

## An Unusual Finding of the Posterior Cranial Fossa: One Case Report

R. Shane Tubbs<sup>1</sup>, Mohammadali M. Shoja<sup>2</sup> and Marios Loukas<sup>3</sup>

<sup>1</sup>Department of Cell Biology/Surgery, University of Alabama at Birmingham, AL, USA.

<sup>2</sup>Tuberculosis and Lung Disease Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.

<sup>3</sup>Department of Anatomical Sciences, St. George's University, Grenada.

*Keywords:* anatomy, brain, cranium, veins.

---

---

### SUMMARY

---

---

Variations of the posterior cranial fossa can alter surgical approaches to this region and pose a definite hazard if not considered. Inadvertent tearing of these large structures can result in morbidity and even mortality. We report an unusually large occipital sinus (1.5 cm x 6 cm) that instead of draining into the marginal sinus inferiorly, drained laterally into the jugular foramen and thus the internal jugular vein. On this side, the occipital sinus was larger than the sigmoid or transverse sinus. Knowledge of such venous variations may decrease morbidity during surgical procedures and decrease misdiagnosis of posterior fossa lesions.

### INTRODUCTION

The normal venous sinuses of the posterior cranial fossa must be well regarded by the neurosurgeon during craniotomies of this area so as to minimize morbidity and mortality. One of these, the occipital sinus, is the smallest of the cranial sinuses. The occipital sinus, which may be solitary, duplicated, or composed of a mesh of venous collaterals, is contained within the two layers of dura mater that is the attached margin of the falx cerebelli, and connects the confluence of sinuses with the IJV (Kedzia and Kedzia, 1996; Ruiz et al., 2002). This sinus begins around the margin of the foramen magnum by several small venous channels, one of which is the marginal sinus (Tubbs et al., 2006); it communicates with the posterior internal vertebral venous plexuses and ends in the confluence of the sinuses.