SERUM GONADOTROPHIN AND TESTOSTERONE CONCENTRATIONS IN PROVEN FERTILE MALES

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A rise in FSH and a reduction in oestradiol concentrations in the presence of normal LH concentrations have been observed in elderly pre-menopausal women. Such a dissociated rise in FSH has not been clearly documented in elderly men although some investigators have observed an increase in both LH and FSH and a reduction in testosterone concentrations.

In view of these serum FSH, LH and testosterone concentrations were studied in proven fertile healthy men in the age groups 21- (n=16), 31- (n=26), 41- (n=21) and 51-60 (n=15) years. Venous blood samples (5 ml) were collected between 09.00-14.00 h and serum FSH and LH concentrations were measured by immunoradiometric assays while testosterone concentrations were measured by radioimmunoassay.

Elevated FSH concentrations were seen in 33.3% of subjects in the 51-60 year group while LH concentrations remained within normal limits. A rise in FSH or LH concentrations was not seen in any of the other groups. Testosterone concentrations were significantly higher in the 21-year group than in the 41-($p < 0.02$) and 51-60 ($p < 0.01$) year groups and also in the 31- and 41- year groups ($p < 0.05$) than in the 51-60 year group.

Elevated FSH and reduced testosterone concentrations in the presence of relatively normal LH concentrations observed in this study may indicate a reduction in testicular inhibin secretion and a reduced Leydig cell responsiveness to LH and / or a reduced biological activity of LH secreted, respectively with advancing age in men.