Charak dhar DIAGNOSTICS Pvt. Ltd.

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CMO Reg. No. RMEE 2445133
NABL Reg. No. MC-2491
Certificate No. MIS-2023-0218

Patient Name	: Ms.SAMPA DAS	Visit No	: CHA250031364
Age/Gender	: 23 Y/F	Registration ON	: 21/Feb/2025 02:37PM
Lab No	**: 10128660**	Sample Collected ON	: 21/Feb/2025 02:38PM
Referred By	: Dr.AYSHA SHAMIM	Sample Received ON	: 21/Feb/2025 02:56PM
Refer Lab/Hosp	: CHARAK NA	Report Generated ON	: 23/Feb/2025 09:51AM
Doctor Advice	: DUAL MARKER		

PR.

Test Name	Result	Unit	Bio. Ref. Range	Method
DUAL MARKER				
Date of Birth	31/01/01			
AGE AT TERM	24.6 years			
MATERNAL WEIGHT	54.0 kg			
GESTATIONAL AGE	11 WEEKS 4 DAYS			
USG SCAN DATE	21/02/25			
PREVIOUS TRISOMY	NO			
PREGNANCY	SINGLE			
DIABETES MELITUS	NO			
SMOKING	NO			
IVF	NO			
RESULT OF MEASURED VALUE,RISK VALUE				
MOM PAPPA-A	1.15			
MOM HCG	1.02			
Mom Nuchal Translucency	0.92			
RISK FACTOR				
AGE RISK AR TERM	1:1400			
TRISOMY 21 RISK WITH NT	**<1:50000**			
TRISOMY 13/18 RISK WITH NT	1:99000			
Result	Negative			

Cut off levels in various disorders and detection rate

ABNORMALITY	CUT OFF	DETECTION RATE	FALSE POSITIVE
TRISOMY 2l	1:250	Approximately 85%	5-10%
TRISOMY 13/18	1:100	Approximately 85%	5-10%

Useful For

Prenatal screening for Down syndrome (nuchal translucency, pregnancy-associated plasma protein A, human chnrionic gonadotropin] and trisomy 18 (nuchal translucency, pregnancy-associated plasma protein A, human chorionic gonadotropin).

Clinical Information

Multiple marker serum screening has become a standard tool used in obstetric care to identify pregnancies that may have an increased risk for certain birth defects such as Down syndrome and trisomy 13. Second-trimester multiple marker screening has been well established for over a decade.

During Z002 through 2006, First trimester screening has been established as an alternative option of equal or better performance compared with the best second trimester screening programs.

The first-trimester screen is performed by measuring analytes in maternal serum that are produced by the fetus and the placenta. Additionally, the nuchal translucency (NT) measurement is a sonographic marker shown to be effective in screening fetuses for

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*Patient Identity Has Not Been Verified. Not For Medicolegal

DR. NISHANT SHARMA PATHOLOGIST
DR. SHADAB PATHOLOGIST
Dr. SYED SAIF AHMAD MD (MICROBIOLOGY)

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Down syndrome. A mathematical model is used to calculate a risk estimate by combining the analyte values, NT measurement, and maternal demographic information. The laboratory establishes a specific cutoff for each condition, which classifies each screen as either screen-positive or screen-negative. A screen-positive result indicates that the value obtained exceeds the established cutoff. A positive screen does not provide a diagnosis, but indicates that further evaluation should be considered.

Serum Analytes

Human chorionic gonadotropin (total/free beta-hCG):

hCG is a glycoprotein consisting of alpha and beta subunits. hCG is synthesized by placental cells starting very early in pregnancy and serves to maintain the corpus luteum and, hence, progesterone production during the first trimester. Thereafter, the concentration of hCG begins to fill as the placenta begins to produce steroid hormones and the role of the corpus Iuteum in maintaining pregnancy diminishes. increased total /free hCG levels are associated with an increased risk for Down syndrome.

Pregnancy-associated plasma protein A (PAPP-A):

PAPP-A is a 187 kDA protein comprised of4 subunits: 2 PAPP-A subunits and Z pro-major basic protein (proMBP] subunits. PAF P-A is a metalloproteinase that cleaves insulin-like growth factor-binding protein-4 [lGFBP-4), dramatically reducing IGFBP-4 affinity for lGF1 end lGF2. thereby regulating the availability of these growth factors at the tissue level. PAPP-A is highly expressed in first-trimester trophoblasts, participating in regulation of fetal growth. Levels in maternal serum increase throughout pregnancy. Low PAPP-A levels before the 14th week of gestation are associated with an increased risk for Down syndrome and trisomy 18.

Nuchal translucency [NT]:

The NT measurement, an ultrasound marker, is obtained by measuring the fluid-filled space within the nuchal region [back of the neck) of the fetus. While fetal NT measurements obtained by ultrasonography increase in normal pregnancies with advancing gestational age. Down syndrome fetuses have larger NT measurements than gestational age-matched normal fetuses. increased fetal NT measurements can therefore serve as an indicator of an increased risk for Down syndrome.

Interpretation

Screen-Negative:

A screen-negative result indicates that the calculated screen risk is below the established cutoff of 1/250 for Down syndrome and 1/100 for trisomy 18. A negative screen does not guarantee the absence of trisomy 18 or Down syndrome. Screen-negative results typically do not warrant further evaluation

Screen-Positive:

When a Down syndrome risk cutoff of 1/250 is used for follow-up, the combination of maternal age, pregnancy-associated plasma protein A, human chorionic gonadotropin, and nuchal translucency has an overall detection rate of approximately 85% with a false-positive rate of5% to 10%. In practice, both the detection rate and false-positive rate increase with age, thus detection and positive rates will vary depending on the age distribution of the screening population.

Cautions:

Upon receiving maternal Scrum screening results, all information used in the risk calculation should be reviewed for accuracy [eg. maternal date of birth, demographics, sonographic information). If any information is incorrect, the laboratory should be contacted for a recalculation of the estimated risks. This test dries not screen for neural tube defects

Variables Affecting Marker Levels:

1. All serum marker multiple of medians are adjusted for maternal weight [to account for dilution effects in heavier mothers). The estimated risk calculations and screen results are dependent on accurate information for gestation, maternal age, and weight,

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inaccurate information can lead to significant alterations in the estimated risk.

2. A screen-negative result does not guarantee the absence of fetal defects. A screen-positive result does not provide a diagnosis, but indicates that further diagnostic testing should be considered [an unaffected fetus may have screen-positive result for unknown reasons). In fact, given the low prevalence of Down syndrome, the majority of women with a positive screen will not have a Down syndrome fetus.

3. ln twin pregnancies, the risk for Down syndrome is approximated, using twin-adjusted medians. A specific risk for trisomy 18 cannot be calculated; therefore, results for trisomy I8 are reported as either screen-negative or screen-positive. Risks for triplets and higher multiples cannot be calculated.

Note : A positive screen must be followed with triple/quadruple screen, NIPT (non-invasive prenatal testing) or an amniocentesis test along with imaging studies.

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

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