The arterial system of Uromastix

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The arterial system of Uromastix hardwickii retains many primitive features and shows great resemblance and relationship to that of Sphenodon. The heart is typically reptilian. Two systemics and a pulmonary arch arise from the ventricle. The conus arteriosus is absent. The carotids arise together from the right systemic by means of a small common carotis primaria. A very well-developed ductus caroticus connects each carotid with the systemic arch of its side. The ductus arteriosus (ductus Botalli) is absent.

The dorsal aorta is formed by the union of both the systemic arches. The left systemic joins entire while the right one, which is termed systemicocarotid trunk, gives off the carotids, the vertebral, a single subclavian, and two pairs of parietal arteries, before the union. Anterior epigastric arteries are altogether absent. The dorsal aorta gives off fifteen pairs of parietal arteries which are segmentally arranged. All the main branches supplying the alimentary canal and other viscerala organs arise independently of one another, there being no such combination as is found in Varanus.

There are three aortic arches which arise independently from the ventricle, a little to the right of the middle line, viz., the pulmonary arch and a pair of systemic arches (right and left systemic arches).

A. Pulmonary Arch:

The pulmonary arch lies ventrally and arises from the right ventral side of the ventricle (cavum pulmonale). As it travels forwards, it curves and becomes dorsal to the left systemic arch, where it soon divides into right pulmonary and left pulmonary arteries going to the right and left lungs respectively.

B. Systemic Arches:

Both the systemic arches arise directly from the cavum dorsale of the ventricle carrying oxygenated blood. The left systemic arch is fully visible in the ventral view of the heart. It arises from the right side of the ventricle but curves later to the left and carries mixed blood. The point of origin of the right systemic arch is not visible from the ventral side but can be seen in the dorsal view.

The right systemic arch arises from the left side of the ventricle and lies dorsal to both the pulmonary and the left systemic arches. Later it curves to the right side. The two systemic arches communicate with one another by a foramen of Panizzae, situated where the arches cross each other anterior to the heart. Both the systemic arches then turn upwards, backwards and inwards and join posterior to the heart in the mid-dorsal line to form dorsal aorta.

The right systemic arch gives off a very short artery before it starts curving to the right in the notch between the two auricles which is called the carotis primaria or innominate artery. The right systemic arch also gives off a common subclavian artery before joining the left systemic arch.

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