

Accessory venous sinus of Hyrtl

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Variations of the intracranial venous sinuses are important to the surgeon during intraoperative procedures and to the clinician during imaging interpretation. We report a male cadaver found to have a rare venous sinus variation. In all likelihood, this sinus corresponded to the rarely reported accessory venous sinus of Hyrtl. The sinus was approximately 5 mm in width and traveled from the sphenoparietal sinus anteriorly to the veins, draining into the foramen spinosum (i.e. the middle meningeal veins) posteriorly. No other variations or obvious pathology were identified intracranially or extracranially. Knowledge of such a venous variation may be of use to the clinician.

Key words: intracranial, veins, variation

INTRODUCTION

Uncommon venous drainage of the cranium should be borne in mind by the clinician. For example, unusual clinical presentations have occurred with the presence of a petrosquamous sinus, where infection spread from the middle ear to the intracranial venous system [1]. We report an unusual finding of a rare intracranial venous sinus.

CASE REPORT

During the dissection of the head of a 69-year-old male cadaver, which had been injected with blue latex as part of a study of the sphenoparietal sinus [7], an unusual anteroposterior linear dural venous sinus was identified (Fig. 1). This sinus was approximately 5 mm in width and traveled from the sphenoparietal sinus to the veins draining into the foramen spinosum (i.e. the middle meningeal veins). No other variations or obvious pathology were identified intracranially or extracranially. This venous sinus corresponded to the venous sinus of Hyrtl [3]. The sinus is described

as beginning near the superior orbital fissure (the sphenoparietal sinus) and traveling posteriorly into the transverse sinus. It may, however, leave the skull via the foramen ovale or spinosum as seen in the present case.

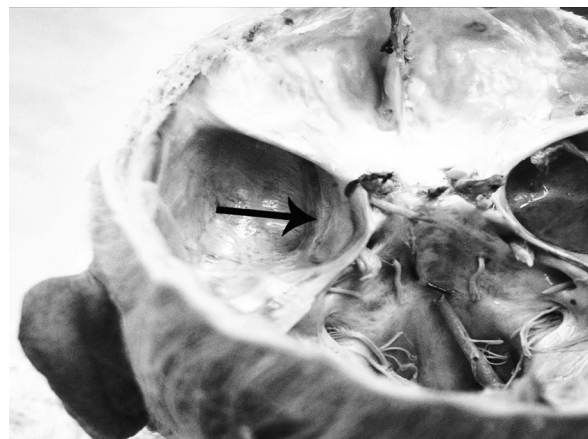


Figure 1. Intracranial view of the case reported herein. The arrow marks the accessory venous sinus of Hyrtl.

DISCUSSION

In the embryo the primitive anterior and middle venous plexus of the cranium drain primarily into the vena capitis lateralis, which then drains into the external jugular venous system [7]. The posterior cranial venous sinus drains into the internal jugular vein. In many primates the orbit is drained by a cranio-orbital sinus, which empties into the postglenoid emissary vein [2]. The remnants of this sinus in man are thought to be the middle meningeal veins [2]. Thus a sinus of Hyrtl may also represent persistence of the cranio-orbital sinus in man [6].

Knott [4] has described a sinus of Hyrtl that connected the superior ophthalmic vein to the superior petrosal sinus. Ruiz et al. [5] have identified one sinus that corresponded to an ophthalmomeningeal vein of Hyrtl, although the anterior extent could not be verified. This latter vessel may be equivalent to the present case. Hollinshead [3] has stated that the so-called accessory sinus of Kelch may correspond to the sinus of Hyrtl.

Knowledge of such a venous variation may be of use to the clinician during interpretation of cranial imaging or to the surgeon during intracranial procedures.

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