urse, some patients can present a serious clinical picture, mainly when the respiratory viruses involve preterm newborns. It is important to emphasize the need for early etiological diagnosis of these infections in order to choose the appropriate therapeutics and control the spread of the viral pathogens within the neonatal units.

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PRELIMINARY REPORT ON A NEW AND NONINVASIVE METHOD FOR THE ASSESSMENT OF FETAL LUNG MATURITY

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Object Several patterns of fetal breathing movements (FBMs) i.e., abdominal wall movements (AWm), thoracic wall movements (TWm), nasal fluid flow velocity waveforms (NFFVW) were investigated by ultrasound (US) technology and related to fetal pulmonary maturity and immaturity, i.e., fetal lung maturity (FLM) tests in order to validate the hypothesis that they may indicate that the fetal lung is mature or immature, regardless of gender, weight and gestational age.
Material and Methods We prospectively enrolled 143 high-risk pregnancies in which a complete US study of FBMs and FLM tests were performed. Among them 43 women satisfied the inclusion criteria. US-FLM was defined as the presence of regular NFFVW detected by pulsed Doppler and spectral analysis, or irregular NFFVW synchronous with TWm detected by M-mode. An US guided amniocentesis was performed in order to collect amniotic fluid (AF) and FLM was evaluated by L/S (lecithin/sphingomyelin) determination, presence phosphatidylglycerol (PG) and lamellar bodies (LBs) count. At the end of the study diagnostic accuracy of US-FLM was compared with that of FLM tests.
Results Diagnostic accuracy for US evaluation of FLM was as follow: sensitivity: 89,6%; specificity: 85,7%; PPV 92,8%; NPV: 80%. Diagnostic accuracy of FLM tests was as follow: sensitivity: 100%; specificity: 51,7%; PPV 100%; NPV: 50%. L/S determination predicted lung maturity with a sensitivity of 100%; specificity 93,1%; PPV 100%; NPV 87,5%.
Conclusion Presence of regular NFFVW or irregular NFFVW and TWm correlate accurately with conventional FLM tests.
We suggest that this noninvasive procedure may be helpful to assess FLM, particularly under certain circumstances, e.g., oligo-anhydramnios, laboratory logistic equipment difficulties or heavily stained AF samples, amniocentesis refusal, religious concerns.

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NONINVASIVE DIAGNOSIS BY DOPPLER ULTRASONOGRAPHY OF FETAL ANEMIA DUE TO PARVOVIRUS INFECTION

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Objective: To evaluate the feasibility of the middle cerebral artery peak systolic velocity in the detection of fetal anemia in pregnancies complicated by parvovirus B 19 infection.
Study design: Doppler measurements of the middle cerebral artery peak systolic velocity were weekly performed in 32 fetuses at risk for anemia because of maternal parvovirus infection documented by the presence of IgM. The values of middle cerebral artery peak systolic velocity and hemoglobin were expressed as multiples of the median. Middle cerebral artery values were scattered on reference ranges previously established. A cordocentesis was performed either in presence of fetal ascites or when the middle cerebral artery peak systolic velocity values suggested moderate/severe anemia (middle cerebral artery peak systolic velocity > 1.50 multiples of the median).

Results: Gestational age at study entry ranged from 15.1 to 37 weeks. In sixteen patients the middle cerebral artery peak systolic velocity was below 1.50 MoM and there was no sign of hydrops (Group 1). The fetuses of this group did not have any complications and did well at birth. Group 2 included thirteen fetuses that showed both, an elevated value of middle cerebral artery peak systolic velocity and ascites, and three fetuses who had an elevated value of middle cerebral artery peak systolic velocity. In Group 2, one fetus was mildly anemic, and 15 were severly anemic. The sensitivity of peak systolic velocity for the prediction of anemia because of parvovirus infection was 94.1 %; with a false negative rate of 5.8 %. There were no false positive cases and the positive and negative predictive values were 100% and 93.7%, respectively.

Conclusions: Fetal anemia due to parvovirus infection can be detected noninvasively by Doppler ultrasonography on the basis of an increase in the peak velocity of systolic blood flow in the middle cerebral artery.

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CHANGES IN SPIRAL ARTERY IN NORMAL PREGNANCIES: DOPPLER STUDY

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Objectives: The aim of the study was to determine the pulsality and resistance index of spiral arteries during first and second trimester of pregnancy.

Design: Two-hundred and twenty-five normal pregnancies were included in this longitudinal study. Abdominal ultrasonography with colour doppler was performed at following gestastional age periods: 10 to 14 weeks and 20 to 25 weeks. Pulsality and resistance index of spiral arteries were obtained.

Results: In the spiral arteries pulsatility and resistance index did not change between the week 11, 12, 13, 14, and between the week 20, 21, 22, 23, 24, 25 but these index did change from the period of 10-14 weeks to 20-25 weeks. A significant decrease in mean pulsalitility index with increasing gestational age was noted (0,63 to 0,48; r=0,1817; p<0,001) and also in mean resistance index significantly decrease with advancing gestational age (0,45 to 0,37; r=0,2135;p<0,001).

Conclusion: This study revealed a correlation between the pulsalitility index or resistance index of spiral arteries and gestational age.

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ULTRASON BULGULARIYLA FETAL MATÜRASYONUN DEĞERLENDİRİLMESİ

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Ultrason ile gestasyonel yaşın belirlenme keskinliği ilk trimestrede 3- 5 günlük hata payı ile olurken 2. ve 3. trimestrede bu hata payı gittikçe artmakta ve biyometrik ölçümlerden sınırlı klinik destek alınabilmektedir. Bu haftaların net olarak saptanmasında fetal biyometri yanısıra fetusun fonksiyonel değisimlerini inceleyerek özellikle 3. trimestrede saptanan fetal matürasyon bulguları araştırılmıştır. Ultrasonda bu parametrelerin değerlendirilmesi obstetrisyene ek bilgiler sağlayacaktır.

Dizde ossifikasyon merkezleri:

Distal Femoral Epifiz 28. haftadan önce görülmez. 34. haftadan sonra % 94 fetusta saptanır. PTE 34. haftadan önce görüntülenemez, 35. haftada%35, 37. haftada %80, 39. haftada %100 görülür.

Fetal Akciğer Matürasyon Bulguları:

Gelişiminin ultrasonografik değerlendirilmesinde karaciğer ile ekojenite farklılıklarına bakılır. Fetal akciğer daha ekojeniktir. Fetal akciğer histogramlarında matürasyonu gösterecek bulgular saptanmıştır.

İntestinal Matürasyon Bulguları:

Kolon ekosu gebelikteki değişiminde mekonyumun kolondaki miktarının artması ve su oranının azalması rol oynar.