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NAME	**: Mrs. SHIV SHARAN KAUR**		
AGE/ GENDER	: 49 YRS/FEMALE	**PATIENT ID**	: 1572313
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Test Name	Value	Unit	Biological Reference interval
CLINICAL CHEMISTRY/BIOCHEMISTRY			
UREA			
UREA: SERUM *by UREASE - GLUTAMATE DEHYDROGENASE (GLDH)*	15.3	mg/dL	10.00 - 50.00

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Test Name	Value	Unit	Biological Reference interval
CREATININE			
CREATININE: SERUM *by ENZYMATIC, SPECTROPHOTOMETRY*	0.86	mg/dL	0.40 - 1.20

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Test Name	Value	Unit	Biological Reference interval

LACTATE DEHYDROGENASE (LDH): SERUM

LACTATE DEHYDROGENASE (LDH): SERUM	361.9	U/L	225.0 - 450.0

by BASED ON SCE, SPECTROPHOTOMETRY

INTERPRETATION:-

1.Lactate dehydrogenase (LDH) activity is present in all cells of the body with highest concentrations in heart, liver, muscle, kidney, lung, and erythrocytes.
2.The test can be used for monitoring changes in tumor burden after chemotherapy, although, lactate dehydrogenase elevations in patients with cancer are too erratic to be of use in the diagnosis of cancer

INCREASED (MARKED) :-

1.Megaloblastic anemia.
2.Untreated pernicious anemia.
3.Hodgkins disease.
4.Abdominal and lung cancers.
5.Severe shock.
6.Hypoxia.

INCREASED (MODERATE):-

1.Myocardial infarction (MI).
2.Pulmonary infarction and pulmonary embolism.
3.Leukemia.
4.Hemolytic anemia.
5.Infectious mononucleosis.
6.Progressive muscular dystrophy (especially in the early and middle stages of the disease)
7.Liver disease and renal disease.

NOTE:-

1.In liver disease, elevations of LDH are not as great as the increases in aspartate amino transferase (AST) and alanine aminotransferase (ALT).
2.Serum LDH may be falsely elevated in otherwise healthy individuals which can be due to mechanical destrunction of RBCs. Therefore, Possiblity of mechanical errors (Transportation or vigorous shaking) should always be ruled out.

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Test Name	Value	Unit	Biological Reference interval

ENDOCRINOLOGY

BETA HCG - TOTAL (QUANTITATIVE): TUMOR MARKER

BETA HCG TOTAL,TUMOR MARKER: SERUM	<1.20	mIU/mL	< 5.0

by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)

INTERPRETATION:

NOTE:

1. This test is not recommended to screen Germ cell tumors in the general population.
2. False negative / positive results are observed in patients receiving mouse monoclonal antibodies for diagnosis or therapy
3. HCG levels may appear consistently elevated / depressed due to the interference by heterophilic antibodies, nonspecific protein binding, HCG like substances & certain medications

CLINICAL USE:

1. An aid in the management of Trophoblastic tumors. HCG is elevated in nearly all· patients and correlates with tumor volume and disease prognosis. It is also useful in monitoring therapy.
2. Persistent HCG levels following therapy indicate the presence of residual disease. During chemotherapy, weekly HCG measurement is recommended. After remission is achieved, yearly HCG measurement is recommended to detect relapse.
3. Monitoring Germ cell tumors, Non seminomatous testicular tumors· & less frequently Seminomas. HCG alone is useful in identifying Trophoblastic tumors, and alongwith AFP in detecting Non seminomatous testicular tumors

INCREASED LEVELS:

1. Testicular tumors
2. Ovarian Germ cell tumors
3. Gestational Trophoblastic disease
4. Non germ cell tumors – Melanoma & Carcinomas of breast, GI Tract, Lung & Ovary
5. Benign conditions like Cirrhosis, Duodenal ulcer and Inflammatory bowel disease

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Test Name	Value	Unit	Biological Reference interval

