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Statement

BAS 320I – Metaflumizone

Discussion of absent subclavian arteries in rabbits and potential clinical relevance

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Statement

In the macroscopic anatomical investigation of rabbit fetuses in standard guideline regulatory studies the examination of the great vessels is limited to what is observable in the thoracic cavity.

A) B)

A) Rabbit heart and aortic arch with missing right subclavian artery
B) Rabbit heart and aortic arch with normal right subclavian artery

The further course of the blood vessels and their downstream branching inside or beyond the thoracic wall are not subject of this investigation. However, the body parts (neck, vertebral column, thoracic wall, forelimb) of the affected fetuses which are commonly supplied by branches arising from the subclavian arteries (e.g. thoracic, intercostal, vertebral, cervical, axillar arteries) appeared to be anatomically normal. The three high dose animals with absent subclavian arteries (85-01, 90-02 and 94-01) from the high dose group metaflumizone study had no respective malformations or variations:

Animal 85-01

M – absent subclavian: right

V – unossified sternebra: unchanged cartilage – 5th

V – Misshapen sternebra: unchanged cartilage – several 2nd, 3rd, 4th

V – incomplete ossification of hyoid: cartilage present

Animal 90-02

M – absent subclavian: right

V – incomplete ossification of sternebra: Unchanged cartilage – 5th

Animal: 94 – 01

V – paw hyperflexion: bilateral forelimbs

M – absent subclavian: right

V – absent lung lobe (l. inferior medialis)

V – incomplete ossification of sternebra: unchanged cartilage – 5th

V – supernumerary rib (13th); right; cartilage not present rudimentary, detached

V – incomplete ossification of talus: bilateral: cartilage present

Thus, it may be assumed that the respective vessels have branched from elsewhere, most likely directly from the other great vessel which parallels the subclavian until it´s passing through the thoracic wall – the arteria carotis communis (or carotis externa in it´s further course).

Generally, the branching of the great vessels from the aortic arch as well as further down in their course is considerably variable in mammals including humans. While for animals such spontaneous variations are only occasionally mentioned in standard anatomy textbooks or atlases, a great number of publications deals with these phenomena in humans, and with their clinical consequences. They are frequent enough to have found their way into catalogues of human anatomic variations such as *Illustrated Encyclopedia of Human Anatomic Variation (www.anatomyatlases.org).*

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