**Title:**

When my world is brightened up again - factors determining visual outcome of non-functioning pituitary adenoma

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**Abstract:**

***Objective*:**

Sellar lesions are possible reversible causes of vision loss. This study is to discuss different factors that could affect visual outcome of non-functioning pituitary adenoma.

***Method:***

This is a single centre, retrospective study conducted at Queen Elizabeth Hospital. 115 cases of sellar tumors which underwent surgery during the 3-year period from early June 2015 to late May 2018 were reviewed. Pituitary adenoma that were non-functioning and without apoplexy at initial presentation were selected for the study. We have analyzed the correlation of different factors with the visual outcome, including the extent of vertical decompression in terms of change in tumor height post operation and the extent of lateral decompression in terms of change in Knosp grading. Visual outcome was represented by the visual impairment score (VIS), an integrated measurement of visual acuity and visual field deficit.

***Result:***

Although most patients had an objective improvement in visual acuity (VA) (88%) and visual field (VF) (99%) after operation, a larger reduction in tumor height and successful Knosp downgrading after surgery is associated with better VIS improvement. (p=0.04)

A greater initial tumor height may predict a greater VA change (p= 0.76) and VF change (p=0.09) after operation.

***Conclusion:***

The extent of both vertical and lateral decompression of non-functioning pituitary adenoma are important determinants that lead to better visual outcome. As endoscopic transsphenoidal approach offers a wider view around the sella, it might be a preferred approach to achieve better vision.