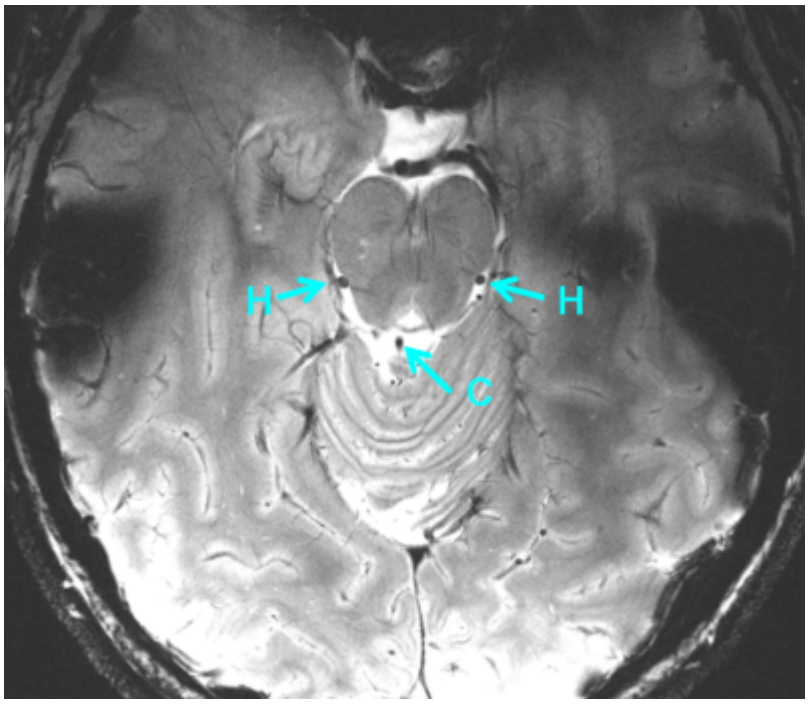
Precentral vein

The vein of the cerebellomesencephalic fissure (also called the precentral cerebellar vein) is formed by the union of the paired veins of the superior cerebellar peduncle and ascends through the quadrigeminal cistern to drain into the vein of Galen either directly or through the superior vermian vein.



C: Precentral vein

Knowledge of this landmark vein is absolutely essential. It helps establish key anatomical relationships and, even in today's era of cross-sectional imaging, helps identify posterior fossa mass lesions by its displacement behavior.

Even though practically everyone calls it the Precentral vein, Rhoton has to be different and names it the "Vein of the Cerebellomesencephalic Fissure" because that's his name for the precentral fissure. Personally, I prefer Rhoton's classification because it more uniformly and intuitively names the veins according to their location with respect to the brain.

However, with big veins like the Precentral Vein, a different name, though anatomically appropriate, may not end up so catchy. Only the giants, like Galen and Rosenthal, seem secure…

The precentral vein is usually an unpaired midline vein which runs vertically along the posterior aspect of the upper brainstem, thus serving as a key landmark. The vein is most commonly formed by union of two brachial tributaries which are found on the upper outer surface of the superior cerebellar peduncles. (Appropriately, Rhoton calls these tributaries "Veins of the Superior Cerebellar Peduncle") It then courses in the precentral fissure upward into the quadrigeminal plate cistern, where it is a nice landmark for that plate. Usually it empties into the Common Cerebral Vein [1].

1)
http://neuroangio.org/venous-brain-anatomy/precentral-cerebellar-vein/