

In 1985, Takeshi Kawase published an anterior [petrosal approach](#) to expose the [posterior cranial fossa](#) and to minimize retraction of the [temporal lobe](#). However, several neurosurgeons still have difficulty with removing tumors through an anterior petrosal approach, because a complete understanding of the [Kawase pyramid](#) has not been achieved. Jung et al. hypothesized that if anterior [petrosectomy](#) is performed with a three-dimensional understanding of the Kawase pyramid, it would have a positive effect on the extent of tumor resection.

They performed a retrospective study of patients who underwent surgical treatment for meningioma through an anterior petrosal approach. Patients were divided into total resection and subtotal resection groups, and statistical differences between the two groups were analyzed. To identify factors predictive of complete tumor removal, univariable and multivariable logistic regression analyses were performed.

The width and height of the drilled internal acoustic canal (IAC) of the total resection group were significantly longer than those of the subtotal resection group ($p=0.001$, $p=0.033$). The operative angle of the total resection group was significantly larger than that of the subtotal resection group ($p<0.001$). Regression analyses showed only drilled IAC width to be predictive of complete tumor removal, increasing the likelihood thereof by 2.778-fold with an increase in drilled IAC width by 1 mm ($p=0.023$).

Insufficient petrosectomy during an anterior petrosal approach adversely affects the extent of tumor resection. Furthering three-dimensional understanding of the Kawase pyramid could help complete tumor resection and better outcomes without causing damage to the surrounding organs ¹⁾.

¹⁾

Jung IH, Yoo J, Roh TH, Park HH, Hong CK. Importance of sufficient [petrosectomy](#) in an [anterior petrosal approach](#) relighting of the [Kawase pyramid](#). World Neurosurg. 2021 May 15;S1878-8750(21)00712-9. doi: 10.1016/j.wneu.2021.05.017. Epub ahead of print. PMID: 34004357.

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