

The structure and innervation of the presumptive carotid sinus area in the giraffe (*Giraffa camelopardalis*).

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Abstract:

The tunica media of the giraffe carotid artery is characterised by a predominantly muscular structure, except for a small area at the origins of the occipital and the vestigial internal carotid arteries. The latter has a preponderantly elastic structure and corresponds in extent to the parts of the carotid arterial wall innervated by a branch of the glossopharyngeal nerve. Sensory nerve terminals, characterised by an abundance of mitochondria, are found in the deeper parts of the adventitia bordering the elastic zone. It is concluded that the elastic zone at the cranial portion of the carotid arterial system in the giraffe constitutes the equivalent of a carotid sinus. It is further suggested that the preponderance of elastic tissue in this area is a morphological adaptation of the arterial wall to a baroreceptor function. Pertinent to this suggestion is the demonstration of a close structural relationship between the sensory nerve endings and the elastic fibres