Composite Morphometric/Morphographic Ultrasound Parameters of the Second Trimester Cervix for the Prediction of Spontaneous Preterm Labor

Type of article: Conference abstract

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BACKGROUND
There is need for simple, cheap and highly predictive test for spontaneous preterm labor (SPL). The "zone of endocervical crypts (ZEC)" is a well-defined sonographic landmark corresponding to enfolded of the endocervical mucosa. Early loss of ZEC might be considered as indicative of "premature effacement". We tested the efficacy of a "composite" parameter of cervical length plus ZEC loss for the prediction SPL.

MATERIAL/METHODS
The study included singleton pregnant women attending Asyout Clinic for Gynecology and Obstetrics between 20 and <24 weeks’ gestation. Transvaginal ultrasonography was used for:

a) measuring the cervical length, and, b) detecting the existence/non-existence of ZEC.

* Cervical length was measured as the distance between the internal os of the cervix and the external os.

* The Zone of Endocervical Crypts (ZEC) was defined as the heterogeneous area around the cervical canal (CC). Monoechoic appearance of the cervix was described as loss of the ZEC. The sensitivity, specificity, positive and negative predictive values (PPV, NPV) were calculated for:

1) cervical shortening 2) ZEC loss, 3) combined 1 & 2, and, 4) funneling

RESULTS
Two thousand and one pregnancies were evaluated for the incidence and sonographic prediction of SPL (24 - <32 weeks, and 32-36 weeks).

The overall SPL rate was 9%.

Loss of ZEC, and, the combined ZEC loss with shortened cervix were found to have better specificity and better PPV than the cervical shortening alone.

ZEC loss had better PPV for early rather than late PL.

“Funneling” had poor PPV, but, is still a good “negative”

CONCLUSION
The composite parameter of the “lost ZEC” and short cervix is superior to the cervical length alone for the early prediction of SPL. Wider scale study is now being run for: a) ensuring the reproducibility of the parameter testing values, and b) to find any correlation between the ZEC loss and other clinical criteria as subtle infection.

Key Words: ultrasound, Preterm Labor, Cervix

1. Declaration of conflicts
This article was selected from ICHSMT’17 abstracts book.

2. Authors’ biography
No Biography

3. REFERENCES
No references