TUMOUR MARKER

ALPHA FETO PROTEIN (AFP): TUMOR MARKER

ALPHA FETO PROTEIN (AFP) TUMOUR MARKER: SERUM *by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)*	1.79	IU/mL	SMOKERS: < 8.00 NON SMOKERS: < 8.00 HEPATO CELLULAR CARCINOMA:100.0->350.0

INTERPRETATION:

1. Alpha-fetoprotein (AFP) is a glycoprotein that is produced in early fetal life by the liver, GIT & yolk sac and by a variety of tumors including hepatocellular carcinoma, hepatoblastoma, and nonseminomatous germ cell tumors of the ovary and testis (eg, yolk sac and embryonal carcinoma). Most studies report elevated AFP concentrations in approximately 70% of patients with hepatocellular carcinoma. Elevated AFP concentrations are found in 50% to 70% of patients with non seminomatous testicular tumors.
2. It is a major component of fetal plasma, reaching a peak concentration of 3mg/mL at 12 weeks of gestation. Following birth, it clears from circulation, falling to 100 ng/ mL by 150 days and reaching adult values by end of 1 year.
3. AFP is elevated during pregnancy. Persistence of AFP in the mother following birth is a rare hereditary condition.
3. Neonates have markedly elevated AFP levels (>100,000 ng/mL) that rapidly fall to below 100 ng/mL by 150 days and gradually return to normal over their first year.
4. Concentrations of AFP above the reference range also have been found in serum of patients with benign liver disease (eg, viral hepatitis, cirrhosis), gastrointestinal tract tumors and, along with carcinoembryonic antigen in ataxia telangiectasia.

CAUTION:

1. It is not recommended to use this assay for the initial diagnosis of the above mentioned malignancies.
2. It is best used for monitoring of therapy and to look for relapse of malignancies that have been surgically excised or cleared with chemo/radiotherapy.
3. Failure of the AFP value to return to normal by approximately 1 month after surgery suggests the presence of residual tumor.
4. Elevation of AFP after remission suggests tumor recurrence; however, tumors originally producing AFP may recur without an increase in AFP.

NOTE:

A difference of > 20% between two measurements is considered to be medically significant. The assay is used only as an adjunct to diagnosis and monitoring/ diagnosis should be confirmed by other tests/procedures.

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Test Name	Value	Unit	Biological Reference interval

CANCER ANTIGEN 125 (CA 125): OVARIAN CANCER MARKER

CANCER ANTIGEN (CA) -125: SERUM *by CMIA (CHEMILUMINESCENCE MICROPARTICLE IMMUNOASSAY)*	14.5	U/mL	0.0 - 35.0

INTERPRETATION:

1. Cancer antigen 125 (CA 125) is a glycoprotein antigen normally expressed in tissues derived from coelomic epithelia (ovary, fallopian tube, peritoneum, pleura, pericardium, colon, kidney, stomach).
2. Serum CA 125 is elevated in approximately 80% of women with advanced epithelial ovarian cancer, but assay sensitivity is suboptimal in early disease stages. The average reported sensitivities are 50% for stage I and 90% for stage II or greater.
3. Elevated serum CA 125 levels have been reported in individuals with a variety of nonovarian malignancies including cervical, liver, pancreatic, lung, colon, stomach, biliary tract, uterine, fallopian tube, breast, and endometrial carcinomas.

SIGNIFICANCE:

1. Evaluating patients' response to cancer therapy, especially for ovarian carcinoma
2. Predicting recurrent ovarian cancer or intra-peritoneal tumor.In monitoring studies, elevations of cancer antigen 125 (CA 125) >35 U/mL after de-bulking surgery and chemotherapy indicate that residual disease is likely (>95% accuracy). However, normal levels do not rule-out recurrence.
3. A persistently rising CA 125 value suggests progressive malignant disease and poor therapeutic response.
4. Physiologic half-life of CA 125 is approximately 5 days.
5. In patients with advanced disease who have undergone cyto-reductive surgery and are on chemotherapy, a prolonged half-life (>20 days) may be associated with a shortened disease-free survival.

