

P12.11
Conservative ultrasound-based management of ovarian pregnancy

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At eight weeks of gestation, after ovulation induction and intrauterine insemination, a 32-year-old woman was admitted for pelvic pain and vaginal bleeding. Transvaginal sonographic images were highly suggestive for ectopic ovarian pregnancy: no intrauterine gestational sac with b-hCG serum levels of 4252 IU/mL and inhomogeneous, highly vascularized adnexal-ovarian mass. Ectopic pregnancy was confirmed at laparoscopy which showed an enlarged and highly vascularized right ovary, with no bleeding. The removal of the trophoblastic tissue was complicated by massive bleeding but controlled with the complete removal of the ectopic tissue from the surrounding normal ovary. Histologic examination confirmed the presence of chorionic villi within ovarian tissue. Post-operative recovery was uneventful and the woman was discharged on day-4 (b-hCG serum level 12 IU/mL). Two months later she conceived, with a further spontaneous delivery at term. Early and accurate diagnosis by gray-scale and Power Doppler assessment may permit a conservative laparoscopic sparing surgery of primary ovarian pregnancy.

P12.12
Transvaginal ultrasound in the management of ectopic pregnancy

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Objective: Surgery for suspected ectopic pregnancy carries significant risks of morbidity including future subfertility and pelvic adhesions. The option of medical management avoids surgical risks and costs. The main aim of this review was to determine whether ultrasound findings and β HCG level were used judiciously to decide mode of management in suspected ectopic pregnancy.

Method: We reviewed 140 patients across three hospitals of Lanarkshire trust over a period of 2 yrs. The local protocol stated transvaginal scan was imaging modality of choice. Adnexal mass < 4 cms and β HCG < 10000 was taken as suitable for medical management.

Results: Only about 23.5% patients were managed medically, a further 3.5% expectantly, the rest (73%) undergoing surgical management. Up to 21% of those managed surgically were in fact suitable for medical management as per protocol. Only 70% of pts had transvaginal ultrasound. Definite ectopic pregnancy was identified only in up to 33% patients with a further 61% lacking size of ectopic mass. Free fluid in PoD was detected in almost 50% pts. However documentation of quantity of FF was lacking in upto 28% of these. Up to 12% of surgically managed patients suffered major haemorrhage requiring transfusion and 3% had wound infection requiring I/V antibiotics.

Conclusion: The review confirmed need for stringent policy to ensure patients suitable for medical management were not subjected to unnecessary surgery. It raised awareness to the fact that clear documentation of size of adnexal mass and quantity of free fluid, where possible, on transvaginal ultrasound removes diagnostic doubt and guides the clinician towards right management.

P12.14
4D/3D ultrasound-guided embryo transfer

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Objective: Despite many developments in ART, implantation and pregnancy rates remain low and almost 85% of transferred embryos do not implant, mostly because of embryo transfer (ET) which is the least successful step in IVF procedures. To improve ET technique is considered essential to determine IVF failure or success. We report on the use of 4D/3D US-guided ET to improve implantation/pregnancy rate.

Methods: 45 ETs were performed by use 4D/3D US to locate the catheter tip within the uterine cavity in the presence of a half-full bladder. A GE 730 Voluson machine with a transabdominal volume probe was used. Frydman catheters were used.

Results: ETs were successful in all cases with a lowering in endometrial bleeding and an increasing of 15% of our implantation/pregnancy rate.

Conclusions: The use of atraumatic soft catheter during ET without touching the endometrium and the uterine fundus improve IVF outcome. Unlikely blind "clinical touch" catheter placement has been associated with uterine contractility and relocation of embryos towards the cervix, whereas US-guided ET allows the catheter tip to be accurately positioned within the uterine cavity documenting at the meantime that embryos were properly deposited by observing the movement of the embryo-associated air bubbles as well as the dept of embryo replacement into the uterine cavity, positively influencing by this way IVF outcome. To date the all US-guided ET reports but one have been regarded 2D US, and to the best of our knowledge it is the first report on 4D/3D real-time US-guided ET The rationale for 4D/3D US-guided ET includes real-time tracking of the catheter tip and more predictable embryo placement in the lumen of the endometrial cavity.

4D/3D US guidance may represent an important tool in ET as it allows a real-time reconstruction of the uterine cavity in its three planes significantly lowering the incidence of difficult transfers as well as the incidence of bleeding, improving implantation/pregnancy rates.

P12.15
3D power Doppler perfollicular blood flow indexes and oocyte competence during IVF cycles

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Objective: Italian IVF legislation allows to inseminate no more than 3 oocytes forbidding embryo cryopreservation. So it is mandatory to select the 3 most competent oocytes to obtain high-quality embryos. As oocyte maturation is related to intrafollicular O₂ content we investigated perfollicular blood flow quantitative indices versus the oocytes/embryo grading.

Methods: 50 unexplained infertile women were enrolled. COH was induced by long or short protocol + rFSH (β -follicotropin). A GE 730Voluson machine with a transvaginal volume transducer was used. Stored volumes were analyzed by the VOCALTM program. Mean greyness-MG, vascularization index-VI, flow index-FI and vascularization flow index-VFI were calculated. Ovulation was induced by hCG administration. Retrieved oocytes were denuded for ICSI to assess maturity to the presence of a polar body.

Results: There was an increasing of VI, FI and VFI during COH unrelated to follicle diameters and ovarian volume. We recollected 371 mature oocytes from 397 follicles, with a significant correlation between higher oocyte scoring and perfollicular vascularization indexes, being the most competent oocytes collected from the most vascularized follicles. 150 out of them were injected obtaining 131 high-quality embryos with a 40% pregnancy rate/cycle.

Conclusions: The identification of prognostic biomarker(s) of oocyte competence in order to obtain high-quality embryos give