



II.5 Uterine factor

PICO QUESTION: WHICH DIAGNOSTIC PROCEDURES SHOULD BE PERFORMED TO CONFIRM A NORMAL UTERINE STRUCTURE/ANATOMY, UTERINE WALL/MYOMETRIUM?

3D ULTRASOUND VS. 2D ULTRASOUND

Evidence

In a prospective cohort study, 117 women were examined with 2D and 3D ultrasound (US) to detect the most common congenital uterine anomalies. In the study, distinction was also made between an initial 2D-US and expert 2D-US. In the overall diagnosis of uterine anomalies, 3D-US was found to be a significantly better technique than both initial and expert 2D-US. Accuracy of 3D-US was 97.1% versus 51.4% for initial 2D-US and 82.9% for expert 2D-US, compared with combined hysteroscopy and laparoscopy (Ludwin et al., 2013).

In a prospective cohort study, 108 women with suspected congenital Mullerian abnormalities were evaluated with 2D- and 3D-US. Compared to 2D-US, the sensitivity and specificity of real-time 3D-US were significantly higher in both the follicular phase (3D-US sensitivity 94.7% and specificity 75% vs. 30.2% and 78.1%, respectively) and the luteal phase (3D-US sensitivity 100% and specificity 93.7% vs. 42.1% and 81.2%, respectively). In the follicular phase, PPV for 3D-US was 90% vs. 76.6% for 2D-US and NPV 85.7% vs. 32%. In the luteal phase, PPV for 3D-US was 97.4% vs. 84.2% for 2D-US and NPV 100% vs. 37.1% (Caliskan et al., 2010).

In a prospective cohort study, 2D- and 3D-US were compared for the assessment of uterine anatomy and detection of congenital anomalies in 61 women with a history of recurrent miscarriage or infertility and who had previously been investigated by HSG. In 95.1% good quality images were obtained by 3D-US. In comparison with 2D-US, 3D-US had 98% specificity (vs. 88% for 2D-US), 100% sensitivity (vs. 94%), 100% PPV (vs. 97%) and 94% NPV (vs. 75%) (Jurkovic et al., 1995).

Recommendation

Ultrasound, preferably 3D, is recommended to exclude uterine anomalies in women with unexplained infertility.

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Justification

Current evidence comparing 2D- to 3D-US is limited. Despite 2D-US is shown to be a valid diagnostic tool to exclude uterine anomalies, 3D-US showed superior results. Furthermore, comparing 2D- and 3D-US, cost per scan are the same, and the test is not more painful or more invasive for patients. The GDG acknowledges that 3D-US may not be available in every clinic.

Further information

Details of the literature study and evidence tables are available in Annex 6 and Annex 7 (question II.5.1).