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Plasma levels of estradiol, estrone, estrone sulfate and sex hormone binding globulin in patients receiving rifampicin.

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Source

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Abstract

Plasma estrone, estradiol, estrone sulfate, androstenedione, testosterone and sex hormone binding globulin were measured in 14 patients (3 postmenopausal women, 11 men) with tuberculosis who received rifampicin. During treatment a moderate, but significant increase in the plasma level of estradiol (mean increase 32%, P less than 0.01) and estrone (mean increase 13%, P less than 0.01) were seen. In contrast, plasma estrone sulfate was significantly reduced (mean reduction of 25%, P less than 0.05). No alteration in plasma testosterone was observed, but there was a slight (mean 15%) increase in plasma androstenedione of borderline significance (P = 0.052). In eight patients, from whom all tuberculostatic treatment except rifampicin had been withdrawn, plasma sex hormone binding globulin was found to be increased by 75% by rifampicin treatment. Further, the results obtained in this part of the study confirmed the alteration in plasma estrone sulfate to be caused by rifampicin alone without any contribution from other tuberculostatic drugs. While plasma estradiol could be increased due to elevation of sex hormone binding globulin, plasma estrone was probably increased secondary to the increase in plasma androstenedione. A reduced plasma estrone sulfate level suggests that rifampicin enhances the rate of estrone sulfate metabolism. The possibility that treatment with drugs which reduce plasma estrone sulfate might be beneficial for hormone dependent cancers is discussed.

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