Degree in Veterinary Medicine – Final degree project

Ovarian cytology and histology at different levels of progesteronemia in queens

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INTRODUCTION

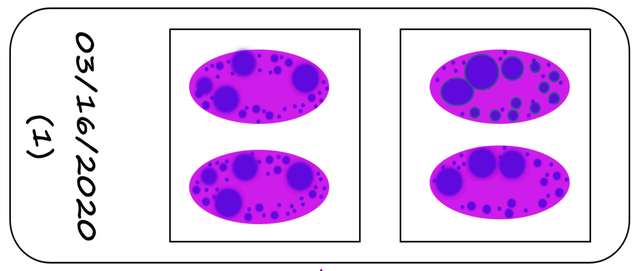
Nowadays, cytology is an extended technique to perform clinical diagnostics. However, this technique is not exported for use in the ovaries because there is not much information or studies about this organ in queens. In addition, it is important to recognize the normal structure of a normal ovary to identify abnormalities. This information is lacking nowadays, which would be useful for the diagnostics of pathologies such as follicular cyst and granulosa cells tumors.

OBJECTIVE

To evaluat the cellular characteristics of ovarian cytology and compare them with histological images of the ovaries, as well as with serum progesterone levels.

WORKFLOW

OVARIOHYSTERECTOMY ON QUEENS
(1). Good body condition.
(2). Correct physical exam.
(3). Absence of tumors and ovarian cysts.
(4). Be negative for FeLV and FIV.



Queens under an anaesthesia and analgesia protocol

Blood sample from the jugular vein. Subsequent coagulation at 4ºC and centrifugation at 3500 x g during 10 min. Finally, frozen at -20ºC until analysis.

Serum progesterone levels determination by ELISA technique.

<1,5 ng/ml – Queens non ovulated.

>1,5 ng/ml – Queens ovulated.

Establish correlation between serum levels and follicles observed in histology sample.

Description of the cytological normality of each sample to create a standard description of both groups.

Correlations between cytology cellularity and histologic cellular information for both groups.

Make a conclusion about the usefulness of cytology to detect the sexual cycle of the queen related to serum progesterone levels and the possibility of a cytology standard.

Ovarian removal is complete. They are classified by their morphology and the presence of follicles and corpora lutea.

Fine needle aspiration of an ovary for squash extension and subsequent staining in **Diff-Quick** to prepare the **cytology sample**.

Evaluation of cytology sample. Determination of the cellularity characteristics and their classification:
(1). No cells, (2). Scant, (3). Adequate, (4). Abundant.

Fixation in formaldehyde of an ovary to prepare the **histology sample** and staining with **hematoxylin and eosin**.

Evaluation of histology sample. Determination of the numbers of follicles and their classification:
(1). Primordial, (2). Primary, (3). Secondary, (4). Tertiary or Graf.

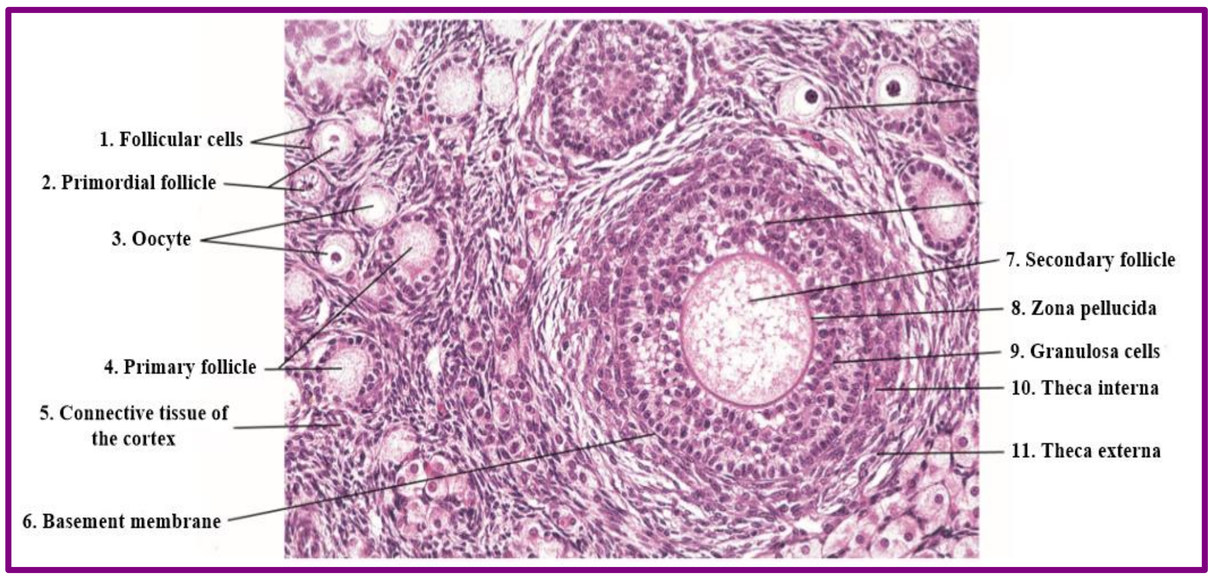


Figure 1: Ovary with primordial, primary and secondary follicles. Hematoxylin and eosin staining seen at 650x. Modified from: Eroschenko, V., (2013). Atlas of histology with functional correlations.