

CHAPTER IV

DISCUSSION & CONCLUSION

1. Homogeneity of this HTg solution was established by cellulose acetate electrophoresis 'single band in the interalpha region' (Fig. 5)

2. Three rabbits can produced a specific anti-HTg antiserum (Fig. 6&7). The concentration of antiserum is very high (1 : 20,000) from antibody titration curve (Fig. 11)

3. Tracer contained HTgI¹²⁵ with a specific activity of approximately 22 μ Ci/ μ g. HTgI¹²⁵ solution was diluted in assay buffer to about 20,000 cpm/100 μ l.

4. Three standard curves of HTg were paralleled (Fig. 13) which showed that the concentration of HTg in serum samples was calculated with our HTg standard could be accepted.

5. Serum samples to be assayed were tested for the presence of HTg autoantibodies by passive hemagglutination inhibition technique using a commercial kit (Thymune-T, Wellcome)

6. HTg levels in serum.

Normal range from 7 to 10 to 104 ng/ml, mean 57.9 ± 27.9 ng/ml which is the same as to Torrigiani et. al., 1969.

Hashimotos' thyroiditis.

A range from 148 to 5,000 ng/ml. HTg levels in serum of Hashimotos' thyroiditis is higher than normal. It may be diagnostic criteria/index for Hashimotos' thyroiditis. In our experiments, there

are three and four patients in the family which have Hashimotos' thyroiditis. It indicates that Hashimotos' is related to genetic disorder.

Subacute thyroiditis (De Quervain)

HTg levels in serum of subacute thyroiditis (De Quervain) cannot be differentiate from the levels of Hashimotos' thyroiditis. Pain on the thyroid region and causes such as viruses or bacterial infections with undetectable autoantibody to HTg could proved the diagnosis of De Quervain

Simple goitre

HTg levels are in normal or higher, which indicate the progressive of disease.

Thyroid cancer.

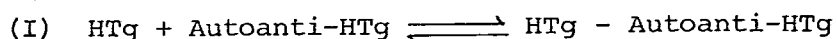
Very high level of HTg always indicate metastasis to different organs which could be confirmed by X-ray bone survey or chest film.

Most of HTg levels are not relate T_3 , T_4 , TSH and utoanti-HTg levels in serum and could not indicate severity of autoimmune thyroid diseases.

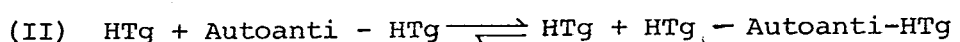
The antiserum obtained are lyophilized and store at -70°C , which could be used for 5 years without any loss of potency.

7. There are 3 stages found in autoimmune thyroid disease.

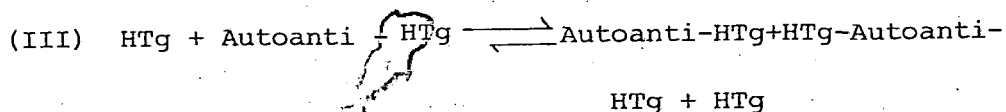
First stage : Complex formation



Second stage : Antigen excess



Third stage : Antibody excess



First and second stages are autoantibody - negative serum, which will be detected the HTg by direct radioimmunoassay (HTg - RIA procedure) whereas third stage is autoantibody positive serum, which could be detected by haemagglutination method. The effect of High titre autoantibody will interfere with the normal HTg (RIA) assay owing to formation of bigger molecule of complex formation with the available circulating HTg antigen (III), giving low value. Precipitation of autoantibody with Rabbit anti-HTg is important before assaying the free HTg supernate. Total HTg can be calculated from HTg bound as complex + free HTg according to the formula.

Formula :

$$\text{HTg (from HTg bound as complex)} = \frac{B}{F} \times \text{free HTg. (16, 17)}$$

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TABLE 8

(REFERENCE)

Normal and Pathological States Demonstrating Evaluated thyroglobulin (ng/ml)

<u>State</u>	<u>Mean + SD</u>	<u>Range</u>	<u>Ref</u>
<u>Normal State</u>			
Euthyroid		10-150	Torrighiani et al, 1969
<u>Pathological States</u>			
Thyrotoxicosis	261	43-1800	Torrighiani et al, 1969
Chronic thyroditis			
- Subacute thyroiditis	136.8+74.6	22.3-950	Van Herle et al, 1973
- Subacute thyroiditis (De Quervain)		35-140	Torrighaini et al, 1969
Non-toxic large colloid goiter (<100 gm)			
		120-650	Torrighaini et al, 1969
Thyroid cancer (metastasis)	465+155.6		Van Herle et al, 1973
Thyroid cancer (after treatment)	6.4+1.5		Van Herle et al, 1973
Goitrous subjects	208.1+19.8		Van Herle et al, 1973