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NAME	**: Master. AANIK NEGI**		
AGE/ GENDER	: 4 YRS/MALE	**PATIENT ID**	: 1572222
COLLECTED BY	: SURJESH	**REG. NO./LAB NO.**	**: 012408060041**
REFERRED BY	:	**REGISTRATION DATE**	: 06/Aug/2024 12:08 PM
BARCODE NO.	: 01514589	**COLLECTION DATE**	: 06/Aug/2024 12:15PM
CLIENT CODE.	: KOS DIAGNOSTIC LAB	**REPORTING DATE**	: 06/Aug/2024 01:12PM
CLIENT ADDRESS	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval
CLINICAL CHEMISTRY/BIOCHEMISTRY			
LIVER FUNCTION TEST (COMPLETE)			
BILIRUBIN TOTAL: SERUM *by DIAZOTIZATION, SPECTROPHOTOMETRY*	0.25	mg/dL	INFANT: 0.20 - 8.00 ADULT: 0.00 - 1.20
BILIRUBIN DIRECT (CONJUGATED): SERUM *by DIAZO MODIFIED, SPECTROPHOTOMETRY*	0.14	mg/dL	0.00 - 0.40
BILIRUBIN INDIRECT (UNCONJUGATED): SERUM *by CALCULATED, SPECTROPHOTOMETRY*	0.11	mg/dL	0.10 - 1.00
SGOT/AST: SERUM *by IFCC, WITHOUT PYRIDOXAL PHOSPHATE*	28.3	U/L	7.00 - 45.00
SGPT/ALT: SERUM *by IFCC, WITHOUT PYRIDOXAL PHOSPHATE*	32.4	U/L	0.00 - 49.00
AST/ALT RATIO: SERUM *by CALCULATED, SPECTROPHOTOMETRY*	0.87	RATIO	0.00 - 46.00
ALKALINE PHOSPHATASE: SERUM ***by PARA NITROPHENYL PHOSPHATASE BY AMINO METHYL PROPANOL***	**811.77^{H}**	**U/L**	**50.00 - 370.00**
GAMMA GLUTAMYL TRANSFERASE (GGT): SERUM *by SZASZ, SPECTROPHTOMETRY*	22.69	U/L	0.00 - 55.0
TOTAL PROTEINS: SERUM ***by BIURET, SPECTROPHOTOMETRY***	**5.58^{L}**	**gm/dL**	**6.20 - 8.00**
ALBUMIN: SERUM *by BROMOCRESOL GREEN*	3.67	gm/dL	3.50 - 5.50
GLOBULIN: SERUM ***by CALCULATED, SPECTROPHOTOMETRY***	**1.91^{L}**	**gm/dL**	**2.30 - 3.50**
A : G RATIO: SERUM *by CALCULATED, SPECTROPHOTOMETRY*	1.92	RATIO	1.00 - 2.00

INTERPRETATION

NOTE:- **To be correlated in individuals having SGOT and SGPT values higher than Normal Referance Range.**
USE:- Differential diagnosis of diseases of hepatobiliary system and pancreas.

INCREASED:

DRUG HEPATOTOXICITY	> 2
ALCOHOLIC HEPATITIS	> 2 (Highly Suggestive)
CIRRHOSIS	1.4 - 2.0

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Test Name	Value	Unit	Biological Reference interval
INTRAHEPATIC CHOLESTATIS	> 1.5		
HEPATOCELLULAR CARCINOMA & CHRONIC HEPATITIS	> 1.3 (Slightly Increased)		

DECREASED:

1. Acute Hepatitis due to virus, drugs, toxins (with AST increased 3 to 10 times upper limit of normal)
2. Extra Hepatic cholestatis: 0.8 (normal or slightly decreased).

PROGNOSTIC SIGNIFICANCE:

NORMAL	< 0.65
GOOD PROGNOSTIC SIGN	0.3 - 0.6
POOR PROGNOSTIC SIGN	1.2 - 1.6

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Test Name	Value	Unit	Biological Reference interval

CALCIUM

CALCIUM: SERUM	10.44	mg/dL	8.50 - 10.60
by ARSENAZO III, SPECTROPHOTOMETRY			

INTERPRETATION:-

1.Serum calcium (total) estimation is used for the diagnosis and monitoring of a wide range of disorders including diseases of bone, kidney, parathyroid gland, or gastrointestinal tract.
2. Calcium levels may also reflect abnormal vitamin D or protein levels.
3.The calcium content of an adult is somewhat over 1 kg (about 2% of the body weight).Of this, 99% is present as calcium hydroxyapatite in bones and <1% is present in the extra-osseous intracellular space or extracellular space (ECS).
4. In serum, calcium is bound to a considerable extent to proteins (approximately 40%), 10% is in the form of inorganic complexes, and 50% is present as free or ionized calcium.
NOTE:-Calcium ions affect the contractility of the heart and the skeletal musculature, and are essential for the function of the nervous system. In addition, calcium ions play an important role in blood clotting and bone mineralization.

