

Pituitary apoplexy etiology

[Pituitary apoplexy](#) can be caused by bleeding into the [pituitary](#) or by blocked blood flow to the pituitary.

Most cases occur in [Non-Functioning Pituitary Neuroendocrine Tumor](#) but can also occur in [functioning pituitary neuroendocrine tumor](#). Certain predisposing factors can result in [pituitary apoplexy](#) and the use of [gonadotropin-releasing hormone](#) (GnRH) agonists for prostate cancer (PCa) is one such condition ¹⁾

Sudden intrasellar expansion may occur as a result of [hemorrhage](#), [necrosis](#) ^{2) 3)} and/or infarction within a [pituitary tumor](#) and adjacent [pituitary gland](#). Occasionally, hemorrhage occurs into a normal pituitary gland or [Rathke's cleft cyst](#) ⁴⁾.

This condition stems from an acute expansion of a [pituitary neuroendocrine tumor](#) or, less commonly, in a non adenomatous gland, from infarction or hemorrhage. The anterior pituitary gland is perfused by its portal venous system, which passes down the hypophyseal stalk. This unusual vascular supply likely contributes to the frequency of pituitary apoplexy.

Fonseca et al. published a [pituitary apoplexy](#) after a [corticotropin-releasing hormone stimulation test](#) in the pediatric age ⁵⁾.

Internal Carotid Artery Stenosis Associated with Pituitary Apoplexy

[Internal carotid artery stenosis](#) rarely occurs in [pituitary apoplexy](#). Little is known of the causes of this condition. A study investigated the factors related to ICA stenosis associated with pituitary apoplexy.

Forty-five patients with pituitary apoplexy were retrospectively examined and divided into the stenotic and normal ICA groups. The baseline characteristics of patient background, tumor properties, clinical findings, and treatment overview were compared between the groups.

Eight patients were assigned to the stenotic ICA group and 37 to the normal ICA group. Patient age in the stenotic ICA group was significantly lower than that in the normal ICA group ($p = 0.001$). Maximum tumor diameter ($p = 0.001$), tumor volume ($p = 0.044$), and Knosp grade ($p < 0.001$) were significantly greater in the stenotic ICA group than in the normal ICA group. The stenotic ICA group had a significantly higher incidence of sphenoid sinus mucosal thickening (SSMT) than the normal ICA group ($p = 0.039$). Multivariate logistic regression analysis demonstrated that age (odds ratio 0.915, 95% confidence interval 0.846-0.991, $p = 0.029$) was a significant and independent predictor of ICA stenosis associated with pituitary apoplexy. Receiver operating characteristic (ROC) curve analysis showed that the optimal cut-off point for age was 35.0 years (specificity 0.946, sensitivity 0.750).

The study revealed that age, tumor size, and [sphenoid sinus mucosal thickening](#) were strongly related to the occurrence of ICA stenosis in pituitary apoplexy. Among these factors, age had the potential of being an independent predictor of the condition ⁶⁾.

References

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Last update: **2024/06/07 02:56**

