

P512**Selective Salpingography and Fallopian Tube Interventions: An Educational Poster****Alharbi Abdulaziz, Arabi Mohammed, Aldulaigan Essam, Alammri Sultan, Alammri Sultan***King Abdulaziz Medical City, Riyadh, Kingdom of Saudi Arabia.
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Fallopian tube disease is a major cause of infertility. Hysterosalpinogram and selective salpingography may reveal the underlying pathology. Fallopian tubes recanalization or embolization may help improving the pregnancy rate in cases of tubes obstruction or hydrosalpinx, respectively. Fallopian Tube Recanalization: Obstruction of the uterine (proximal) segment of the fallopian tube can be seen in 10-20% of hysterosalpingograms and has a variety of underlying causes. Selective salpingography and fallopian tube recanalization may improve pregnancy rate by 15-60% within one year. Fallopian Tubes Embolization: Hydrosalpinx accounts for 10-30% of tubal pathologies in patients with secondary infertility, and it may affect the outcome of *in vitro* fertilization by reducing the probability of implantation and by increasing the risk of early pregnancy loss. While tubal embolization may not increase the rate of pregnancy, it may reduce the risk of abortion.

P513**Ultrasound-guided Thrombin Injection for Management of Iatrogenic Pseudoaneurysm: A National Institutional Experience****Alharbi Abdulaziz, Guzaiz Noha, Qazi Shahbaz, Salman Refaat***King Abdulaziz Medical City, Riyadh, Kingdom of Saudi Arabia.
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Background: Iatrogenic pseudoaneurysms (IPAs), are identified with increasing frequency in current clinical practice. Although small pseudoaneurysms (less than 1.0 cm in diameter) are usually asymptomatic, larger pseudoaneurysm can be painful and symptomatic require treatment. The aim of the study is to demonstrate our experience regarding the efficacy of ultrasound guided thrombin injection in the management of iatrogenic groin pseudoaneurysm. **Methods:** From 2007 to 2016, 61 pseudoaneurysms were injected with thrombin under ultrasound guidance using 20 to 25G needles. A total of 36 men and 21 women underwent this procedure with mean age of 62.3 years. The aneurysms were developed due to either non-ultrasound guided femoral arterial puncture prior cardiac catheterization (54 cases) or ultrasound guided femoral arterial puncture for abdominal arterial interventions (3 cases). All of the pseudoaneurysms were in the groin, 48 from the common femoral artery, 6 from the superficial femoral artery and 3 from the external iliac artery. Thrombin was injected under US guidance until achieving complete thrombosis in all cases. Thrombin dose ranged from 100 to 5000 IU depending on the size of the pseudoaneurysm. **Results:** Complete thrombosis of the pseudoaneurysm was achieved in 54 cases with a single injection of thrombin. Two case required second injection of thrombin to achieve thrombosis

and one case required stenting due to incomplete thrombosis. No complications related to thrombin have been encountered. **Conclusions:** Ultrasound-guided thrombin injection is effective and safe in the management of iatrogenic pseudoaneurysms.

P514**Successful Endovascular Control of Acquired Uterine Arterio-Venous Malformations Using N-Butyl Cyanoacrylate and Polyvinyl Alcohol Particles****Shady Nabil Mashhour***Kasr Al Ainy, Cairo University, Cairo, Giza, Egypt.
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Background: Uterine arteriovenous malformations are rare. However, they may present with life threatening bleeding. Traditionally hysterectomy is the mainstay therapy for these patients, however, increasing reports of successful control using endovascular techniques have recently surfaced using various embolic agents and techniques. Here we report two cases of acquired uterine arterio-venous malformations managed successfully using NBCA and PVA and their midterm follow up. **Case Report:** Two cases were referred to our interventional radiology department diagnosed by Doppler US and MRI as having uterine AVMs. The first cases presented with menometrorrhagia and significant blood loss during menstruation which necessitated blood transfusion on two separate episodes and refused to undergo hysterectomy. The second case presented in a state of hemodynamic shock following an attack of bleeding and had failed surgery due to extensive pelvic adhesions. Using standard endovascular techniques both uterine arteries were catheterized; glue was injected into the dominant feeding side and PVA was injected in the contralateral side. Both patients returned to their normal menstrual cycle with good control of bleeding. Clinical and radiological follow up was maintained for 29 month and 14 month for the cases, respectively. **Conclusions:** Endovascular management is a viable alternative in the control of uterine arterio-venous malformations in patients not eligible for surgery.

P515**Uterine Artery Embolisation for Post-partum Haemorrhage Associated with Placenta Accreta and AV Malformation: Case Report and Review of Literature****Mohamad S. Hamady***Imperial College, London, United Kingdom.
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Background: Post partum haemorrhage secondary to placenta accrete is a serious complication of childbirth. The current available treatment ranges from emergency hysterectomy to uterine artery embolisation. We describe a patient who presented with PPH in whom retained placenta accreta associated with vascular malformation was successfully treated with uterine artery embolisation together with review of literatures. **Case Report:** A 38-year old nulliparus presented with significant post partum haemorrhage of 3.6 Liters, initially controlled by

packing. Five weeks post partum, the patient presented with recurrent unprovoked bleed. Ultrasound and Magnetic Resonance Angiography (MRA) were demonstrated retained placental tissue with dilated vessels and increased vascular flow consistent with retained placenta accreta and vascular malformation. First session embolisation was performed using Embospheres particles 700-900 microns (Merit Medical Inc., USA). A second embolisation procedure was carried out via the left CFA using micro coils (Boston Scientific, Watertown, MA, USA) and gelfoam pledges until complete occlusion was achieved. Two months post-partum, the patient presented complaining of foul smelling vaginal discharge, due to necrotic placenta and received full course of antibiotics with dilatation and curettage. Follow-up US demonstrated no residual vascular malformation. **Conclusions:** Placenta accreta and uterine AVMs are recognised causes of uterine bleeding. Uterine artery embolization is an alternative treatment for uncontrolled postpartum haemorrhage and an effective treatment for acquired AVM's outside of pregnancy.

