

**Results:** The PDVDR, the PLVLR and the PAVAR showed a linear decrease with increasing fetal BPD and were below the 5th percentile in 82.4%, 94.1% and 94.1% of the cases with ventriculomegaly. Ventriculomegaly was isolated in 29.4% and associated with further anomalies in 70.6% at the initial evaluation. However, in 2 cases with first trimester isolated ventriculomegaly, additional central nervous system anomalies were present at a follow up scan. The mean PLVLR in euploid compared to aneuploid fetuses was significantly lower (0.40 versus 0.53 ( $p=0.0332$ )).

**Conclusions:** The measurements of PDVDR, PLVLR and PAVAR are helpful to objectify ventriculomegaly at 11–14 gestational weeks. The PLVLR and PAVAR were superior to PDVDR, since there seems to be rather a shrinkage of the choroid plexus than an increased width of the lateral ventricle in the first trimester.

## OC07: ULTRASOUND IN ONCOLOGY

### OC07.01

#### The International Endometrial Tumor Analysis (IETA) study: interim analysis of measurement differences between centres

L. Wynants<sup>3,9</sup>, A. Installé<sup>3,9</sup>, M. Pascual<sup>4</sup>, F. Leone<sup>5</sup>, P. Sladkevicius<sup>6</sup>, J. Alcazar<sup>7</sup>, L. Valentin<sup>6</sup>, E. Epstein<sup>8</sup>, B. De Moor<sup>3,9</sup>, S. Van Huffel<sup>3,9</sup>, B. Van Calster<sup>1</sup>, T. Bourne<sup>2</sup>, D. Timmerman<sup>1,10</sup>, T. Van den Bosch<sup>10</sup>

<sup>1</sup>Department of Development and Regeneration, KU Leuven, Leuven, Belgium; <sup>2</sup>Women's Ultrasound Centre, London, United Kingdom; <sup>3</sup>Department of Electrical Engineering, KU Leuven, Leuven, Belgium; <sup>4</sup>Obstetrics, Gynecology and Reproduction, Institut Universitari Dexeus, Barcelona, Spain; <sup>5</sup>Department of Obstetrics and Gynecology, DSC L. Sacco, Milan, Italy; <sup>6</sup>Obstetrics and Gynecology, Lund University, Malmö, Sweden; <sup>7</sup>Obstetrics and Gynecology, University of Navarra, Pamplona, Spain; <sup>8</sup>Department of Women's and Children's Health, Karolinska University Hospital, Stockholm, Sweden; <sup>9</sup>KU Leuven iMinds Medical IT Department, iMinds, Leuven, Belgium; <sup>10</sup>Department of Obstetrics and Gynecology, University Hospitals Leuven, Leuven, Belgium

**Objectives:** In multicentre studies, measurements will vary between centres for various reasons (e.g. subjectivity of measurements, differences in equipment, deviations from the protocol and differences in patient populations). The aim of this interim analysis by the International Endometrial Tumor Analysis group is to identify the variables with the strongest intercentre differences.

**Methods:** 1864 consecutive women presenting with abnormal uterine bleeding underwent ultrasound examination by one of 20 international investigators. Women with an available histological diagnosis ( $n=1504$ ) were included in the analysis. We studied the variability in measurements of the endometrial thickness (unenhanced ultrasound examination (UUE) and fluid instillation sonography (FIS)), endometrial junction (UUE), presence of fibroids, patient age, BMI, use of anticoagulant therapy and use of hormonal therapy. The statistic used was the residual intraclass correlation (RICC) after adjustment for the type of lesion. An RICC of 0% indicates that the variability in the measurements is not due to differences between investigators.

**Results:** Normal endometria ( $n=593$ ) were distinguished from endometria with malignant ( $n=100$ ), focal ( $n=609$ ), diffuse ( $n=116$ ) and other ( $n=86$ ) lesions. The strongest differences between investigators were observed for the assessment of the endomyometrial junction as irregular (RICC = 56.9%), undefined (48.4%), or interrupted (36.9%) vs. regular. The use of anticoagulant therapy also varied across investigators (RICC = 41.7%), with 11 of 20 investigators not reporting anticoagulant therapy for any patient. The reported presence of fibroids, BMI and thickness of the endometrium (UUE) exhibited the smallest differences between investigators (RICC < 6%).

