

## THE USE OF PROSTAGLANDINS AND ANTIBIOTICS IN CASES OF INFERTILITY CAUSED BY PYOMETRA, MUCOMETRA AND METRITIS.

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Infertility in older bitches is often caused by uterine disease.

The demands of showing & racing often cause breeders to start breeding programs when their bitches are 4-5 years old. Many breeders have valuable blood lines and they have carefully planned breeding programs often using expensive frozen semen.

Valuable breeding bitches which develop uterine diseases present a challenge to clinicians attempting to restore their fertility.

### Infertility work ups

Infertility in bitches which have failed to conceive to normal matings require a full clinical work up. This includes a complete history, physical examination, routine CBC, biochemistry profile, thyroid hormone measurement, ultrasound examination of the uterus and ovaries, digital and / or endoscopic vaginal examination and culture and sensitivity (C&S) testing of uterine fluids.

It is critical to ensure that ovulation had been confirmed using progesterone monitoring, and that the males used were fertile. If no apparent cause is found an exploratory laparotomy is indicated to rule out congenital abnormalities such as uterine aplasia or intersex bitches.

Infertility in bitches which have previously conceived and whelped litters requires a similar work up. Bitches which have developed mucometra / pyometra, conceived then absorbed fetuses, delivered mummified fetuses, delivered dead pups or aborted all or part of a litter require special attention. Most emphasis is placed on uterine disease as the probable cause. Hypoluteoidism must also be considered.

### Clinical approach

It is critical to establish with clients that a problem exists. If they wish to breed with the bitch again then intensive therapy needs to be undertaken. Following treatment the bitch should be inseminated on the subsequent oestrus cycle . Reported fertility rates following medical therapy for CEH / pyometra vary from 50 – 90%.

In preparation for the next oestrus season and breeding the bitch must be treated at the time of her problem arising.

- Pyometra / mucometra bitches should be treated:
  1. With prostaglandin F2alpha (PGF2α), Dinoprost <sup>1</sup> at 0.25 mg / kg twice daily, at least 3 hours apart, for 5 days or until the uterus is clear of fluid.
  2. 2 doses of Aglepristone <sup>2</sup> at 10mg / kg 24 hours apart
  3. Antibiotics as determined by C&S.
- Aborting or absorbing bitches require
  1. Monitoring with ultrasound to determine the viability of any remaining fetuses
  2. Antibiotics as determined by C&S
  3. Blood progesterone levels to monitor for low levels.

Once the acute problem is resolved the bitch should be rested until she is 6-8 weeks away from her next due date of oestrus. At this time ultrasound examinations of uterus and ovaries should be carried out. If any fluid is detected in the uterus a course of PGF2 $\alpha$  should be instigated, C&S repeated and Thyroid hormone levels monitored.

Once the bitch is in season for 5 days she should be examined, blood progesterone monitoring commenced and vaginal cytology carried out. If large numbers of bacteria and leucocytes are present then C&S is carried out. If no specific pathogens are found antibiotic therapy using Clavulanic acid and Amoxicillin<sup>3</sup> is commenced and continued for the entire pregnancy.

Ultrasound examination of the uterus should commence 3 weeks from the date of fertilisation and then be done weekly or fortnightly so as to monitor the viability of the foetuses.

Progesterone monitoring should commence at 4-5 weeks from fertilisation. In general levels should be greater than 30 nmol / L for the 1<sup>st</sup> 8 weeks of pregnancy.

Radiographs to confirm numbers of pups should be taken in last 10 days of pregnancy. It is recommended that an elective caesarean be performed on these bitches at 60 days from fertilisation. The caesarean ensures pups are delivered alive and the intensive therapy to achieve and maintain the pregnancy has been worthwhile.

## Case History

“Chrissy” 4.5 year old Bull Terrier

7/4/2005

Had 1 pup at first breeding and then none at 2nd mating.

Now 5 weeks post mating. Did have green discharge early dioestrus and was given Amoxicillin. Ultrasound showed no pups. Uterus was 1.5 cm across with fluid within lumen. One side 5-6 cm of dilated uterine horn visible, other side 4 cm of affected horn visible.

Plan:

1. 2 x Aglepristone injections 24 hours apart
2. C & S from cervix
3. Clavulanic acid and Amoxicillin orally twice daily
4. Twice daily Dinoprost injections
5. Pass Transcervical catheter to flush uterus with 100ml warm sterile saline and collect sample for C&S. A thick muco-purulent fluid was collected.

12/4/2005: Left horn still had fluid pockets in it extending approximately over 3 cm length. Diameter reducing. Right horn soft tissue echogenicity & no fluid in lumen.

Laboratory: Culture E Coli & non-haemolytic streptococcus, Sensitive to Ampicillin and Gentamycin.

14/4/2005: Ultrasound showed no fluid pockets in uterus. Continue antibiotics.

12/7/2005: Oestrus. Vaginal cytology negative leukocytes. Commence Clavulanic acid and Amoxicillin . Progesterone 1.7 nmol/L.

27/7/2005: Progesterone 15.1 nmol/L

1/8/2005: Progesterone 56 nmol/L . Bitch mated. Add 60 days = 1/10/05

22/8/2005: Ultrasound 6 pups, continue antibiotics.

30/9/2005: Caesarian 3 pups on the right horn and 1 pup in the left horn. A large area of the left horn was filled with mucopurulent discharge.

Chrissy missed at her next mating and then had another course of Dinoprost and produced 3 pups at the next mating. She is now desexed.

<sup>1</sup> Lutalyse, Pfizer

<sup>2</sup> Alizin, Virbac

<sup>3</sup> Clavulox Pfizer