

**Dr. Vinay Chopra**  
 MD (Pathology & Microbiology)  
 Chairman & Consultant Pathologist

**Dr. Yugam Chopra**  
 MD (Pathology)  
 CEO & Consultant Pathologist

<b>NAME</b>	: Mrs. ARCHANA	<b>PATIENT ID</b>	: 1773335
<b>AGE/ GENDER</b>	: 30 YRS/FEMALE	<b>REG. NO./LAB NO.</b>	: 012502280017
<b>COLLECTED BY</b>	:	<b>REGISTRATION DATE</b>	: 28/Feb/2025 11:37 AM
<b>REFERRED BY</b>	: LOOMBA HOSPITAL (AMBALA CANTT)	<b>COLLECTION DATE</b>	: 28/Feb/2025 12:12PM
<b>BARCODE NO.</b>	: 01526244	<b>REPORTING DATE</b>	: 28/Feb/2025 01:42PM
<b>CLIENT CODE.</b>	: KOS DIAGNOSTIC LAB		
<b>CLIENT ADDRESS</b>	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval
-----------	-------	------	-------------------------------

## ENDOCRINOLOGY

### THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH): SERUM 1.748  $\mu$ IU/mL 0.35 - 5.50  
 by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

3rd GENERATION, ULTRASENSITIVE

#### INTERPRETATION:

AGE	REFERENCE RANGE ( $\mu$ IU/mL)
0 – 5 DAYS	0.70 – 15.20
6 Days – 2 Months	0.70 – 11.00
3 – 11 Months	0.70 – 8.40
1 – 5 Years	0.70 – 7.00
6 – 10 Years	0.60 – 5.50
11 - 15	0.50 – 5.50
> 20 Years (Adults)	0.27 – 5.50
<b>PREGNANCY</b>	
1st Trimester	0.10 - 3.00
2nd Trimester	0.20 - 3.00
3rd Trimester	0.30 - 4.10

**NOTE:- 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.**

**USE:-** TSH controls biosynthesis and release of thyroid hormones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

#### INCREASED LEVELS:

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

#### DECREASED 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.



  
 DR.VINAY CHOPRA

CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY & MICROBIOLOGY)

  
 DR.YUGAM CHOPRA

CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY)



**Dr. Vinay Chopra**  
 MD (Pathology & Microbiology)  
 Chairman & Consultant Pathologist

**Dr. Yugam Chopra**  
 MD (Pathology)  
 CEO & Consultant Pathologist

<b>NAME</b>	: Mrs. ARCHANA	<b>PATIENT ID</b>	: 1773335
<b>AGE/ GENDER</b>	: 30 YRS/FEMALE	<b>REG. NO./LAB NO.</b>	: 012502280017
<b>COLLECTED BY</b>	:	<b>REGISTRATION DATE</b>	: 28/Feb/2025 11:37 AM
<b>REFERRED BY</b>	: LOOMBA HOSPITAL (AMBALA CANTT)	<b>COLLECTION DATE</b>	: 28/Feb/2025 12:12PM
<b>BARCODE NO.</b>	: 01526244	<b>REPORTING DATE</b>	: 28/Feb/2025 01:42PM
<b>CLIENT CODE.</b>	: KOS DIAGNOSTIC LAB		
<b>CLIENT ADDRESS</b>	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval
-----------	-------	------	-------------------------------

8.Pregnancy: 1st and 2nd Trimester

**LIMITATIONS:**

- 1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.
- 2.Autoimmune disorders may produce spurious results.



  
 DR.VINAY CHOPRA

CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY & MICROBIOLOGY)

  
 DR.YUGAM CHOPRA

CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY)



Dr. Vinay Chopra  
 MD (Pathology & Microbiology)  
 Chairman & Consultant Pathologist

Dr. Yugam Chopra  
 MD (Pathology)  
 CEO & Consultant Pathologist

**NAME** : Mrs. ARCHANA  
**AGE/ GENDER** : 30 YRS/FEMALE  
**COLLECTED BY** :  
**REFERRED BY** : LOOMBA HOSPITAL (AMBALA CANTT)  
**BARCODE NO.** : 01526244  
**CLIENT CODE.** : KOS DIAGNOSTIC LAB  
**CLIENT ADDRESS** : 6349/1, NICHOLSON ROAD, AMBALA CANTT

