Nervous system of the snail Helix aspersa - II. Fine structure of vascular channels and amebocytes associated with the ganglionic sheath

Fernandez, Juan

The fine structure of vascular channels and amebocytes associated with the sheath of the infraesophageal ganglion of Helix aspersa, is described. The extracellular stroma of the sheath, together with the hemocoel and blood vessels, forms an interconnected system of pathways which appears to be involved in the transport of metabolites, amebocytes, hemocyanin and experimentally introduced opaque tracers. The hemocoel, blood capillaries and precapillaries are lined by a discontinuous layer of single muscle cells whose luminal aspect is covered by a lamina of extracellular material named the vascular coat. This coat consists of a ground substance that forms a basement membrane and filamentous elements some of which are collagenous. Gaps in the blood vessel wall seem to provide the main routes for the movement of cells and large molecules to the hemocoel. Tracer experiments have given support to the idea that a diffusion barrier may be absent at the sheath-ganglion junction. Amebocytes have