Clinical usefulness of a TSH-radioceptor assay kit (B.R. Smith) was studied. Lubrol-solubilized porcine TSH-receptors used in the kit had an Ka of 4.7x10^7 M^-1 in the assay buffer. Sensitivity was 30 fU/mL in the presence of 50uL serum (i.e. 180 uL/mL of serum). When immunoglobulin concentrations were used as samples, relative 125I-TSH binding was 100±1.6% (mean±S.D.) in 21 normal controls, while 22 out of 26 untreated patients with Graves' disease (85%) showed 125I-TSH binding less than 92% of controls. Intra- and inter-assay C.V.s in the assay of TSH-binding inhibitor immunoglobulins were higher but disease-negative sera correlated well with those obtained by our assay using Triton-solubilized human receptors (r=0.68). When serum was used as sample, results in normals ranged 0.3%–10.3%. TBI detected by using 17 sera correlated well with those using immunoglobulins (r=0.94). However, in the case of serum sample, nonspecific precipitation of TSH was elevated with the increasing globulin concentration, requiring an appropriate correction for the nonspecific precipitation in cases with hyperglobulinemia.

To investigate the relation between prognosis of threatened abortion and thyroid function test, serum levels of RTU, T3, TSH, TBG, FT, and Estrogen(Es) were measured by RIA in 179 subjects without thyroid disease. Serum levels of RTU were N32.3±0.9 (M±SE), C32.2±1.0, A36.5±1.1 at 6.7 gestational week (W), N30.5±1.1, C31.3±0.7, A34.6±1.0 at 8.9 W, N25.9±1.0, C27.0±1.2 at 10.1 W, N23.2±0.7, C24.3±1.3, A31.1±1.5 at 12.1 W and N27.0±0.7, C24.3±1.0, A31.5±2.4% at 14.15 W. Serum RTU levels of A were higher than serum T3, TSH and FT levels of A were lower significantly than those of N or C in every period. There were positive correlations between serum levels of RTU and those of Es, T3, TSH and FT, but there were negative correlations between serum levels of RTU and those of Es, T3, TSH and FT, and those of Es in all subjects. In observed patients with threatened abortion, all patients with increased serum levels of FTU and decreased those of T3, TSH and FT were aborted in spite of treatment. These findings suggested that it was possible to judge the prognosis of threatened abortion using thyroid function test.