**PATIENT ID** : 1773335  
**REG. NO./LAB NO.** : 012502280017  
**REGISTRATION DATE** : 28/Feb/2025 11:37 AM  
**COLLECTION DATE** : 28/Feb/2025 12:12PM  
**REPORTING DATE** : 28/Feb/2025 02:27PM

Test Name	Value	Unit	Biological Reference interval
-----------	-------	------	-------------------------------

**BETA HCG - TOTAL (QUANTITATIVE): MATERNAL**

BETA HCG TOTAL, PREGNANCY MATERNAL: **61992.45<sup>H</sup>** mIU/mL < 5.0  
 SERUM  
 by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)

**INTERPRETATION:**

MEN:	mIU/ml	< 2.0
NON PREGNANT PRE-MENOPAUSAL WOMEN:	mIU/ml	< 5.0
MENOPAUSAL WOMEN:	mIU/ml	< 7.0
<b>BETA HCG EXPECTED VALUES IN ACCORDANCE TO WEEKS OF GESTATIONAL AGE</b>		
WEEKS OF GESTATION	Unit	Value
4-5	mIU/ml	1500 - 23000
5-6	mIU/ml	3400 - 135300
6-7	mIU/ml	10500 - 161000
7-8	mIU/ml	18000 - 209000
8-9	mIU/ml	37500 - 219000
9-10	mIU/ml	42800 - 218000
10-11	mIU/ml	33700 - 218700
11-12	mIU/ml	21800 - 193200
12-13	mIU/ml	20300 - 166100
13-14	mIU/ml	15400 - 190000
2rd TRIMESTER	mIU/ml	2800 - 176100
3rd TRIMESTER	mIU/ml	2800 - 144400



  
 DR.VINAY CHOPRA  
 CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY & MICROBIOLOGY)

  
 DR.YUGAM CHOPRA  
 CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY)



**Dr. Vinay Chopra**  
 MD (Pathology & Microbiology)  
 Chairman & Consultant Pathologist

**Dr. Yugam Chopra**  
 MD (Pathology)  
 CEO & Consultant Pathologist

<b>NAME</b>	: Mrs. ARCHANA	<b>PATIENT ID</b>	: 1773335
<b>AGE/ GENDER</b>	: 30 YRS/FEMALE	<b>REG. NO./LAB NO.</b>	: 012502280017
<b>COLLECTED BY</b>	:	<b>REGISTRATION DATE</b>	: 28/Feb/2025 11:37 AM
<b>REFERRED BY</b>	: LOOMBA HOSPITAL (AMBALA CANTT)	<b>COLLECTION DATE</b>	: 28/Feb/2025 12:12PM
<b>BARCODE NO.</b>	: 01526244	<b>REPORTING DATE</b>	: 28/Feb/2025 02:27PM
<b>CLIENT CODE.</b>	: KOS DIAGNOSTIC LAB		
<b>CLIENT ADDRESS</b>	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval
-----------	-------	------	-------------------------------

1.hCG is a Glycoprotein with alpha and beta chains. Beta subunit is specific to hCG.

2.It is largely secreted by trophoblastic tissue. Small amounts may be secreted by fetal tissues and by the adult ant pituitary.

INCREASED :

1.Pregnancy

2.Gestationalsite & Non gestational trophoblastic neoplasia.

3.In mixed germ cell tumors.

**SIGNIFICANTLY HIGHER THAN EXPECTED LEVEL:**

1.Multiple pregnancies & High risk molar pregnancies are usually associated with levels in excess of one lac mIU/ml.

2.Erythroblastosis fetalis & Downs syndrome.

**DECREASED:**

1.Ectopic pregnancy.

2.Intra-uterine fetal death.

**NOTE:**

1.The test becomes positive 7-9 days after the midcycle surge that precedes ovulation (time of blastocyst implantation). Blood levels rise rapidly after this and double every 1.4 - 2 days.

2.Peak values are usually seen at 60-80 days of LMP. The levels then begin to taper and ebb out around the 20th week. These low levels are then maintained throughout pregnancy.

3.Doubling time: In intra-uterine pregnancy, serum hCG levels increase by approximately 66% every 48 hrs.Inappropriately rising serum hCG levels are suggestive of dying or ectopic pregnancy.

