Ovarian Artery Embolization
When and How

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Ovarian Artery Embolization: When?

- Bleeding pelvic malignancies
- OA aneurysm/pseudoaneurysm
- Pelvic AVM
- OA trauma

All rare conditions
Procedurally similar to other territories
Ovarian Artery Embolization: When?

- Post partum bleed
- UFE

Uncertainty
- To do or not to do?
- How to do

- Paucity in literature
- Value of prospective registries
Why Not Embolize All?

Potential Complications of OAE

- Ovarian failure/dysfunction
- Uterine necrosis
- OA rupture/ pseudoaneurysm
- Non-target embolization (aorta)
Why would ovarian artery embolization be even considered in the settings of UFE or post-partum hemorrhage?

Potential risk of failure of embolization procedures
Impact of Utero-Ovarian Anastomoses

- **N**: 288
- **Total anastomoses detected**: 40.3%
- **Repeat intervention (n=16)**: 5.6%
  - With UOA: 87.5%
  - Without UOA: 12.5%

Kim HS et al JVIR 2006;17:783
Post Partum Hemorrhage (PPH)

- In 8 pts with PPH unresponsive to IIA/UAE embolization, OA contribution to bleed was confirmed and OAE performed
  

- 5/10 pts who required a second embo procedures had OA bleed

Collateral supply: additional sources of blood supply independent of UA

Anastamotic connections: Natural connection to the UA prior to arteriolar level
How should the OA connections be handled?
Take advantage of the diameter differential between the tubal artery and the branches flowing towards hilum of the ovary
Type II ovarian to uterine artery anastamosis
How about this scenario?

Both gelfoam and particles have been used successfully. Coils not likely to be effective.
## Risk of Menopause with OAE in UFE

<table>
<thead>
<tr>
<th></th>
<th>No. of pts</th>
<th>Mean f/u (months)</th>
<th>Symptom resolution</th>
<th>Menopause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campbell</td>
<td>17</td>
<td>11</td>
<td>82.4%</td>
<td>2/17</td>
</tr>
<tr>
<td>Scheurig-Muenkler</td>
<td>13</td>
<td>16</td>
<td>76%</td>
<td>2/13</td>
</tr>
</tbody>
</table>

OA Embolization in UFE Procedures

- 77 pts underwent unilat/bilat OAE
- 51 responded to f/u questionnaire & compared to 49 controls
- No diff in menstrual regularity or frequency of onset of menopause

Hu NN et al J Vasc Interv Radiol. 2011 May;22(5):710-715
OA Embolization in UFE Procedures

- 99 pts treated with UFE
- 20/99 pts had utero-ovarian connection
  - UAE only 13/20
  - UAE + OAE 7/20
- No diff in the risk of amenorrhea between groups
- Lack of OAE associated with clinical failure

OAE and Post Partum Hemorrhage

- 117 pts with PPH had embolization
- 8/117 (6.8%) required OAE
- 5/10 pts with repeat embolization had OA involvement
- No complications related specifically to OAE

Conclusion

- UA to OA connection appear to impact results of UFE & PPH embolization
  - Depends on the anatomic type
- OAE does not appear to increase the risk of menopause but ....
- There is insufficient data to make definitive recommendations