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PII: S0002-9378(22)00573-7
DOI: https://doi.org/10.1016/j.ajog.2022.07.019
Reference: YMOB 14618


Received Date: 5 June 2022
Accepted Date: 11 July 2022

Please cite this article as: Zhen L, Li D-Z, First trimester nuchal translucency measurements: using a transverse or sagittal plane?, American Journal of Obstetrics and Gynecology (2022), doi: https://doi.org/10.1016/j.ajog.2022.07.019.

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First trimester nuchal translucency measurements: using a transverse or sagittal plane?

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Conflicts of interest: The authors report no conflict of interest.

Financial support: None.

Word count (main text): 399
To the Editors:

A nuchal translucency (NT) examination is currently a routine first trimester ultrasound. The presence of a thickened NT (≥3.5 or ≥3.0 mm) is associated with common and uncommon aneuploidies as well as for a wide variety of genetic syndromes and structural anomalies even when the karyotype is normal.\textsuperscript{1,2} Measurement of the NT requires specific and standardized assessment and careful attention to technique, which might be time-consuming, especially when the fetus is not well posed.

To overcome this limitation, Montaguti et al.\textsuperscript{3} investigated the ability of a transverse view of the fetal head to detect increased fetal NT at 11-13 weeks’ gestation. In a total of 1023 women referred for the first trimester combined screening, an excellent correlation was found between sagittal and transverse NT measurements. The time required to obtain transverse NT measurements was significantly shorter than for sagittal measurements, particularly when the fetus had an unfavorable position. The authors concluded that increased NT can be reliably identified by using transverse views and in some cases, this may technically be advantageous. However, their study lacked some basic information that is required to sustain the conclusion.

Although measurement of NT in the transverse plane identified accurately cases with a sagittal measurement of ≥3.0, how many cases had NT greater than 3.0 mm and 3.5 mm respectively in this study? In 45 (4.4%) out of 1023 patients a high risk of trisomies 21, 13/18 or both was calculated from either the combined test or non-invasive prenatal testing (NIPT). Were cases with increased NT included in these 45 patients, or how many cases with increased NT were in these 45 patients? Was an increased fetal NT an indication of invasive testing in their algorithm? In 33 patients who decided to undergo chorionic villous sampling, aneuploidies were detected in six (18%). Did the three cases (one of trisomy 18 and one of trisomy 9 and 16 respectively) have increased fetal NT measurements or other structural anomalies on first trimester ultrasound?
NIPT is transforming the landscape of prenatal care. It can be expected that NIPT will ultimately become the primary screening tool for common trisomies. Therefore, we agree with Montaguti et al. that the need for routine NT measurement in the era of NIPT screening for aneuploidy might not be necessary. In a screening algorithm with NIPT (Figure), the ultrasonographic information on whether a large NT or other structural anomalies are found is enough.

References


Figure. A first trimester screening algorithm with NIPT as the primary screening tool. NIPT, non-invasive prenatal testing; NT, nuchal translucency
Figure

Pregnancies at 10-13 weeks

NT screening ultrasound

Normal NT (<3.0 mm)

Increased NT (≥3.0 mm) and/or structural anomalies

NIPT

Negative

Positive

Invasive testing