dysregulation is common in chronic liver diseases other than hereditary haemochromatosis, and has been associated with liver toxicity and poor prognosis.

Further evaluation of iron overload as a co-morbid factor should identify the key pathogenic disturbances, establish the risk threshold for iron toxicity, and promote molecular interventions.

Citing Literature



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