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Staged Percutaneous Ultrasound Guided Bleomycin Sclerotherapy Could be a Promising First Line of Treatment for Orbital Lymphatic Malformations in Children

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Background: Orbital lymphatic malformations are benign vascular lesions that can be challenging to treat. Although a conservative approach is preferred in small lesion, larger ones may cause amblyopia if treatment is delayed. Surgical debulking is difficult with an associated risk of haemorrhage or collateral damage. We aim to evaluate the effectiveness and safety of ultrasonographic and fluoroscopic guided intra-lesional Bleomycin injection sclerotherapy in cases of orbital lymphatic malformations in children. **Methods:** In this prospective study, 4 children diagnosed with unilateral orbital lymphatic malformations (from June 2015-February 2016) were subjected to repeated percutaneous ultrasound and fluoroscopic guided Bleomycin injections (2000-2500 iu each) after accurate assessment of extent, size and cystic architecture by Magnetic Resonance Imaging (MRI). All children presented with disfiguring proptosis with or without subconjunctival or eyelid extension of the lesion. MRI was repeated after 2 months of injection for radiological assessment. **Results:** An acceptable clinical improvement of proptosis as well as a diminution in more than 50% of the volume of the lesion by MRI and replacement of the bright signal by low signal ill defined area with the disappearance of cysts was achieved in all subjects after an average of 3 to 6 injections (2 months interval). Except for a transient painful oedema of the periorbital tissue for few days after injection, no major complications were noted. Follow up 8-15 months. **Conclusions:** Intralesional Bleomycin therapy could be a safe and effective first choice treatment for children with orbital lymphatic malformations.

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Safety Assessment of Continuous Versus Discontinuous Warfarin Therapy in Cardiovascular Endovascular Procedures: Observations from a Meta-analysis

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Background: Endovascular procedures are commonly performed in patients with a history of anticoagulation treatment. Proper balance between reduction of thromboembolic events and the risk of bleeding is necessary to improve perioperative patient outcomes. Anticoagulation achieved with oral medication is not easily reversible, thus many patients are advised to discontinue warfarin and are given heparin before endovascular procedure. An alternative strategy, to perform endovascular procedures in patients without interruption of anticoagulation therapy, has been adopted. In our study we conducted a meta-analysis of complication rates and outcomes in patients undergoing endovascular procedures who receive continuous versus discontinuous warfarin therapy. **Methods:** Literature published between 2000 and 2015 was searched for reports of comparative studies of vascular procedures. Information on periprocedural complications and patient deaths less than 30 days after the procedure was extracted. A random effects model was used and odds ratios (ORs) were reported. An OR of less than 1 was considered to indicate lower risk of the outcome with discontinuous warfarin therapy. Meta-analysis was conducted by using meta-analysis software. **Results:** A total of 32 studies of 15,326 patients were included. For arterial procedures, there were no significant differences between the continuous versus discontinuous warfarin therapy groups in access site hematoma (OR, 0.59; 95% confidence interval [CI]: 0.33, 1.03; $P=0.06$), any bleeding complications (OR, 0.56; 95% CI: 0.30, 1.06; $P=0.07$), mortality (OR, 1.40; 95% CI: 0.37, 5.25; $P=.62$), intracranial hemorrhage (OR, 0.55; 95% CI: 0.03, 8.91; $P=.68$), ischemic stroke (OR, 0.85; 95% CI: 0.12, 5.84; $P=.87$), and major bleeding (OR, 0.56; 95% CI: 0.21, 1.51; $P=.25$). For venous procedures, uninterrupted warfarin was associated with lower odds of access site hematoma (OR, 0.70; 95% CI: 0.50, 0.99; $P=.04$), any bleeding complications (OR, 0.61; 95% CI: 0.48, 0.77; $P<.01$), ischemic stroke (OR, 0.21; 95% CI: 0.10, 0.45; $P<.01$), and major bleeding (OR, 0.64; 95% CI: 0.51, 0.80; $P<.01$). For arterial and venous procedures combined, uninterrupted warfarin was associated with lower odds of access site hematoma (OR, 0.68; 95% CI: 0.51, 0.91; $P=.01$), bleeding complications (OR, 0.59; 95% CI: 0.48, 0.74; $P<.01$), ischemic stroke (OR, 0.25; 95% CI: 0.12, 0.50; $P<.01$), and major bleeding (OR, 0.61; 95% CI: 0.49, 0.77; $P<.01$). Heterogeneity in most analyses was low, and confidence in the estimates was moderate. **Conclusions:** Continuous perioperative warfarin therapy is safe for patients undergoing arterial procedures, but discontinuous warfarin may be preferred for those undergoing venous procedures; no differences in outcome rates were found in the randomized controlled trials. Future studies are required to confirm these results.