

Medical management of canine pyometra

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GERARD MCLAUCHLAN and LAURA COSGROVE discuss options in treating this condition, specifically looking at the drugs available to vets, dosages and the potential side effects involved

PYOMETRA is the term used to describe bacterial infection and pus accumulation within the uterus¹, which normally occurs during the luteal phase of the oestrus cycle².

The mean time interval between oestrus and development of pyometra is 7.1 weeks. The disease is associated with a variety of clinical signs and can be life threatening. Historically, this condition has been treated surgically with ovariohysterectomy (OVH), normally performed after a short period of stabilisation³. In general, OVH is still the treatment of choice for most cases, although medical management in specific circumstances is an option. Signalment and history should be considered, as bitches older than six years, or bitches not intended for breeding, should, in general, be treated surgically⁴.

Closed or open

Before considering medical management, the patency of the cervix, and therefore deciding to classify the condition as either a closed or open pyometra, should be established. Many authors would not recommend attempting medical management in the case of closed pyometra – as uterine rupture with secondary septic peritonitis may result – or in animals with signs of systemic illness⁴. Authors who describe medical management for closed pyometra⁵ would recommend very close monitoring and, in general, hospitalisation. If vulval discharge (and therefore conversion to an open pyometra) does not occur within 24 to 48 hours after initiation of treatment, then OVH is recommended without further delay.

Another factor to consider is whether the bitch has concurrent cystic endometrial hyperplasia (CEH), which can occur after multiple oestrus cycles, and is often associated with pyometra⁶. Determining whether CEH is likely to be present by performing an ultrasound of the uterus (fluffy irregular, mottled thickening of the endometrium⁴) may be important, as CEH is associated with increased risk of recurrence of pyometra and infertility⁷. Medical management could also be considered in some cases as preparation for surgery in patients with high anaesthetic risk (azotaemic patients, for example) at the time of diagnosis. Where possible, any bitch suspected of having pyometra should have a haematology, biochemistry and urinalysis performed prior to deciding which treatment options are available.

Treatment

Whether a pyometra is treated medically or surgically, antibiotics should be administered. Ideally, the choice should be based on bacterial culture and sensitivity of the vulvar discharge fluid or uterine fluid obtained after surgery. While awaiting culture results, treatment with broad-spectrum antibiotics should be commenced, examples of which include amoxicillin/clavulanic acid. Some bitches may also require IV fluid therapy, dependent on hydration status.

Options for treatment include the prostaglandins. Prostaglandin causes contraction of the myometrium, luteolysis and relaxation of the cervix. It is important to note side effects can be severe, including hypersalivation, tachycardia, vomiting, ataxia and mild depression⁸. These effects are normally dose dependent and are reported to decrease with repeated administrations. Natural prostaglandins (for example, dinoprost) have decreased potency when compared to prostaglandin analogues (for example, cloprostenol) ⁸ and, therefore, side effects are not as pronounced. It is recommended serum progesterone levels should be determined before and after prostaglandin treatment to adjust dose and duration. In most cases, repeated doses are administered for up to seven to 10 days, but animals that require more than five days of treatment have a poorer prognosis for recovery of health and fertility. Prostaglandins should not be dispensed to clients due to the potential adverse effects they can induce in humans, including pregnancy loss⁴.

The progesterone-receptor antagonists, such as aglepristone and mifepristone, have been used alone or in combination with the prostaglandins in the treatment of pyometra⁵. Aglepristone has also been shown to be an effective way of inducing cervical opening in closed pyometra, thus improving the patient's clinical presentation⁴. Aglepristone alone has been shown to be an effective treatment in the short term, with one study showing a 92.3 per cent clinical resolution of pyometra. Long-term followup revealed a recurrence rate of 9.8 per cent within three months of treatment and 18.9 per cent within one year³.

Others describe aglepristone used in combination with cloprostenol, which has been shown to be more effective than aglepristone alone^{5,9}, although 20 per cent of bitches in one study redeveloped pyometra at the next oestrus cycle⁹. Side effects associated with aglepristone include pain and inflammatory reactions at the injection site, as well as anorexia, excitation, vomiting and diarrhoea⁸.

Cabergoline, a dopamine antagonist with antiprolactin activity, has been used in combination with prostaglandins. Short-term success rates between 80 per cent and 95 per cent have been achieved with this combination³. In one study, 21 out of 22 bitches treated with a combination of cabergoline and cloprostenol were successfully treated, however four out of 21 developed pyometra during the luteal phase of the next oestrus². Cabergoline is generally well tolerated, although some patients may exhibit vomiting⁸.

The decision as to whether to proceed with medical management of canine pyometra has to be carefully considered. Treatment protocols described are generally successful for the majority of cases and, in some cases, may be useful in very unwell bitches to stabilise their condition before surgery, or in bitches intended for breeding. The drugs used can be associated with side effects and the protocols require close monitoring and high degree of owner compliance. It is also important to note that costs involved can be quite considerable, pyometra can recur in a percentage of animals and the fertility of bitches successfully treated is reduced¹. In conclusion, medical management of canine pyometra is a viable option in appropriately selected patients.

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