**CAUTION:**

Spuriously high levels (Phantom hCG) may be seen in presence of heterophilic antibodies (found in some normal people). If persistently raised levels are seen in a non-pregnant patient with no evidence of other obvious causes for such an increase a urine hCG assay may help confirm presence of the heterophile antibodies.



  
 DR.VINAY CHOPRA

CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY & MICROBIOLOGY)

  
 DR.YUGAM CHOPRA

CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY)





**Dr. Vinay Chopra**  
 MD (Pathology & Microbiology)  
 Chairman & Consultant Pathologist

**Dr. Yugam Chopra**  
 MD (Pathology)  
 CEO & Consultant Pathologist

<b>NAME</b>	: Mrs. ARCHANA	<b>PATIENT ID</b>	: 1773335
<b>AGE/ GENDER</b>	: 30 YRS/FEMALE	<b>REG. NO./LAB NO.</b>	: 012502280017
<b>COLLECTED BY</b>	:	<b>REGISTRATION DATE</b>	: 28/Feb/2025 11:37 AM
<b>REFERRED BY</b>	: LOOMBA HOSPITAL (AMBALA CANTT)	<b>COLLECTION DATE</b>	: 28/Feb/2025 12:12PM
<b>BARCODE NO.</b>	: 01526244	<b>REPORTING DATE</b>	: 28/Feb/2025 01:42PM
<b>CLIENT CODE.</b>	: KOS DIAGNOSTIC LAB		
<b>CLIENT ADDRESS</b>	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval
-----------	-------	------	-------------------------------

### PROLACTIN

PROLACTIN: SERUM	17.65	ng/mL	3 - 25
------------------	-------	-------	--------

by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

#### INTERPRETATION:

1. Prolactin is secreted by the anterior pituitary gland and controlled by the hypothalamus.  
 2. The major chemical controlling prolactin secretion is dopamine, which inhibits prolactin secretion from the pituitary.  
 3. Physiological function of prolactin is the stimulation of milk production. In normal individuals, the prolactin level rises in response to physiologic stimuli such as sleep, exercise, nipple stimulation, sexual intercourse, hypoglycemia, postpartum period, and also is elevated in the newborn infant.

#### INCREASED (HYPERPROLACTEMIA):

1. Prolactin-secreting pituitary adenoma (prolactinoma, which is 5 times more frequent in females than males).  
 2. Functional and organic disease of the hypothalamus.  
 3. Primary hypothyroidism.  
 4. Section compression of the pituitary stalk.  
 5. Chest wall lesions and renal failure.  
 6. Ectopic tumors.  
 7. DRUGS:- Anti-Dopaminergic drugs like antipsychotic drugs, anti-nausea/antiemetic drugs, Drugs that affect CNS serotonin metabolism, serotonin receptors, or serotonin reuptake (anti-depressants of all classes, ergot derivatives, some illegal drugs such as cannabis), Antihypertensive drugs, Opiates, High doses of estrogen or progesterone, anticonvulsants (valproic acid), anti-tuberculous medications (Isoniazid).

#### SIGNIFICANCE:

1. In loss of libido, galactorrhea, oligomenorrhea or amenorrhea, and infertility in premenopausal females.  
 2. Loss of libido, impotence, infertility, and hypogonadism in males. Postmenopausal and premenopausal women, as well as men, can also suffer from decreased muscle mass and osteoporosis.  
 3. In males, prolactin levels >13 ng/mL are indicative of hyperprolactinemia.  
 4. In women, prolactin levels >27 ng/mL in the absence of pregnancy and postpartum lactation are indicative of hyperprolactinemia.  
 5. Clear symptoms and signs of hyperprolactinemia are often absent in patients with serum prolactin levels <100 ng/mL.  
 4. Mild to moderately increased levels of serum prolactin are not a reliable guide for determining whether a prolactin-producing pituitary adenoma is present, 5. Whereas levels >250 ng/mL are usually associated with a prolactin-secreting tumor.

#### CAUTION:

Prolactin values that exceed the reference values may be due to macroprolactin (prolactin bound to immunoglobulin). Macroprolactin should be evaluated if signs and symptoms of hyperprolactinemia are absent, or pituitary imaging studies are not informative.

\*\*\* End Of Report \*\*\*





**DR. VINAY CHOPRA**  
 CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY & MICROBIOLOGY)



**DR. YUGAM CHOPRA**  
 CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY)

