

Dr. Vinay Chopra
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 Chairman & Consultant Pathologist

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NAME	: Mrs. SUMITI	PATIENT ID	: 1602760
AGE/ GENDER	: 24 YRS/FEMALE	REG. NO./LAB NO.	: 012409050053
COLLECTED BY	:	REGISTRATION DATE	: 05/Sep/2024 12:23 PM
REFERRED BY	: DR ANIL KUMAR MITTAL	COLLECTION DATE	: 05/Sep/2024 12:31PM
BARCODE NO.	: 01516356	REPORTING DATE	: 05/Sep/2024 01:48PM
CLIENT CODE.	: KOS DIAGNOSTIC LAB		
CLIENT ADDRESS	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval
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ENDOCRINOLOGY

FREE THYROXINE (FT4) & THYROID STIMULATING HORMONE (TSH)

FREE THYROXINE (FT4): SERUM <i>by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)</i>	0.942	ng/dL	0.70 - 1.50
THYROID STIMULATING HORMONE (TSH): SERUM <i>by CLIA (CHEMILUMINESCENCE IMMUNOASSAY), ULTRA SENSITIVE 3rd GENERATION, ULTRA SENSITIVE</i>	1.161	μIU/mL	0.35 - 5.50

INTERPREATION:

- 1.Primary hyperthyroidism is accompanied by elevated serum FT3 & FT4 values along with depressed TSH levels.
- 2.Primary hypothyroidism is accompanied by depressed serum FT3 & FT4 values and elevated serum TSH levels.
- 3.High FT3 levels accompanied by normal FT4 levels and depressed TSH levels may be seen T3 thyrotoxicosis.central hypothyroidism occurs due to pituitary or thalamic malfunction (secondary & tertiary hypothyroidism respectively). This relatively rare but important condition is indicated by presence of low serum FT3 and FT4 levels, in conjugation with TSH levels that are paradoxically either low/normal or are not elevated to levels that are expected.

NOTE:-

- 1.FT3 & FT4 metabolic active form of thyroid hormones and correlate much better with clinical condition of the patient as compared to Total T4 levels. High FT3 & FT4 with normal TSH Levels and abnormal thyroid function (Total Thyroid) can occasionally be seen in cases of PERIPHERAL THYROID HORMONE RESISTANCE
- 2.TSH levels are subjected to circadian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50 %. Hence time of the day has influence on the measured serum TSH concentration.

INCREASED TSH LEVELS:

- 1.Primary or untreated hypothyroidism may vary from 3 times to more than 100 times normal depending upon degree of hypofunction.
- 2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
- 3.Hashimotos thyroiditis
- 4.DRUGS: Amphetamines, idonine containing agents & dopamine antagonist.
- 5.Neonatal period, increase in 1st 2 3 days of life due to post-natal surge

DECREASED TSH LEVELS:

- 1.Toxic multi-nodular goitre & Thyroiditis.
- 2.Over replacement of thyroid hormone in treatment of hypothyroidism.
- 3.Autonomously functioning Thyroid adenoma
- 4.Secondary pituitary or hypothalamic hypothyroidism
- 5.Acute psychiatric illness
- 6.Severe dehydration.
- 7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
- 8.Pregnancy: 1st Trimester



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IMMUNOPATHOLOGY/SEROLOGY
ANTI THYROGLOBULIN ANTIBODIES (ATG)

ANTI THYROGLOBULIN ANTIBODIES (ATG):	0.7	IU/mL	10.0
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SERUM
by CMA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

INTERPRETATION

1. Thyroglobulin is produced only by the thyroid gland and is a major component of the thyroid follicular colloid. Autoantibodies to thyroglobulin (TG autoantibodies) are often present in patients with autoimmune thyroid disease.
2. For diagnostic purposes, anti-TPO results should be used in conjunction with clinical information and other test results. Autoantibodies may be found in less than 10% of the normal population at low levels and in patients with non-thyroidal illnesses, such as the inflammatory rheumatic diseases.

CLINICAL UTILITY

1. Diagnosis of autoimmune thyroid disease and its separation from other causes of thyroiditis.
2. Investigation of cause of goitre. * Follow up of deranged thyroid hormones.
3. Evaluation of thyroid involvement in non thyroid related autoimmune diseases like SLE or RA.
4. Evaluation of cases of pregnancy with autoimmune thyroid disorder like Hashimoto's thyroiditis, Grave's Disease, etc.
5. Assessment of risk of foetal involvement in case of pregnancy with thyroid dysfunction.
6. As a apart of assessment of infertility.

INCREASED LEVELS

1. Mild to moderate- in many thyroid and autoimmune disorders such as thyroid cancer, type I diabetes, rheumatoid arthritis, perenicious anaemia and autoimmune collagen vascular disease.
2. Significantly increased- Hashimoto's thyroiditis and Grave's disease.
3. Higher levels also seen women and with increasing age.

NOTE:

1. Rising levels may be more significant than the stable levels.
2. All these antibodies if present in the mother can increase the risk of thyroid dysfunction in te foetus/ new born.
3. Thyroglobulin antibodies can interfere with assay of thyroglobulin as cancer marker.
4. Serial testing for monitoring should be done by the same laboratory using same methodolog



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TUMOUR MARKER

THYROGLOBULIN

THYROGLOBULIN (Tg): SERUM	14.3	ng/mL	3.00 - 55.0
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by CMLIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

INTERPRETATION:

CONDITION	THYROGLOBULIN REFERENCE RANGE
NORMAL INDIVIDUALS	1.70 – 55.00
POST THYROIDECTOMY	0.0 – 9.0

NOTE:

- 1.This test is not recommended for the diagnosis of Thyroid cancer
- 2.Presence of Thyroglobulin autoantibodies can interfere in the assay leading to an under estimation of Thyroglobulin levels. Therefore the Thyroglobulin antibody status should be determined when measuring Tg
- 3.Minimum 6 weeks should elapse post thyroidectomy or thyroid gland ablation prior to testing
- 4.Thyroglobulin levels may remain elevated for several months following successful cancer therapy. In these cases post treatment baseline values followed by serial determinations are recommended for monitoring.
- 5.Post thyroidectomy the values of Thyroglobulin (Tg) are between 0-9 ng/mL. After thyroidectomy, Presence of elevated Thyroglobulin (Tg) levels gives an indication of reoccurrence of metastatic disease.

CLINICAL USE:

- 1,Primarily used as a tumor marker in patients with a diagnosis of-Differentiated Thyroid carcinoma (DTC). Tg levels are elevated in both Thyroid, Papillary & Follicular carcinoma
- 2.Serial measurements of Tg are most useful in detecting recurrence of DTC following surgical resection or radioactive Iodine ablation
- 3.Aids in the management of infants with Congenital Hypothyroidism
- 4.Differential diagnosis of Hyperthyroidism. Tg is elevated in all patients with Hyperthyroidism except in cases of Thyrotoxicosis factitia.

INCREASED LEVELS:

- 1.Thyroid Papillary & Follicular carcinoma
- 2.Non neoplastic thyroid conditions like Thyroid adenoma, Subacute thyroiditis, Hashimoto's thyroiditis & Graves' disease
- 3.Regions of Endemic goiter
- 4.Neonates
- 5.Third trimester pregnancy

*** End Of Report ***



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