

Persistent Non-Reactive Non-Stress Test in Down's Syndrome Fetuses : A report of 2 cases.

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The Non-Stress Test (NST) is an important and reliable test of fetal well being. Its reactivity depends upon a mature and functioning autonomic fetal nervous system. In very premature but healthy fetuses less than 28-30 weeks, the NST may be non-reactive. In two term fetuses, the NST was persistently non-reactive on fetal surveillance, but on every occasion the biophysical profile was good. After delivery, the fetuses were unfortunately found to have trisomy 21 (Down's syndrome). The babies had reduced muscle tone and reflexes.



Case 1: A 37 year old second gravida with previous one stillborn fetus (due to severe pregnancy induced hypertension) had low maternal serum alpha fetoprotein. Cordocentesis for fetal karyotype showed trisomy 21 in one cell only, and a repeat sampling was advised. The patient however refused cordocentesis and carried on the pregnancy. Fetal growth was normal and no structural malformations or ultrasonic marker of chromosomal anomaly were detected. Fetal monitoring by NST was started 34 weeks onwards.

The NST was persistently non-reactive, but Mannings biophysical (BPP) score was 8/10. At 38 weeks she had spontaneous vaginal delivery of a 2.6 kg male fetus. The baby had clinical features of Down's syndrome, confirmed on karyotype.

Case 2 : A 22 year old gravida 2, previous 1 abortion, was referred at 32 weeks of gestation with intrauterine fetal growth restriction. Ultrasound showed that there was mild

growth retardation, liquor was decreased. There was no congenital malformations and fetal echo was normal. The blood sugar and infection screening was normal. The patient had not had a biochemical screening for chromosomal anomalies in early pregnancy. Fetal monitoring was started with weekly NST and biophysical profile (BPP) score.

The NST was always either non-reactive or equivocal, but BPP score was 8/10. The patient was induced at 37 weeks. pregnancy. A 2.1 kg fetus was delivered spontaneously. The baby had clinical appearance of down's syndrome (Fig.1) and Trisomy 21 was confirmed on chromosomal analysis.

A persistent non-reactive NST is perhaps an omnious biophysical sign of fetal chromosomal anomaly.