Comparative Study of Imaging Finding of 3D-Doppler Ultrasound, MRI Versus Intra-Operative & Pathological Findings in Cases of Endometrial Carcinoma

Rehab El-Said¹, T. Abdel-Salam¹, O. Elashkar¹, M. Eid², M. Nagib¹

OBGYN (1), Radio-diagnosis Department (2), Faculty of Medicine, Alexandria University, Egypt.

**Study objectives:** Designed to compare between Doppler ultrasound (Color Doppler /3D Power Doppler) and MRI findings as preoperative staging and intra-operative and pathological findings in cases of endometrial carcinoma.

**Study design:** Prospective Blind Comparison Study to Gold Standard.

**Methods:** 45 patients Histo-pathologically proved diagnosis endometrial carcinoma by prior endometrial biopsy at Gyn Oncology unit of OBGYN department of Alexandria, Egypt. Patients with Ovarian pathology or history of prior radiotherapy were excluded from the study, all patients were subjected preoperatively to detailed gynecological ultrasound with Doppler study (color-3D power), and Pelvi-abdominal MRI as preoperative assessment for prior staging, then all subjected to radical surgery, histopathological diagnosis, comparison between Ultrasound and MRI with intraoperative staging with gold standard histopathology diagnosis.

**Results:** Sensitivity, specificity of both U/S & MRI in detect the myometrium invasion in relation to pathological findings, the sensitivity of U/S in detect myometrium invasion was 85.7% and in MRI was 88.1% specificity of U/S was 81.7 and the MRI was 82.0%, PPV U/S =94.0% while the MRI = 95.0%, NPV of U/S was 88.0% and MRI was 86.0%.

**Conclusion:**
- Ultrasound as preoperative imaging is considered good efficient tool compared to MRI which is the standard method, when compared to surgical-histopathological findings especially in assessment of myometrial invasion which is crucial in staging of cases and cervical invasion.
- Subjective evaluation of myometrial findings depends on sonographer experience has good sensitivity for evaluation of myometrial invasion mapping with power Doppler ultrasound increase sensitivity for sonographer

**Recommendations:** Further studies with large study group, for evaluate the accuracy of different methods using ultrasound either 2D-3D modalities in assessment of myometrial invasion.

(EP34.22)

Diffusion-weighted MR image shows an area of high signal intensity within the endometrial tumor (arrow), a finding indicative of restricted diffusion. The tumor is seen to invade only the inner myometrium.