CASTING METHODS OF SCANNING ELECTRON MICROSCOPY APPLIED TO HEMAL LYMPH NODES IN RATS

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ABSTRACT

Hemal lymph nodes of the para-aortic group in rats were examined by scanning electron microscopy (SEM) using the corrosion cast technique. The vasoarchitecture of hemal lymph nodes was described in cast specimens filled from the abdominal aorta. A dense system of capillaries arranged in the mode of a meshwork could be represented in the nodal cortex. The postcapillary venule (PCV) with wide vascular lumina provided the prevailing vessel type of the deep cortex. Sphincter-like narrowings of the capillary lumen appeared at the sites where capillaries merged with the PCV. These vascular segments were interpreted as structures controlling the hemodynamics of the joining PCV thereby providing appropriate conditions for homing lymphocytes. No evidence was obtained from the casts for an open circulation in hemal lymph nodes. The intranodal lymphatic pathways were studied in specimens interstitially injected with resin. The fine lymphoid tissue spaces were characterized by special cast patterns reflecting the structural differentiation of certain nodal compartments. Afferent lymphatics could be clearly identified in casts with a retrograde filling from the subcapsular sinus. Very spacious intermediary sinuses and wide-meshed medullary sinuses could be represented in those casts as well, thus allowing ample space for the encounter of large macrophages with red blood cells.