The blood vasculature as the forming element of the uterus of the estrous donkey (Equus asinus)

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Abstract:

Light, scanning electron microscopy of endometrial surface and vascular casts were used to study the vascular architecture of the donkey uterus during estrous. The arterial blood supply of the uterus comes from three arteries: the uterine branch of the ovarian artery, the uterine artery of the external iliac artery, and the uterine branch of the urogenital artery. All arteries enter the uterus at its mesometrial border and divide into smaller ones. Segmentally constricted arteries are seen to circumscribe large veins at the perimetrium which become highly convoluted in the intermuscular vascular layer of the myometrium. Small arteries and arterioles originate at the borderline between the myometrium and the endometrium and radiate to the surface of the endometrium to constitute a system of numerous ridges and grooves by a widely meshed plexus of subepithelial capillary network. The post-capillary venules of the endometrium arise from the subepithelial capillary plexus to form slightly larger veins than the concurrent arteries which join up to the large tortuous veins in the intermuscular vascular layer of the uterus. This arrangement of blood vessels in the donkey uterus and particularly in the endometrium provides the requirement for instant blood flow on the arterial side and for the slow flow rate on the venous side to ameliorate the process of substances exchange.

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