Quantification of collagen fibers in canine uteri treated with medroxyprogesterone acetate

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Collagen plays essential roles in remodeling uterine tissue during decidualization, implantation, pregnancy and involution. To understand whether the progestational agent medroxyprogesterone acetate (MPA) can modify the organization and deposit of collagen in the uteri of normal bitches (Canis Tlupus familiaris), we assessed uterine tissues by histochemistry. Uteri were grouped as: nulliparous (n=11), multiparous (n=11) and treated with MPA (n=11; nulliparous with two treatments; 5mg/kg; i.m.). The amount, location and birefringence of interstitial collagen types I and III in the fold and base of the endometrial stroma and the myometrial muscular layers were studied on sections stained with Picrosirius Red by polarized light microscopy and evaluated by ANOVA. No differences were observed in the endometrium. In the myometrium, differences were observed in collagen type I between MPA-treated and nulliparous uteri vs. multiparous ($p<0.05$), and differences in collagen type III between nulliparous and multiparous uteri vs. MPA-treated ($p=0.0001$). In conclusion, two doses of MPA had no significant effect on the investigated collagens in the extracellular matrix.

Canis lupus familiaris

Collagen

Medroxyprogesterone acetate

Picrosirius red

Uterus