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REVERSAL PHENOMENON OF T3U VALUE IN HIGH T3 SERUM. PITFALL FOR SERUM T3-UPTAKE RATIO USING ANTI-T3 ANTIBODY. F.Yoshimura, R.Imamura, A.Ishihara, T.Nakazaki, Y.Yoshimasa, S.Yamada and S.Hamada. RI Division, Dept. Clinical Pathology, and Dpt. Endocrinology Tenri Hospital, Tenri.

We found that T3U values by a commercial kit using anti-T3 antibody-coated test tubes are decreased to the normal range in very high T3 serum (>500 ng/100ml). With increasing amount of added T3, T3U values by the commercial kit were gradually decreased. Although T3U values obtained by very high specific activity of T3-I-125 showed no "reversal phenomenon" in the high T3 sera, values obtained were only moderately elevated despite the very high T4 values. When T3 in serum was denuded repeatedly with antibody-coated test tubes, values for T3U were increased from 1.09 to 2.20 in hyperthyroid and from 1.04 to 1.07 in normal serum. When T3 in serum was removed by resin, T3U ratios were increased from 1.09 to 1.44 during a short period of incubation. But they were decreased after a longer period of incubation because of removal of T4 and T3. Furthermore, incubation for more than 2 hours resulted in very low values for hyperthyroid serum which were comparable to severely hypothyroid states. It was concluded therefore that reversal phenomenon of T3U values in high T3 serum is due to the binding to anti-T3 antibody of T3 that is dissociated from serum protein during the incubation.

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