OBJECTIVE: Women with Turner's syndrome (TS) have recently been shown to be at an increased risk of developing chronic liver disease. There has been some concern that oestrogen replacement therapy may exacerbate hepatic dysfunction. The aim of this study was to assess hepatic function in women with TS and to determine the effect of oral oestradiol valerate on liver enzymes.

DESIGN AND PATIENTS: A retrospective review of liver enzymes of 80 women with TS, followed by a prospective study looking at serum liver enzyme concentrations in 20 women with TS following 3 months on and off hormone replacement therapy (HRT) (oestradiol valerate, 2 mg/levonorgestrel 75 microg).

MEASUREMENTS: Liver enzymes (gamma glutamyl transferase, aspartate transaminase and alkaline phosphatase), albumin and bilirubin were measured on and off HRT. Viral hepatitis serology and liver autoantibodies were tested in patients with abnormal liver function.

RESULTS: Thirty-five out of 80 women (44%) had elevated serum liver enzyme concentrations. Two women (2.5%) had a mildly raised serum bilirubin, but protein synthesis was normal in all subjects. HRT resulted in a significant fall in all liver enzymes (P < 0.05) but did not affect serum protein concentrations.

CONCLUSIONS: Women with Turner's syndrome often have elevated liver enzymes. Oestrogen/progestagen therapy using oestradiol valerate improves liver function in this group of patients. The mechanisms behind this are unclear.

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