**Conclusions:** The results suggest that the assessment of the endomyometrial junction is difficult and subjective and that anticoagulant therapy use is underreported. This should be considered when analysing the data.

### OC07.02

#### A trial of preoperative diagnosis of uterine sarcoma using tumor signal intensity at magnetic resonance imaging (MRI)

Y. Oka<sup>1,2</sup>, S. Makinoda<sup>1</sup>

<sup>1</sup>Kanazawa Medical University, Uchinada-machi, Japan;

<sup>2</sup>Komatsu Municipal Hospital, Komatsu, Japan

**Objectives:** Uterine sarcoma is a rare and poor prognostic disease and its preoperative diagnosis from uterine tumor is difficult, since there are many cases of myoma uteri. We focused on tumor signal intensity at MRI T2 weighted imaging for the preoperative diagnosis of uterine sarcoma. The purpose of this study is to determine the tumor signal intensity as an accurate preoperative evaluating method for uterine sarcoma.

**Methods:** MRI was performed in 16 cases of uterine sarcoma in the last 5 years at our hospitals (sarcoma group). In contrast, 22 cases of leiomyoma received MRI in 2013 (myoma group). We selected uterine muscle, urinary bladder, subcutaneous fat and other leiomyoma of uterus as control structure. We calculated tumor to other structures signal intensity ratio (SIR) and compared between two groups. In the structure that has significant difference, the cutoff value to predict sarcoma was calculated.

**Results:** The sarcoma group had significantly higher tumor to mural layer SIR when compared with the leiomyoma group ( $1.95 \pm 0.634$  vs.  $0.879 \pm 0.592$ ,  $p < 0.01$ ). The same results were confirmed on tumor to urinary bladder SIR ( $0.720 \pm 0.181$  vs.  $0.399 \pm 0.329$ ,  $p < 0.01$ ) and tumor to fat SIR ( $0.810 \pm 0.205$  vs.  $0.456 \pm 0.336$ ,  $p < 0.01$ ). Except for other leiomyoma of uterus, every SIR has significant difference between the two groups. The best cutoff value to diagnose sarcoma is over 1.37 in tumor to uterine muscle SIR (sensitivity: 84%, specificity: 93%, area under the curve (AUC): 0.902), 0.451 in tumor to urinary bladder SIR (sensitivity: 77%, specificity: 93%, AUC 0.851) and 0.512 in tumor to fat SIR (sensitivity: 75%, specificity: 100%, AUC 0.833).

**Conclusions:** It is suggested that preoperative diagnosis of uterine sarcoma is possible by evaluation of its signal intensity on T2-weighted images at MRI.

### OC07.03

#### Intra- and interobserver reproducibility with regard to describing ultrasound images of the endometrium using IETA terminology

L. Valentin<sup>7</sup>, P. Sladkevicius<sup>7</sup>, D. Timmerman<sup>5</sup>, T. Van den Bosch<sup>6</sup>, B.R. Benacerraf<sup>4</sup>, L. Jokubkiene<sup>7</sup>, A. Di Legge<sup>8</sup>, A. Votino<sup>3</sup>, L. Zannoni<sup>2</sup>, A. Installé<sup>1</sup>

<sup>1</sup>Electrical Engineering, KU Leuven, Leuven, Belgium;

<sup>2</sup>Obstetrics and Gynecology, S.Orsola Malpighi Hospital,

Bologna, Italy; <sup>3</sup>Obstetrics and Gynecology, University

Hospital Brugmann, Brussels, Belgium; <sup>4</sup>Brigham & Women's Hospital, Harvard Medical School, Brooklyn, MA,

USA; <sup>5</sup>Obstetrics and Gynecology, KU Leuven, Leuven,

Belgium; <sup>6</sup>Development and Regeneration, University

Hospital Leuven, Leuven, Belgium; <sup>7</sup>Obstetrics and

Gynecology, Lund University, Malmö, Sweden; <sup>8</sup>Obstetrics

and Gynecology, Catholic University of the Sacred Heart,

Rome, Italy

**Objectives:** To estimate intra- and interobserver reproducibility with regard to describing ultrasound images of the endometrium using the International Endometrial Tumor Analysis (IETA) terminology.