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Transcervical endometrial biopsy as a tool to perform an in vivo histomorphometric evaluation of canine uterus.


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The known techniques of uterine tissue collection for biopsy in dogs include the exposition of the uterus through an abdominal incision followed by a sample collection using a punch and the use of endoscope and biopsy forceps through the cervix to collect an endometrial sample1,2. The transcervical endometrial biopsy is a useful tool for obtaining information about uterine status in some species and has been chosen as a less invasive technique for use in dogs2. The indications for uterine biopsy include prognostic evaluation for fertility and assessment of the cystic endometrial hyperplasia and inflammation3. The use of histomorphometry allows a precise comparative evaluation of the most important structures of the uterus, as myometrium and endometrium glands and enable an objective and precise collection, presentation and analysis of data recovery from anatomical structures and also serves as qualitative analysis. Aiming to evaluate the efficiency of transcervical endometrial biopsy (TEB) in dogs we compare histomorphometric findings of 03 fragments collected from the same uterus body recovered immediately before (in vivo) or after ovariohysterectomy (OHS) using 03 different methods. Twenty one uteri bodies from female dogs were histomorphometric evaluated after fragments collection performed using 03 different methods (N= 63 uteri fragments): 1) immediately before OSH procedure a uterine body sample was collected inserting biopsy forceps transcervically (in vivo) guided by an endoscope; 2) post OSH procedure a uterine body sample was collected using a 3mm punch and 3) a total thickness sample was collected as routinely performed for histological analysis. The parameters evaluated by histomorphometric examination of each endometrial samples were: the total thickness of the endometrium (μm), the diameter (μm) of the endometrial glands and the number of endometrial glands / mm2 (in 10X magnification obj). Histomorphometric results from 03 samples coming from the same utero using TEB or punch as a tool to fragment collection were statistically compared with the fragment obtained from total thickness. The TEB had recovery rate of 81% (17/21) being an efficient tool and had comparable results with that already observed in 91% literature1, and contrasting with 31% already observed2; The results of histomorphometric evaluation from samples collected by TEB and punch 3 mm were statistical comparable with samples coming from total thickness collection in: total thickness (μm), number and diameter (μm) of endometrial glands (p> 0.05). Based in the evaluated parameters we concluded that uterine biopsy collection trough transcervical forceps guided by endoscopy is an auxiliary tool to perform an in vivo histomorphometric evaluation of canine uterus.