FOLLOW UP ON A GRANULOSA CELL TUMOUR IN A MARE DIAGNOSED BY ULTRASOUND

ACOMPANHAMENTO CLINICO NUM TUMOR DE CÉLULAS DA GRANULOSA DIAGNOSTICADO EM UMA ÉGUA ATRAVÉS DO ULTRA-SOM

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- CASE REPORT -

SUMMARY

The follow up of a case of granulosa cell tumour in a mare through ultrasonography is reported. It has been observed a fast growth rate reaching its final size around 18 days. The diagnostic of granulosa cell tumour was confirmed by gross and histopathologic examination, after surgical removal.

Key words: granulosa cell tumour, ovarian, equine, ultrasound.

RESUMO

Descreve-se o acompanhamento clínico de um caso de tumor de células da granulosa na égua através da ultra-sonografia. Foi constatada uma evolução rápida durante 18 dias para o tumor confirmado, pelo exame macroscópico e histopatológico, após remoção cirúrgica.

Palavras-chave: tumor de granulosa, égua, ultra-sonografia.

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INTRODUCTION

Granulosa cell tumour (GCT) is a rapid growing ovarian neoplasm that can reach large dimensions with endocrine activity. The surface of the tumour is usually lobulated and smooth (KENNEY & GANJAN, 1975; ARTHUR, 1979); the cut surface reveals multiple fluid-filled cysts containing yellow-tanish gel (SILVA et al., 1987; NIELSEN & KENNEDY, 1990). Bulk enlargements of the ovary are usually diagnosed either as a tumour or haematoma. WHITE & ALLEN (1985) demonstrated the use of ultrasound echography in the differential diagnosis of a GCT in a mare. Ultrasound scanning became a routine tool at studfarms, inicially for the diagnosis of twins and currently for the evaluation of the uterus - pregnant or not - and ovaries, specially for monitoring follicular growth and ovulation during heat. This report documents for the first time, the evolution of a GCT through ultrasound echography.

CASE HISTORY

During the 1987 breeding season, in the southern hemisphere a 6 year old thoroughbred mare arrived at stud 21 days after last foaling. The mare was immediatelly submitted to routine clinical and echographic gynecological examination. At that time she was estimated to be in good genital health and with both ovaries similar in size and function. The mare was then daily teased and presented oestrus signs four days later. She was scanned daily for monitoring follicular growth. The preovulatory follicle was identified as the largest on the left ovary. In an echographic scanning performed on the day of mating the follicle diameter had increased 42mm since the first day of oestrus.

Fourty-eight hours after the mare was again scanned to confirm ovulation. The left ovary had an increased size and few soft areas when compared to its size the previous days and 48h before. The rapid evolution after a putative ovulation suggested an ovarian haematoma. Under ultrasound scanning a multicompartment non-ecogenic structure with 65mm diameter could be seen (Figure 1A); ecogenic lines of variyng thickness divided the compartments. This image remained for 48-72h (Figures 1B-C). At this moment the right ovary was marked reduced in size and a possible GCT diagnosis was done. After that the cystic compartments of the left ovary slowly and progressively subdivided during the next 9 days, when the whole structure attained circa 70mm in diameter. Eighteen days after the first appearence, the mass on the left ovary experienced a slight reduction in size and the compartments had become smaller and more numerous (Figure 1D). The contralateral ovary was also reduced although it could be palpated it was barely discernible by the scanner. The mare continued to show oestrus signs during 42 days up to the moment she went back to her owner stud. She was later (6 months after last scanning) ovariectomized and the hystopathological diagnosis confirmed a GCT (Figure 1E).

DISCUSSION

GCTs were previously described by STICKLE et al. (1975), NEELY et al. (1983), SILVA et al. (1987), NIELSEN & KENNEDY (1990) and others; until now data on describing the evolution of this neoplasm is not available. ARTHUR (1979) mention the rapid growth of these tumours, without reference to morphological changes occurring over time.