HYPOCALCEMIA (LOW CALCIUM LEVELS) CAUSES :-

1.Due to the absence or impaired function of the parathyroid glands or impaired vitamin-D synthesis.
2. Chronic renal failure is also frequently associated with hypocalcemia due to decreased vitamin-D synthesis as well as hyperphosphatemia and skeletal resistance to the action of parathyroid hormone (PTH).
3.***NOTE:-*** A characteristic symptom of hypocalcemia is latent or manifest tetany and osteomalacia.

HYPERCALCEMIA (INCREASE CALCIUM LEVELS) CAUSES:-

1.Increased mobilization of calcium from the skeletal system or increased intestinal absorption.
2.Primary hyperparathyroidism (pHPT)
3.Bone metastasis of carcinoma of the breast, prostate, thyroid gland, or lung.
NOTE:-Severe hypercalcemia may result in cardiac arrhythmia.

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CLIENT CODE.	: KOS DIAGNOSTIC LAB	**REPORTING DATE**	: 07/Aug/2024 08:33AM
CLIENT ADDRESS	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval

VALPROATE/VALPORIC ACID

SERUM VALPROATE/VALPROIC ACID	66	µg/mL	50 - 100

by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)

INTERPRETATION:

RESULT IN µg/mL	REMARKS
50	Minimum effective concentration
50 - 100	Therapeutic range
>100	Toxic range

NOTE:
1.Trough level is ideal for monitoring blood concentration
2.In Uremia, Cirrhosis or concurrent drug therapy the percent of free Valproic acid increases

COMMENTS:
Valproic acid is used for the treatment of Absence seizures. It is also useful against Tonicclonic & Partial seizures when used in conjunction with other Antiepileptic agents. Single dose half life in healthy adults is 16 hours which decreases to 12 hours on chronic therapy and maybe as short as 8 hours in children. In neonates and hepatic disease when metabolism is reduced, half life becomes prolonged. Peak concentrations occur 1-4 hours after an oral dose. Dosing is problematic in young children who might sleep for more than one complete half life of the drug

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Test Name	Value	Unit	Biological Reference interval

VITAMINS

VITAMIN D/25 HYDROXY VITAMIN D3

VITAMIN D (25-HYDROXY VITAMIN D3): SERUM ***by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)***	**28[L]**	**ng/mL**	**DEFICIENCY: < 20.0** **INSUFFICIENCY: 20.0 - 30.0** **SUFFICIENCY: 30.0 - 100.0** **TOXICITY: > 100.0**

INTERPRETATION:

DEFICIENT:	< 20	ng/mL
INSUFFICIENT:	21 - 29	ng/mL
PREFFERED RANGE:	30 - 100	ng/mL
INTOXICATION:	> 100	ng/mL

1.Vitamin D compounds are derived from dietary ergocalciferol (from plants, Vitamin D2), or cholecalciferol (from animals, Vitamin D3), or by conversion of 7- dihydrocholecalciferol to Vitamin D3 in the skin upon Ultraviolet exposure.
2.25-OH--Vitamin D represents the main body resevoir and transport form of Vitamin D and transport form of Vitamin D, being stored in adipose tissue and tightly bound by a transport protein while in circulation.
3.Vitamin D plays a primary role in the maintenance of calcium homeostatis. It promotes calcium absorption, renal calcium absorption and phosphate reabsorption, skeletal calcium deposition, calcium mobilization, mainly regulated by parathyroid harmone (PTH).
4.Severe deficiency may lead to failure to mineralize newly formed osteoid in bone, resulting in rickets in children and osteomalacia in adults.

DECREASED:
1.Lack of sunshine exposure.
2.Inadequate intake, malabsorption (celiac disease)
3.Depressed Hepatic Vitamin D 25- hydroxylase activity
4.Secondary to advanced Liver disease
5.Osteoporosis and Secondary Hyperparathroidism (Mild to Moderate deficiency)
6.Enzyme Inducing drugs: anti-epileptic drugs like phenytoin, phenobarbital and carbamazepine, that increases Vitamin D metabolism.

INCREASED:
1. Hypervitaminosis D is Rare, and is seen only after prolonged exposure to extremely high doses of Vitamin D. When it occurs, it can result in severe hypercalcemia and hyperphophatemia.

CAUTION: Replacement therapy in deficient individuals must be monitored by periodic assessment of Vitamin D levels in order to prevent hypervitaminosis D

NOTE:*-Dark coloured individuals as compare to whites, is at higher risk of developing Vitamin D deficiency due to excess of melanin pigment which interefere with Vitamin D absorption.*

*** End Of Report ***

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