Pyometra in a dog

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May 14th, 2016
13-year-old female intact Miniature Pinscher dog

Diagnosed with open pyometra 1-week prior
- Initially treated with Clavamox but was non-responsive

Presented for ovariohysterectomy
Gross findings

- Ovary contained a unilateral, nodular, mottled tan to dark brown mass
  - Contralateral ovary could not be located grossly or histologically

- Uterine horns distended by mucopurulent discharge
  - Endometrium thickened by friable, grey to tan, multicystic tissue
Ovary: Granulosa cell tumor
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- Uterus: Metritis, ulcerative, suppurative and plasmacytic, chronic, diffuse, marked, with cystic endometrial hyperplasia
Sex cord-stromal tumors
- Granulosa-theca cell tumor
- Thecoma / Luteoma
Primary ovarian tumors

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  - Granulosa-theca cell tumor
  - Thecoma / Luteoma

- Tumors of the surface epithelium / subsurface epithelial structures
  - Cystic / papillary adenomas
  - Papillary adenocarcinoma
Primary ovarian tumors

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- Tumors of the surface epithelium / subsurface epithelial structures
  - Cystic / papillary adenomas
  - Papillary adenocarcinoma

- Germ cell tumors
  - Dysgerminoma
  - Teratoma
Most common sex cord-stromal tumors
- Unilateral & benign generally
- Granulosa cells produce inhibin \( \downarrow \) follicle-stimulating hormone \( \rightarrow \) atrophy of contralateral ovary

Call-Exner bodies
- Secretory globule resembling ovum within acini-like abortive follicles
- More common in cows

Bitch
- Concurrent cystic endometrial hyperplasia & pyometra common
Cystic endometrial hyperplasia

Excessive & prolonged estrogenic stimulation
- Endogenous: Sex cord-stromal tumors
- Exogenous: Plants, iatrogenic

CEH in the bitch
- Progesterone induces?
- Estrogen $\uparrow$ intracellular [progesterone receptors]
  - Estrogen priming
- Common due to long diestral phase
Pyometra in the bitch

- Most cases are associated with endometrial hyperplasia
- *E. coli* > *Proteus* sp., *Streptococcus* sp., *Staphylococcus* sp.
  - Aerobic culture yielded no growth in this case, likely due to Clavamox use
- Perforation with secondary peritonitis is common
Thank you

- Dr. Elizabeth Uhl
- Dr. Doris Miller
- Technicians
  - Histology Laboratory @ UGA Department of Pathology

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