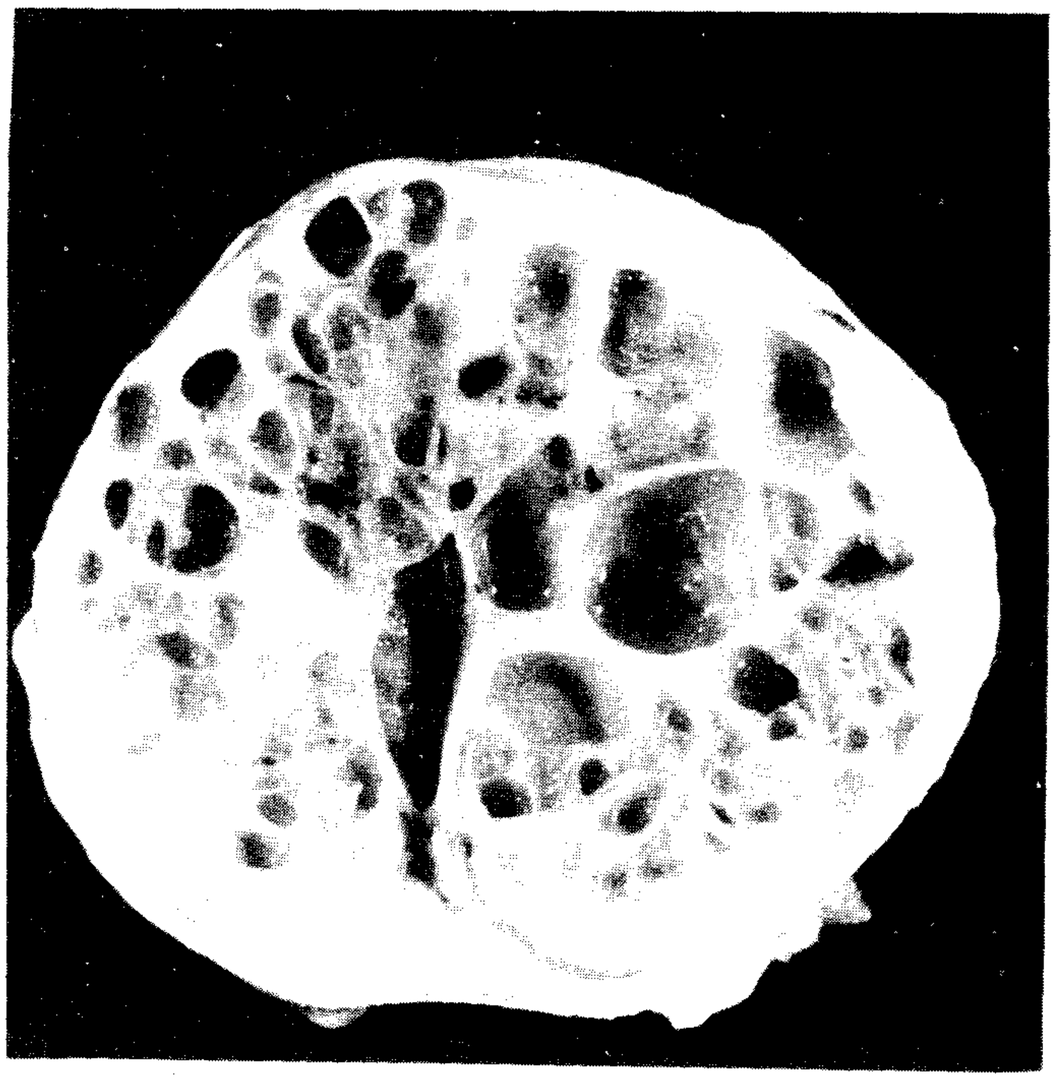
The gross aspects of the mass (Figure 1E) and its ultrasound images are similar to those previous described for GCT (WHITE & ALLEN, 1985; HINRICHS & HUNT, 1990). The large bulk of the mass and the impossibility of palpating the ovulation fossa, associated to the ultrasound images described in our paper, prompt a GCT diagnosis. The ecogenic and non-ecogenic images result from the multicystic arrangement of the tumoral mass . The irregular ecogenic lines that crisscrossed the whole ovary divided it in the cystic cavities are the connective tissue strands walling the cysts while the irregular to round nonecogenic images are the gelatinous cyst contents (Figures 1A-D). The GCT described here had a faster evolution when compared to data presented elsewhere (ARTHUR, 1979). The first image of the tumour appeared 48 hours after the last examination, and had marked morphological changes for the following days (Figures 1A-D), suggesting intense celular multiplication. The last echographic record corresponds to the multicystic structure of the GCT observed after surgery (Figure 1E). Sequential records of such tumoral changes are needed to convey a better understanding of the mechanisms that induce GCT growth in the mare.

A

B

C

D



E

Figure 1. Granulosa cell tumor in the left ovary of a mare. A-D: scaning images. A: left ovary (Φ = 65mm), between arrows, with multicystic non-ecogenic structures (c). B-D: sequencial views took in a fortnight period. Notice the gradual increase in number of the cystic structures (identified with c). E: cut surface of the ovary showing multicystic structures.

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