Scanning the journals

Dias T, Ladd S, Mahsud-Dornan S, Bhide A, Papageorghiou AT, Thilaganathan B. Systematic labeling of twin pregnancies on ultrasound. Ultrasound Obstet Gynecol 2011; 38: 130–33

Sometimes a paper comes along with the simple answer to a common question so that the reader has a “Why didn’t I think of that?” moment. This is one of those.

We have all come across the potential errors in labeling twins in utero, during pregnancy. This is particularly important in growth discrepancies, aneuploidy diagnosis and making sure serial biometry scans are accurate and relate to the correct twin.

The authors suggest that the 11–14 week NT screening scan is the time to designate the twins and their sacs.

In 416 pregnancies, of which 77.4% were dichorionic, 90.9% were in a predominantly lateral orientation, i.e. side by side, with an oblique separating membrane. The rest were in vertical orientation (one on top of the other) with a horizontal separating membrane. The first group they called right/left (lateral) and the second, top/bottom (vertical).

In laterally orientated twin pregnancies, 10% will change the twins proximity to the cervix during gestation so twin I presenting can be twin II presenting later.

The article has simple diagrams to explain the concept that the best method of twin labeling should be based on left/right or top/bottom orientation as it is more reliable and reproducible than labeling twins I and II. This doesn’t work of course in monoamniotic twins.

We recently downloaded the 11 slides from ISUOG online for our own Journal Club and I would recommend you do this as pictures are worth more than mere words.

Ding J, Cheng H, Ning C, Huang J, Zhang Y. Quantitative measurement for thyroid cancer characterization based on elastography. J Ultrasound Med 2011; 30: 1259–66

I cannot pretend to understand the physics behind this new technique but it seems that elastography estimates tissue stiffness by measuring the degree of distortion under external force. Softer parts will deform more readily than hard parts and so cancer in breast, thyroid and prostate may be differentiated from benign lesions.

This cutting edge paper which is a collaboration between researchers in China and the USA studied 125 thyroid nodules (56 malignant and 69 benign). They did not consider cystic nodules (which are usually benign). Using computer aided diagnostic techniques the diagnostic accuracy was improved over current methods of evaluation.

This is obviously an exciting area of research especially as thyroid cancer, once diagnosed, has an excellent outcome.

Mashiach R, Melamed N, Gilad N, Ben-Shitrit G, Meizner I. Sonographic diagnosis of ovarian torsion: accuracy and predictive factors. J Ultrasound Med 2011; 30: 1205–10

Ovarian torsion can be a difficult call. But it is important if ovarian conservation is to be maintained. The presentation clinically is variable and the only symptom found in most studies is lower quadrant abdominal pain.

This study from Israel included 63 women with suspected ovarian torsion who attended a tertiary care ultrasound department and subsequently had laparoscopy for confirmation of the diagnosis.

A very high accuracy of sonographic diagnosis – 74.6% – was achieved. The authors note that diagnostic errors were most likely in the presence of a haemorrhagic corpus luteum. Free fluid and abnormal ovarian blood flow were the most accurate sonographic indicators of torsion of the ovary. However, with normal ovarian flow and no ovarian enlargement or cyst, the diagnosis can be missed in a substantial number of cases as in this study.

The answer is to have a high index of suspicion and a low threshold for laparoscopy in women presenting with acute lower quadrant pain.

Adiego B, Martinez-Ten P, Perez-Pedregosa J, Illescas T, Barron E, Wong AE, Sepulveda W. Antenatally diagnosed renal duplex anomalies: sonographic features and long-term postnatal outcome. J Ultrasound Med 2011; 30: 809–15

This is an observational study from Madrid and Santiago in which the seven authors collected 24 cases of prenatally diagnosed renal duplex anomalies in a seven-year period. In 21 confirmed cases, the common features were two separate renal pelvis (15 cases) and in six cases there was dilatation of the ureter on the affected side or an ureterocele.

Of the neonates, 43% had no adverse outcomes but in 48% these were urinary tract infections and 48% of the infants needed a surgical procedure during early childhood.

The article has excellent illustrations and is a reminder that although renal duplex anomaly can be benign, the antenatal detection of ureterocele can help reduce the urinary tract infection rate from 70% to 15%.

Rice KJ, Ballas J, Lai E, Hartney C, Jones MC, Pretorius DH. Diagnosis of fetal limb abnormalities before 15 weeks: cause for concern. J Ultrasound Med 2011; 30: 1009–19

This is a retrospective study of a database of 1382 fetal anomalies drawn from a larger NT study group over an eight-year period. The 15 limb anomalies include the earlier diagnosis of clenched hands in a fetus with Trisomy 18 (at 13 weeks), club hand was the most common abnormality followed by missing limb, club foot, shortening of long bones, abnormal hands, clenched hands and overlapping digits.

Transabdominal sonography alone can show most of these abnormalities although the transvaginal approach and 3-Dimensional sonography can give additional information.

In high risk patients, targeted evaluation of fetal limbs prior to 15 weeks gestation is of value.

With increasing numbers of first trimester scans for screening, here is another area for earlier prenatal diagnosis. Here in Australia, where 75% of the population has a first trimester screen for aneuploidy (compared to 35% in the USA), we are in a unique position to add to the literature in this area.

The Gleaner