Use and misuse of megestrol acetate and medroxyprogesterone acetate in the bitch: a review
Romagnoli, S; Lopate C
Department of Animal Medicine, Production and Health, University of Padova, Italy;
Wilsonville Veterinary Clinic, Wilsonville, Oregon, USA

Megestrol acetate (MA) and medroxyprogesterone acetate (MPA) are among the most common synthetic progesterone derivatives marketed around the world with an indication to control the reproductive cycle of small animals. Their initial use dates back to the late 60’s of last century, when they were being tested in dogs and cats as part of animal pre-clinical trials for the use of these compounds in humans. Thanks to the relevant amount of scientific data which has accumulated on these two compounds over time, the boundary between safe and dangerous dosage protocols is well known, and it is very difficult to cause side effects when using these drugs provided that the right candidate is chosen and the right dosage is given during the correct stage of the reproductive cycle.

Unfortunately, early work documenting safe dosage of both compounds for prolonged periods of time was not given proper attention in the literature, while the clamor raised by case reports of side effects attracted editors’ and readers’ attention even though most if not all of these side effects were being caused by improper use. For instance, short-term oestrus postponement is an indication for the use of MA in the bitch. In 1975 an MA dosage of 0.55 mg/kg/day was reported as 98% effective in keeping late anestrous bitches out of heat when given for a period of 32 consecutive days in about 200 animals (1). This paper received a high number of citations in the following 40 years, and its protocol became quite popular and was used in many bitches without any regard for the reproductive cycle stage (progestogens should be used only in anestrus), for mammary or uterine conditions or for potentially underlying endocrine conditions. In fact, MA can cause benign and malignant mammary development, as well as uterine disease or may cause diabetogenic effects when used a) in patients at risk of any of these disease or if given to healthy bitches b) for longer than 32 days or c) at doses higher than 0.55 mg/kg/day (2). Interestingly, the administration of MA in anestrous bitches at a much lower dose (0.05 mg/kg and 0.01 mg/kg administered daily per os) is equally effective and devoid of side effects even if treatment is as long one year (3).

Also concerning MPA, results from chronic toxicity studies in dogs have been overemphasized without any critical review for the dosage responsible for the side effect or without critically reviewing the choice of patient or the reproductive cycle stage of the bitch in which the case report had been observed. The use of excessively high MPA (>2.5 mg/kg at intervals of ≤5 months and continued for more than 1 year) dosages has been extensively advised by textbooks and scientific journals over the last decades and many bitches have suffered from side effects which could have been avoided. Megestrol acetate and MPA can still be used safely in the bitch provided that young to young-adult females without history of uterine, mammary or endocrine disease are treated in anestrus with the right dosage for the proper length of time.