

## Patent Ductus Caroticus: Embryological Significance

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### Abstract

**Introduction:** Ductus Caroticus, the embryonic dorsal aorta between points of junction with the third and fourth branchial arch arteries normally disappears in early embryonic life and forms a thin strand of tissue without lumen, called a “ligamentum caroticum”. Persistence of Ductus caroticus, May leads to abnormal connections between the major vessels, like internal carotid artery, supplies neck and brain region. As per report the congenital internal carotid artery anomalies ranges from 4-66%.

**Objective:** To provide a review on article patent ductus caroticus an unusual variant. Where the patent ductus caroticus anomalous arteries are treated as clinical significant anomalies in aortic arches.

**Method:** Researched on several topic and found an interesting topic related to internal carotid artery anomalies which is from its embryonic state [Ganesh Elumalai et al., 2016]. When the patient with insufficiency of internal carotid artery leads to patent ductus caroticus. Though it is more prevalent, there are only few articles based on patent ductus caroticus.

**Result:** The Ductus caroticus may continue as a wide-open vessel, at the point of junction between the third and fourth branchial or aortic arch derivatives. As a result, the left internal carotid artery rises directly from the arch of the aorta, and the right internal carotid from the right subclavian. Suspicion occurs with patent ductus caroticus anomalous arteries, leads to unexpected severe neurological difficulties due to the Internal-carotid artery (ICA) insufficiencies.

**Conclusion:** It is well known that the suspicion occurs with patent ductus caroticus anomalous arteries, leads to sudden severe neurological complications due to the varied range of cerebral hypoplasia due to aneurysms, it may cause fatal. The patent ductus caroticus anomalous arteries are treated as “Clinical significant anomalies” in the aortic arches. This case may provide useful information in the various fields of Anaesthesia, Head & Neck and Thoracic surgeries, Emergency and Critical care units.

**Keywords:** Ductus caroticus, ligamentum caroticum, arteria muscularis cervicis, internal carotid artery.