INFLUENCE OF SERUM IN PATIENTS WITH HYDATIDIFORM MOLE ON IMMUNORADIOIMETRIC ASSAY.

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It is well known that thyroid function in patients with hydatidiform mole is sometimes hyperthyroid because of human chorionic gonadotropin (HCG), human chorionic thyrotropin, human mole thyrotropin. We studied the influence of serum in patients with it on immunoradiometric assay (IRMA). Sera were obtained from 4 patients with hydatidiform mole, and one patient with it and Graves' disease. TSH levels were given by using IRMA (RIA-ghost TSH Ultrasensitive, SUCROSEP TSH IRMA, TSH RIAABEAD II). HCG levels were by radioimmunoassay (Midorijiji). HCG levels were 23,000-340,000mIU/ml before evacuation, and less than 9,600mIU/ml one week after it. TSH levels with RIA-ghost TSH were less than 3.6mU/ml before evacuation, and 0.11-15.9mU/ml one week after it. When TSH was absorbed by the coated tube of RIA-ghost, HCG levels were not different from those of unabsorbed serum, and TSH levels were less than 0.08mU/ml. TSH levels were linear to each other when diluted serum from 10 times to 100 times, and we thought there was no influence of serum in patients with hydatidiform mole. We concluded that TSH IRMA was useful for serum in patients with chorionic diseases.


Triiodothyronine (T3) uptake by albumin (AT3U) and by charcoal (CT3U) were compared in low T3 syndrome. Both T3U values were identical for normal subjects, thyroid disorders, pregnancy, low TBG, and acute hepatitis with high TBG, whereas AT3U was significantly higher than CT3U in low T3 syndrome (38.5±7.2% vs. 29.4±4.9%, n=37, p<0.001). AT3U:CT3U ratio was inversely correlated with T3G (r=0.518, p<0.001), and with albumin (r=0.570, p<0.001). Diminution of serum TBG and albumin levels by dilution increased AT3U more markedly than CT3U. An addition of albumin to sera lowered AT3U when both TBG and albumin were low, varying from 50.5±0.5% to 46.7±0.8% (n=5, p<0.001) as the albumin increased from 27.5g/L to 42.0g/L, but this was not seen in sera from normal subject, and pregnancy, and also in CT3U. The free thyroxine index (FTI) was correlated with FT4 by ultrafiltration method for both AT3U and CT3U methods (r=0.672, p<0.001, and r=0.572, p<0.001, respectively). While FTI by CT3U was misclassified in 48.6% as judged by FT4 concentration, this was only 20.6% when AT3U was used (X2 test, p<0.001). These results indicate that the AT3U may be determined primarily by changes in TBG and albumin levels, and FTI as calculated by product of AT3U ratio and T4 may be more useful than using CT3U for evaluation of FT4 concentration in low T3 syndrome in which concomitant decreases in TBG and albumin levels were frequently encountered.

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