Effects of exogenous progesterone on fetal nuchal translucency: an observational prospective study


Received: July 6, 2014; Received in revised form: September 21, 2014; Accepted: October 6, 2014; Published Online: October 08, 2014

DOI: http://dx.doi.org/10.1016/j.ajog.2014.10.003

Publication stage: In Press Accepted Manuscript

Abstract
Abstract

Objective
Nuchal Translucency (NT) seen ultrasonographically at 11-14 weeks' gestation is a sensitive marker for Down Syndrome. Despite its important role for the Down Syndrome screening, its use is still considered controversial due to high false-positive rates. We speculated that progesterone could lead to abnormal blood flow patterns and, subsequently, to an increased NT. Primary endpoint was to evaluate the effects of exogenous progesterone on NT thickness compared to controls. Secondary endpoints was to evaluate these effects in a subgroup at low risk for fetal aneuploidies, identifying the strongest factors influencing NT variation. Tertiary endpoint was to evaluate, within the treatment group, if there is any difference in NT according to the type of progesterone administered, route of administration and dose regimen.

Study design
All women who came to measure NT at 11-14 weeks' gestation (CRL between 45-84 mm) were considered eligible. We divided patients into two groups, women receiving exogenous progesterone and controls. Afterwards, 3 NT scans were performed for each case, and the largest value, accurate to two decimal points, was recorded.

Results
3716 women were enrolled and analysed. In a crude-analysis, NT resulted statistically (P<0.05) increased in the exogenous progesterone group. The same results was obtained in the low-risk group (p< 0.05). The factorial ANOVA model confirmed a correlation between altered NT and gestational age (P<0.0001) and progesterone exposure (P<0.05).

The characteristics of treatment (route, formulation, dose) were examined separately and no statistically significant differences among the subgroups were observed.

Conclusion
Exogenous progesterone increases NT.

Keywords:
progesterone, embryo development, aneuploidy, ultrasound, nuchal translucency

To access this article, please choose from the options below

Purchase access to this article
You must be logged in to purchase this article.

Claim Access
If you are a current subscriber with Society Membership or an Account Number, claim your access now.

Subscribe to this title
Purchase a subscription to gain access to this and all other articles in this journal.

Institutional Access
Visit ScienceDirect to see if you have access via your institution.

Conflicts of Interest and Source of Funding: The authors report no conflict of interest.