

Infundibular dilatation

Infundibular dilatation (ID) can occur at the origin of the intracranial [posterior communicating artery](#). When this type of widening is less than 3 mm in diameter and the ID reaches the posterior communicating artery, it can be called posterior communicating artery infundibular dilatation (Pcom-ID). Currently, Pcom-ID is considered a normal anatomic variation, and the majority of Pcom-IDs are stable. However, in some cases, rupture occurs in a Pcom-ID; furthermore, Pcom-IDs can evolve into aneurysms. There are not many studies on Pcom-ID rupture hemorrhage; therefore, we performed a retrospective evaluation of published studies on Pcom-ID rupture hemorrhage and conducted a classification analysis for this condition. It is reasonable to classify Pcom-ID into three types: Type 1, direct rupture of the Pcom-ID; Type 2, bleb rupture of Pcom-ID; and Type 3, Pcom-ID rupture caused by an aneurysm. This type of classification can provide meaningful guidance for treating ruptured Pcom-ID. In addition, a study also included a systematic review and summarization of the literature on each type. This investigation was aimed to improve the understanding of Pcom-ID rupture hemorrhage ¹⁾.

Infundibular dilation (ID) and [posterior communicating artery aneurysm](#) can be difficult to distinguish but may differ in clinical significance.

88 patients diagnosed with 107 protrusions (70 IDs and 37 aneurysms <5 mm; 19 bilateral lesions) at the ICA-PComA junction who underwent both [CTA](#) and [digital subtraction angiography](#) (DSA). Two neuroradiologists independently reviewed CTA and DSA images according to these criteria:

- (a) size (maximum dimension <3 or ≥3 mm)
- (b) shape (triangular or round/oval/irregular)
- c. aneurysmal neck (absent or present)
- (d) horizontal direction (posteromedial or posteriolateral)
- (e) PComA origin (apex, no PComA, or base).

The intermodality (between CTA and DSA) and interobserver (between the two readers) agreement were determined for each finding.

The mean κ values of intermodality agreement for the size, shape, aneurysmal neck, horizontal direction, and PComA origin were 0.88, 0.87, 0.84, 0.71, and 0.56, respectively. All interobserver agreements of CTA and DSA were excellent. The sensitivity, specificity, and accuracy of CTA for differentiating aneurysms from IDs were 94.6, 100, and 98.0 %, respectively.

CTA may be a useful noninvasive modality for differential diagnosis of ID and aneurysm at the ICA-PComA junction ²⁾.

¹⁾

Yu J, Xu B, Liu Y, Xu B, Xu K. Progress in treating ruptured infundibular dilatation at the origin of the intracranial posterior communicating artery. *Int J Clin Exp Med*. 2015 Oct 15;8(10):17080-7. eCollection 2015. Review. PubMed PMID: 26770300; PubMed Central PMCID: PMC4694200.

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Min KJ, Yoon DY, Kim HC, Lee JY, Cho BM. Infundibular dilation and aneurysm at the origin of the posterior communicating artery: differential diagnosis by CT angiography. *Neuroradiology*. 2014 Aug 8. [Epub ahead of print] PubMed PMID: 25103608.

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