

**L38****ADNEXAL MASSES IN PREGNANCY**

**Derin Kösebay**, *University of Istanbul, Cerrahpaşa School of Medicine Department of OB&GYN, Division of Gynecologic Oncology, Istanbul, Turkey*

The incidence of adnexal masses in pregnant women is 1/81-1/2500 live births. Since ultrasound examination has become a routine component of current obstetric management, nearly 1% of women have an adnexal mass diagnosed during pregnancy. Dermoid cysts are the most common adnexal masses seen in pregnancy. The second and third common ovarian tumor affected pregnant women are serous or mucinous cystadenoma and endometrioma. Also all of the functional ovarian cysts are frequently seen in this period. Malignant ovarian neoplasms account for 2-6% of all persistent adnexal masses diagnosed during pregnancy. The frequency of ovarian cancer in pregnant women is 1/18000 to 1/25000 pregnancy. Management of adnexal masses during pregnancy remains controversial. If a mass is diagnosed early in pregnancy, it is reasonable to follow it with serial pelvic ultrasound examination. Complex ovarian masses or cysts having any malignancy characteristics should be removed. The ideal time for laparotomy is between 16 and 22 weeks gestation.

**L39****DIAGNOSTIC ULTRASOUND FOR DEVELOPING COUNTRIES**

**Asim Kurjak**, *Department of Obstetrics and Gynecology, Medical School University of Zagreb, Sveti Duh Hospital, Zagreb, Croatia*

The relevant characteristics in the developing countries are the lack of technological and organizational infrastructure, the lack of appropriate technology implementation programs as well as the lack of well-trained specialists. Some of our efforts should be redirected towards the appropriate introduction and application of medical technology in developing countries.

Ultrasound is being used at an ever increasing rate for diagnostic purposes in developing countries. However, it is also obvious that in the most parts of the world, the availability of ultrasound facilities is relatively poor or absent. On the other hand, the diagnostic problems for which ultrasound is particularly suited are closely related to the requirements of developing countries, viz. obstetrics and many parasitic diseases, and this is therefore obvious that this technology should have a higher priority in such countries. When used rationally and with appropriate technology it seems certain to become of increasing importance to developing countries where completing more expensive imaging modalities such as MRI or digital radiography cannot replace its wide scale use. Furthermore, as already mentioned the usefulness of any ultrasound appliance depends on great extent on the skill and experience of the operator. Qualified obstetricians are not available in many parts of the world and it is impossible to achieve an adequate standard by self-learning and/or reading. The study of books and stored images can help but does not replace "hands-on" experience. In particular, the affective use of an ultrasound scanner is very dependent on the skill of the operator. Therefore, training for ultrasonic diagnostic must be focused both on the sonologist themselves and on the community as a whole.

**L40****ADVANCES IN DIAGNOSIS AND TREATMENT OF ECTOPIC PREGNANCY**

**Sonja Kupesic**, *Sveti Duh Hospital, Medical School, University of Zagreb, Croatia*

Early and reliable diagnosis of ectopic pregnancy still remains a challenge but is essential to avoid life-threatening bleeding or consequent infertility. The introduction of transvaginal sonography has improved diagnostic accuracy, but using this technique in about half of ectopic pregnancies an ectopic gestational sac is not clearly visualized. Color Doppler ultrasound contributes to detection of hemodynamic changes

in tubal arteries by enabling demonstration of high vascularity in approximately 94% of ectopic pregnancies. The appearance and the location of the blood flow relate to the gestational sac dimension and flow velocity waveform characteristics and are similar to those obtained from the spiral arteries in normal intrauterine pregnancies ( $RI = 0.42 \pm 0.12$ ). Color Doppler studies demonstrate a high quantity of color in ectopic pregnancies with vital trophoblast and/or a live embryo as well as those with relatively high beta hCG levels. Demonstrations of the "hot flow pattern" shortens the diagnostic process and enables an easier clinical decision to be reached on the treatment of ectopic pregnancy. Based on our clinical experience in patients with less color signals and increased vascular resistance to blood flow, both indicating a non-vital trophoblast and/or long-standing demise, expectant management can be introduced. Our preliminary data suggest that three-dimensional sonography is an effective procedure for early diagnosis of ectopic pregnancies, which enables demonstrations of hyperechoic border, an apparently specific feature not reported by conventional ultrasound studies. It seems that shortening diagnostic procedure process and proper selections of the patients based on color Doppler and 3D ultrasound evaluation enables introduction of more sufficient treatment options.

#### L41

##### **EARLY PREGNANCY COMPLICATIONS ASSESSED BY COLOR DOPPLER AND THREE DIMENSIONAL ULTRASOUND**

**Sonja Kupesic, Asim Kurjak, Sveti Duh Hospital, Medical School, University of Zagreb, Croatia**

**Objective:** To investigate the role of 3D and color Doppler ultrasound in the evaluation of the patient with early pregnancy complications.

**Design and Methods:** Seventy five patients whose gestational age ranged from 6 to 14 weeks presented with vaginal bleeding, closed cervix, ultrasound finding of a living embryo and subchorionic hematoma were analyzed with both methods. A total of 150 matched controls were randomly selected from a pool of 1200 pregnant women in the same gestational age who were studied during the one year period at our Department. Subchorionic hematoma was diagnosed as echo-poor or echo-free area between the chorionic membrane and the myometrium. Multiplanar imaging enabled correct imaging of the subchorionic hematoma diameters and volume in each patient. The hematoma size was categorized as a small or large, according to whether it was more or less than 20ml. Color flow Doppler was used to visualize spiral arteries and blood flow velocity waveforms were analyzed by means of pulsed Doppler using resistance index (RI) as the measurement parameter. The patients were evaluated in two weeks` period, at least three times, and both parameters, the hematoma volume and spiral artery RI were statistically analyzed.

**Results:** Hematomas ranged from 9.5 to 78.4 ml. The RI slowly declined during the 8 weeks` period, while hematoma volume showed a week positive correlation. Most spontaneous abortions occurred in the group of the patients with subchorionic hematomas (18.7% vs 6%), documenting a significant difference. Another significant factor was the presence of the hematoma in the corpus of the uterus.

**Conclusions:** Three-dimensional ultrasound enables precise localization and volume measurement of the hematoma, while color Doppler evaluation allows detection of the patients with altered spiral artery blood flow who are at increased risk for spontaneous abortion.

#### L42

##### **TRANS-ABDOMINAL CERCLAGE**

**Maher Mahran, Egypt**

The treatment of repeated early pregnancy loss caused by incompetence of the cervix by means of transvaginal cervical cerclage is well documented, however, the vaginal procedure may be rendered unfeasible or unsuccessful by a cervix that is badly lacerated, very short, or absent. Benson and Durfee, in 1965 were the first to report on transabdominal cervical cerclage, stating, "we have reasoned, if cervical cerclage is not possible, we will attempt to ligate the cervix by means of a transabdominal approach."