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THYROXINE BINDING GLOBULIN (TBG) LEVELS IN OBESE PATIENTS DIMINISHED BY TOTAL FASTING.
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The effects of total fasting and of refeeding on serum TBG levels and some parameters of thyroid function were studied sequentially in nine hospitalized obese patients. — The following were the mean values \pm SD of six female and three male patients. Age : 24 ± 8.5 years; % ideal body weight : 170 ± 25 %; total fasting : 33.3 ± 8.5 days; weight loss per day : 469 ± 95 g/d; restricted refeeding, starting with 600 Kcal per day : 18.6 ± 5.8 days.

Results during fasting : When correlated with the fasting time, the following parameters changed significantly : The TBG levels decreased, as determined by radioimmunoassay ($r = - 0.461$, $p < 0.001$); the thyroxine levels decreased in comparison with the individual initial T_4 ($r = - 0.302$, $p < 0.01$). The T_3 levels decreased (RIA, $r = - 0.309$, $p < 0.05$). The RT_3U ($r = 0.355$, $p < 0.01$) and free fatty acids (FFA , $r = 0.437$, $p < 0.01$) increased.

Results during refeeding : During the refeeding time, the following changes were significant : Increase of absolute levels of TBG ($r = 0.473$, $p < 0.01$), of T_4 ($r = 0.415$, $p < 0.01$) and of T_3 -RIA ($r = 0.566$, $p < 0.001$); decrease of RT_3U ($r = - 0.357$, $p < 0.05$) and of FFA ($r = - 0.375$, $p < 0.05$).

Conclusions : 1. The increase of FFA during fasting did not alter the fT_4 index (n.c.). 2. The decrease of TBG during fasting explained the increase of RT_3U . 3. Differences in half-life times may explain the increase of the T_4 /TBG ratio ($r = 0.337$, $p < 0.05$) during the fasting period, when the T_3 -RIA/TBG ratio remains constant (n.c.). 4. The increment of the response to 200 μ g TRH i.v. (Δ TSH 30 min = 10.0 ± 5.0 μ U/ml) during the refeeding period when compared with the fasting period (Δ TSH = 5.2 ± 1.4) is presumably necessary to keep the T_4 /TBG ratio constant (n.c.), when TBG levels rise during refeeding.

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