

Abstract 18**Congenital absence of the External Carotid Artery:Atherosclerosis Without a Bifurcation**

Heron E. Rodriguez, M.D., Guillermo Marquez, M.D.,
Joseph R.Durham, M.D., Elizabeth T. Clark, M.D., Seymour Glagov, M.D.
Department of Surgery, Catholic Health Partners
2900 N. Lakeshore Drive, Chicago, IL 60614

Congenital absence of the external carotid artery (ECA) is a recognized, but rare, anomaly of the carotid artery system. We report a 66 year old man who presented with an asymptomatic carotid bruit. Duplex ultrasound scan demonstrated a 60%-79% stenosis of the right common carotid artery, but the carotid bifurcation and the ECA were not visualized. Subsequent conventional angiography documented an 80% stenosis at the expected level of the carotid bulb; the ECA was not seen. Surgical exploration revealed a diseased single carotid artery with absence of a bifurcation. No ECA was present; the arterial branches that usually emanate from the ECA arose directly from the single carotid artery trunk. Carotid endarterectomy was performed with a patch angioplasty closure. Pre-operative imaging studies as well as intra-operative photographs highlight the discussion of this rare variant. The four cases already reported in the literature are reviewed and the embryological origin of this anomaly is considered. Concluding remarks address the pathophysiology of atherosclerosis in a carotid artery system without a bulb, bifurcation, or flow divider.