4755- Screening between 15 – 17 weeks by measurement of Nuchal Fold Thickness (NFT) – can this predict the possibility of chromosomal abnormalities?

Khopkar N, Shettikeri A, Acharya V, Radhakrishnan P, Bangalore Fetal Medicine Centre, India

BANGALORE FETAL MEDICINE CENTRE

Introduction: NFT which was first described by Benacerraf et al [1] in 1985, is an established 2nd trimester sonographic marker for Down syndrome. Increased NFT is an important component of the genetic sonogram and has a major role in re assigning post hoc risks. However there haven't been many studies which establish nomograms for NFT in the second trimester.

Objective: To analyse the incidence of chromosomal abnormalities (detected antenatally or postnatally) in structurally normal fetuses with NFT greater than 95th centile for gestational age (GA) between 15-17 weeks using gestational age-wise nomograms

Methodology:

- Gestational age-wise NFT nomograms were created from 1831 structurally and chromosomally normal singleton fetuses with available follow-ups between 15-17 weeks
- Data was collected retrospectively from 2007 to 2022 from a single tertiary fetal medicine unit in South-India
- All scans were performed by FMF operators & database was maintained on Astraia software
- NFT was measured in the axial view of fetal trans-cerebellar plane like in the routine anomaly scan
- The incidence of chromosomal abnormalities was calculated for each GA in fetuses with NFT less than and more than 95th centile to assess the predictive power. Outcome of pregnancies was obtained by telephonic interview of parents and examination of hospital records
- **Inclusion criteria:** Structurally normal singletons between 15-17 weeks with available NFT values & postnatal follow up
- **Exclusion criteria:** Fetuses with associated structural anomalies & multiple pregnancies

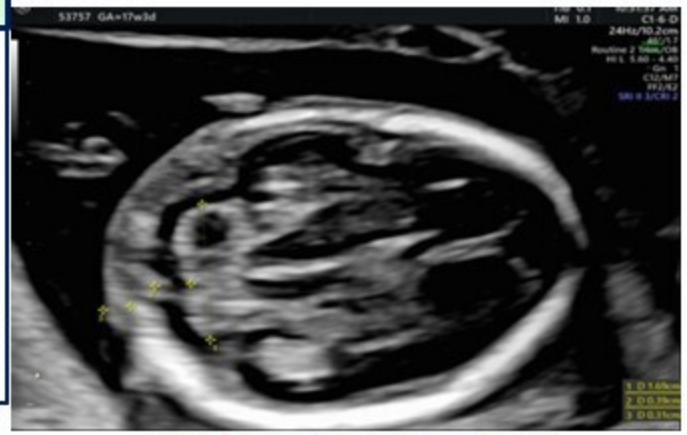

Fig 1: NFT measurement at 17 weeks

Results

GA (weeks)	5th	50th	95th
15	1.8	2.6	3.566666
16	2.05	3	4.233333
17	2.299999	3.4	4.899999

Fig 2: NFT nomograms for 15-17 weeks

NFT \ KT/CMA	KT/CMA-Normal	KT/CMA-abnormal
<95th centile (343)	332/343 (96.8%)	11/343 (3.2%)
>95th centile (27)	25/27 (92.6%)	2/27 (7.4%)

15 wks

Fig 3: Comparison for chromosomal abnormalities at 15 wks

NFT \ KT/CMA	KT/CMA-Normal	KT/CMA-abnormal
<95th centile (731)	722/731 (98.8%)	9/731 (1.2%)
>95th centile (53)	52/53 (98.1%)	1/53 (1.9%)

16 wks

Fig 4: Comparison for chromosomal abnormalities at 16 wks

NFT \ KT/CMA	KT/CMA-Normal	KT/CMA-abnormal
<95th centile (865)	854/865 (98.7%)	11/865 (1.3%)
>95th centile (53)	51/53 (96.2%)	2/53 (3.8%)

17 wks

Fig 5: Comparison for chromosomal abnormalities at 17 wks

Conclusions:

- It is common in our country for women to attend for the "first trimester scan" after completion of 13 weeks 6 days
- Although detailed assessment of the fetal anatomy is possible at this stage, the risk assessment does not follow a standard protocol
- Although results did not reach statistical significance, by creating a nomogram for measurement of NFT at 15-17weeks & showing a positive correlation of increasing NFT with chromosomal & structural abnormalities, we suggest that this information is replicated in other units, recruiting larger numbers at this gestational age
- Validating the nomograms and using them might help those women who "miss" the first trimester scan

Reference: Benacerraf BR, Barss VA, Laboda LA. A sonographic sign for the detection in the second trimester of the fetus with Down's syndrome. Am J Obstet Gynecol 1985; 151:1078–1079.

Correspondence:
drprathima@bangalorefetalmedicine.com