
Introduction: Although adequate venous drainage from the cranium is imperative for maintaining normal intracranial pressure, the bony anatomy surrounding the inferior petrosal sinus and the potential for a compressive canal or tunnel has, to our knowledge, not been previously investigated.

Materials and Methods: Fifty adult human skulls (100 sides) were observed and documented for the presence or absence of an inferior petrosal groove or canal. Measurements of these structures were made and a classification developed to help better understand their anatomy and discuss it in future reports. Statistical analyses will be performed to discern any differences between sides.

Results: We identified an IPSG in the majority of specimens. The IPSG began anteriorly where the apex of the petrous part of the temporal bone articulated with the sphenoid part of the clivus, traveled posteriorly, in a slight medial to lateral course, primarily just medial to the petro-occipital fissure, and ended at the anteromedial aspect of the jugular foramen. When the IPSGs were grouped into five types. In type I specimens, no IPSG was identified (10%), in type II specimens, a partial IPSG was identified (6.5%), in type III specimens, a complete IPSG (80%) was identified, in type IV specimens, a partial IPS tunnel was identified (2.5%), and in type V specimens, a complete tunnel (1%) was identified. Partial and complete tunnels occurred medial to a protuberant part of the petrous part of the temporal bone and lateral to the jugular tubercle of the occipital bone. This protuberant part of the bone was approximately one centimeter wide and extended medially toward the jugular tubercle of the occipital bone and thereby allowed the more lateral part of the IPSG to travel inferior to it when a type IV and converted the IPSG into a tunnel when a type V. Complete IPSGs were more common on right sides. The mean depth of the IPSG was 1.9 mm and the mean width of the grooves was 3.4. The mean length of the IPSG was 25 mm. Larger grooves were moderately correlated (r= 0.65) to a more prominent jugular tubercle and were more commonly (70%) located on right sides. Larger jugular tubercles were strongly correlated (p=0.70) to the presence of a partial or complete tunnel.
Conclusions: An improved knowledge of the bony pathways that the intracranial dural venous sinuses take as they exit the cranium is clinically useful. Radiological interpretation of such bony landmarks might improve patient diagnoses and surgically, such anatomy could decrease patient morbidity during approaches to the posterior cranial fossa.

Learning Objectives
1. Competence - Audience will be able to completely describe the inferior petrosal sinus groove in any given skull, noting course, variations, and neighboring/boundary structures.

2. Audience will be able to use this knowledge to design approaches to posterior cranial fossa in pathology diagnoses and interventions.