NOTE:

1. CA 125 levels. Hence this assay, regardless of level, should not be interpreted as absolute evidence for the presence or absence of malignant disease. The assay value should be used in conjunction with findings from clinical evaluation and other diagnostic procedures It is not recommended to use this test for the initial diagnosis of ovarian cancer.

2. Falsely Elevated serum CA 125 levels have been reported in individuals with a variety of nonmalignant conditions including: cirrhosis, hepatitis, endometriosis, first trimester pregnancy, ovarian cysts, and pelvic inflammatory disease. Elevated levels during the menstrual cycle also have been reported.

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Test Name	Value	Unit	Biological Reference interval

CANCER ANTIGEN 19.9 (CA 19.9): PANCREATIC CANCER MARKER

CANCER ANTIGEN (CA) -19.9: SERUM *by CMIA (CHEMILUMINESCENCE MICROPARTICLE IMMUNOASSAY)*	<2.000	U/mL	0.00 - 41.0

INTERPRETATION:

1.CA 19.9 isolated originally from colon cancer cell line has greatest utility in detecting pancreatic cancers and hence is the most useful circulating tumour marker for evaluating chronic pancreatic disorders.
2.The specificity and positive predictive value for cancers increase with higher CA 19.9 values.
3.Tumour size and histological grade affect the values, being higher in tumors > 3cms in diameter and in differentiated tumors.
4.High levels suggest tumour is unresectable. Used in conjunction with CT scan and other imaging modalities to decide about tumor resection.
5.Useful in predicting survival and recurrence after surgery. A persistent elevation following surgery may be indicative of occult metastasis or recurrence of disease.

INCREASED LEVELS ARE SEEN IN:

1.Pancreatic Cancer
2..Cancers of bile duct, stomach, colon and oesophagus
3.Some non-gastrointestinal cancers
4.Hepatomas
5.Non-malignant conditions like hepatitis, cirrhosis, acute cholangitis pancreatitis and cystic fibrosis.

NOTE:

1.CA 19.9 assay should be used as an adjunct with other diagnostic information in the management of pancreatic cancer.
2.The results obtained with different analytical techniques and different equipments cannot be used interchangeably due to difference in assay methods and reagent specificity.
3.In course of monitoring, the assay method preferably should not be changed

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Test Name	Value	Unit	Biological Reference interval

CARCINO EMBRYONIC ANTIGEN (CEA)

CARCINO EMBRYONIC ANTIGEN (CEA): SERUM *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	<0.500	ng/mL	< 5.0

INTERPRETATION:

1. Carcinoembryonic antigen (CEA) is a glycoprotein normally found in embryonic entodermal epithelium.
2. Increased levels may be found in patients with primary colorectal cancer or other malignancies including medullary thyroid carcinoma and breast, gastrointestinal tract, liver, lung, ovarian, pancreatic, and prostatic cancers.
3. Serial monitoring of CEA should begin prior to initiation of cancer therapy to verify post therapy decrease in concentration and to establish a baseline for evaluating possible recurrence. Levels generally return to normal within 1 to 4 months after removal of cancerous tissue.

CLINICAL SIGNIFICANCE:

1. Monitoring colorectal cancer and selected other cancers such as medullary thyroid carcinoma
2. May be useful in assessing the effectiveness of chemotherapy or radiation treatment.

NOTE:

1. Carcinoembryonic antigen levels should not be used for screening of the general population for undetected cancers.
2. Grossly elevated carcino-embryonic antigen (CEA) concentrations (>20 ng/mL) in a patient with compatible symptoms are strongly suggestive of the presence of cancer and also suggest metastasis.
3. Most healthy subjects (97%) have values < or =3.0 ng/mL.
4. After removal of a colorectal tumor, the serum CEA concentration should return to normal by 6 weeks, unless there is residual tumor.
5. Increases in test values over time in a patient with a history of cancer suggest tumor recurrence.

*** End Of Report ***

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