

## MORPHOLOGICAL STUDY OF THE BASILAR ARTERY IN ADULT HUMAN CADAVERS

Harish A. Wankhede <sup>\*1</sup>, Hosmani P.B. <sup>2</sup>, Dipti A. Nimje <sup>3</sup>.

<sup>\*1</sup> Assistant Professor, Department of Anatomy, Government Medical College, Miraj, India.

<sup>2</sup> Associate Professor, Department of Anatomy, Vaishampayan Memorial Government Medical College, Solapur, India.

<sup>3</sup> House officer cum Tutor in Department of Anatomy, Vaishampayan Memorial Government Medical College, Solapur, India.

### ABSTRACT

**Background:** The basilar artery is the large median and major artery of the posterior circulation of the brain. Many variations are seen in the basilar artery, majority of them in position, origin and shape of the artery. Many authors have documented various anomalies as well as differences of the anatomy in this area in the Indian population as compared to the Western literature.

**Context and purpose of study:** Many studies are available on the anterior circulation of the brain i.e. on vessels of the circle of Willis but studies on the posterior circulation are very few. And such studies so far had been done mostly in the American and European races and are mostly based on imaging techniques. Studies in the Indian population have been few. Hence the present study is concentrated on the morphological study of the basilar artery of human adult brain, to show the frequency and type of variations in the morphology of the basilar artery.

**Results:** The basilar artery most commonly takes origin from the vertebral artery where left vertebral artery is greater in size than the right vertebral artery (72.5%).

Level of formation of the basilar artery is most commonly observed at the ponto-medullary junction (62.5%). Length of the basilar artery varied from minimum 2.4cm to maximum 3.6cm. More commonly artery lies in the range of 2.6-3.0cm (57.5%). Diameter of the basilar artery at origin ranges from 3.2-4.2mm, at mid level from 3-4mm and at termination 3.1-4mm. Level of termination of the basilar artery is more commonly at the mid brain-pons junction (50%). Most of the basilar arteries are of straight type (55%) and next common is bent or curved type (37.5%). Fenestration of 4mm is seen in proximal part of the one basilar artery (2.5%).

**Conclusion:** Variations of the basilar artery are common. Neurosurgical importance of this study lies during the exposure of the region for different purposes. Knowledge of the vascular variations will increase the success of the surgical procedures and radiological procedures used in interventional radiology.

**KEYWORDS:** Basilar artery, vertebral artery, level of formation, level of termination, length of basilar artery, diameter of basilar artery.

**Address for Correspondence:** Dr. Harish A. Wankhede, Assistant Professor, Department of Anatomy, Government Medical College, Miraj, India. **E-mail:** drharrywan@gmail.com

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### INTRODUCTION

The basilar artery, a large median vessel is formed by the union of the vertebral arteries at the mid medullary level and extends to the upper border of the pons. It lies in the pontine

cistern and follows a shallow median groove on the ventral pontine surface. The basilar artery is not responsible for the ventral median groove in the pons [1]. The basilar artery is the major artery of the posterior circulation of the brain