4756- Is it time to shift from a "6mm cut off" to "NFT above the 95th percentile for the gestational age" in structurally abnormal fetuses at 18 – 20 weeks?

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: The objective of this study was to compare the incidence of cardiac defects and chromosomal abnormalities between fetuses with Nuchal Fold Thickness (NFT) greater than 6 mm & greater than 95th percentile for gestational age (GA) but not more than 6 mm at 18-20 weeks

Methodology:

- Gestational age-wise nomograms for NFT were created from 11,687 structurally & chromosomally normal singleton fetuses having postnatal follow ups between 18-20 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 as recommended by the FMF
- Comparison was made at each gestational age for incidence of chromosomal and cardiac abnormalities in fetuses with NFT greater than 6 mm & NFT greater than 95th percentile for GA but </= 6 mm
- Outcomes of pregnancies were obtained by telephonic interviews of parents & examination of hospital records
- **Inclusion criteria:** Singletons between 18020 weeks with available NFT values and follow ups
- **Exclusion criteria:** Fetuses without follow ups & multiple pregnancies

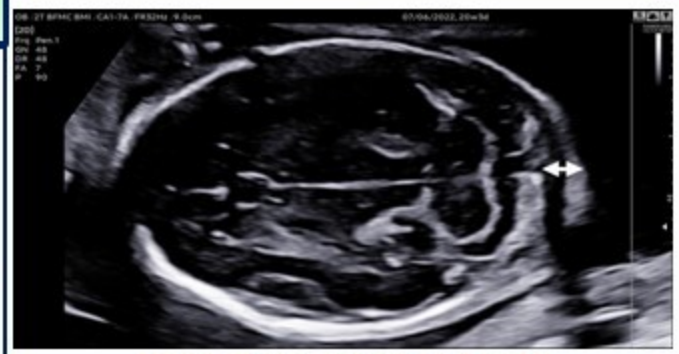

Fig 1: NFT measurement at 20 weeks

Results

95th centiles for NFT at 18, 19 & 20 weeks were 4.9mm, 5.3mm, 5.7mm respectively

	KT/CMA available	Normal KT/CMA	Abnormal KT/CMA
NFT > 6 mm + structural defects = 4	0	0	0
>95th - 6 mm = 10	5/10 (50%)	4/5 (80%)	1/5 (20%) (T21- had LAD, ANB also)
NFT > 6mm + structural defects = 20	6/20 (0.3%)	6/6 (100%)	0
>95th - 6 mm = 30	13/30 (43.3%)	11/13 (84.6%)	2/13 (15.4%) (1st case- TOP w/o Ix. Post abortal- dysmorphic facies. 2nd case- 47XXY, had TOF also)
NFT > 6 mm + structural defects = 20	9/20 (45%)	9/9 (100%)	0
>95th - 6 mm = 14	6/14 (42.8%)	6/6 (100%)	0

Fig2: Comparison of chromosomal anomalies in fetuses with structural defects

	KT/CMA available	Normal KT/CMA	Abnormal KT/CMA
> 6 mm NFT = 7	7 (100%)	6/7 (85.7%)	1/7 (14.3%)
>95th - 6 mm = 152	144/152 (94.7%)	143/144 (99.3%)	1/144 (0.7%) (EIF - NIPT-high risk for T21- continued- T21 confirmed postnatally)
> 6 mm NFT =15	12/15 (80%)	12/12 (100%)	0
>95th - 6 mm = 337	331/337 (98.2%)	329/331 (99.4%)	2/331 (0.6%) (1st case- Gaucher's variant PN 2nd- RPD, ANB- T21 confirmed AN)
> 6 mm NFT = 21	21/21 (100%)	21/21 (100%)	0
>95th - 6 mm =175	170/175 (97.1%)	169/170 (99.4%)	1/170 (0.6%) (chr 15q del , PN)

Fig3: Comparison of chromosomal anomalies in fetuses w/o structural defects

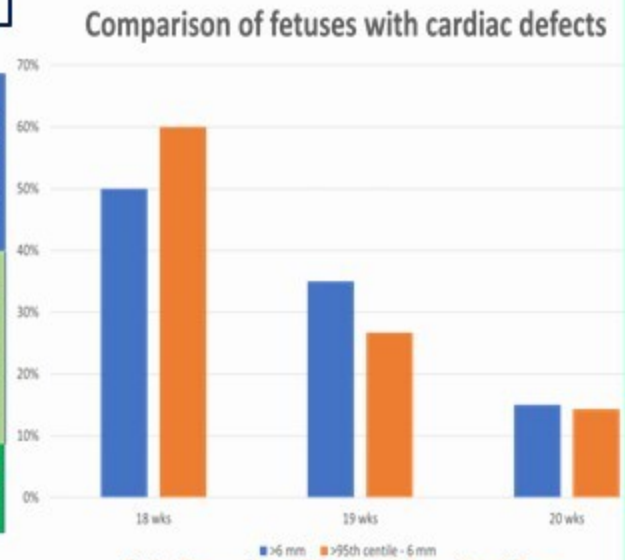

Fig 4: Comparison of fetuses with cardiac defects

Conclusions:

- An association was observed in the prevalence of cardiac defects in fetuses with NFT >95th centile but not more than 6 mm
- In the presence of a structural anomaly, NFT above the 95th centile had additional fetuses with chromosomal / genetic anomalies. Although the results did not reach a statistical significance, a positive correlation was observed
- We suggest that in the presence of a structural anomaly, especially a cardiac anomaly, a NFT above the 95th centile for the GA may be considered as a marker rather than the traditionally used "6 mm cut off" for all these gestational ages with or without an anomaly
- However, larger prospective studies are needed to validate the same

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