



IX КОНГРЕС СРПСКОГ АНАТОМСКОГ ДРУШТВА СРБИЈЕ
са међународним учешћем
IX CONGRESS OF SERBIAN ANATOMICAL SOCIETY
with international participation

ЗБОРНИК САЖЕТАКА
ABSTRACT BOOK

Универзитет у Новом Саду, Медицински факултет
Нови Сад, 24-26. септембар 2026. године

University of Novi Sad, Faculty of Medicine
Novi Sad, September 24-26, 2026

ANATOMICAL FEATURES OF THE VERTEBROBASILAR SYSTEM AND CLINICAL SIGNIFICANCE

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Introduction: The posterior circulation of the brain constitutes the vertebrobasilar system and its branches, which are responsible for about 30% of the brain blood supply. The aim of this study was to examine anatomical characteristics and variations of vertebrobasilar system and to emphasize their clinical importance.

Material and Methods: We examined radiographs of 103 patients who had CT angiography undertaken for a variety of clinical reasons, performed as a part of their medical treatment at the University Clinic for Radiology in Skopje, R. N. Macedonia. The study population included 103 patients, 58 male and 45 females, age range from 25-82, mean age 58.4 years.

Results: The left vertebral artery arose from the subclavian artery in 94.17% and the right vertebral artery in 99.02%. Variable origin of the vertebral artery from aortic arch and right common carotid artery was noticed. The diameter of the left vertebral artery at its origin was in range between 1.63–4.80 mm, and of the right vertebral artery was from 1.60–5.0 mm. The left vertebral artery entered the C6 transverse foramen in 92.23% and the right vertebral artery in 94.17%. Abnormal entrance was observed into the C4, C5 or C7 transverse foramen. The mean length of the basilar artery was 31.60 ± 5.1 mm. The mean diameter of the basilar artery was 3.27 ± 0.52 mm.

Conclusion: The knowledge of vertebral artery anatomy and variations is important for save performance of diagnostic and interventional procedures in radiology and during planning and accomplishing surgical interventions.

Keywords: vertebral artery; basilar artery; anatomy; variations