**Title:**

Water and Sodium Disorders After Operation of Sellar and Parasellar Region Tumours

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***Objective:***

To study the incidence of diabetes insipidus and hyponaetraemia after sellar and parasellar region surgery and to review on risk factors of developing post-operative diabetes insipidus and hyponaetraemia.

***Method:***

This study focus on the list of patients who had sellar and parasellar region surgery during the period from January 2017 to December 2018. The data of sodium levels and the presence of diabetes insipidus requiring DDAVP replacement are retrieved. Patient’s demographics, type of operation, histology, presence of perioperative endocrine disorders, surgical complications and presence of residual and recurrence are also recorded.

***Results:***

From January 2017 to December 2018, there are total 59 cases of sellar and parasellar region operation. This included patients who had underwent transsphenoidal excision(n=47), craniotomy for tumour excision and biopsy(n=12). The overall incidence of diabetes insipidus and hyponatraemia were 28.8% and 25.4% respectively. Within the group who developed post-operative diabetes insipidus, 58.8% required long-term DDAVP replacement.

The prevalence of diabetes insipidus and hyponatraemia were higher in the group with craniotomy compared to the group with transsphenoidal surgery (41.7% vs 25.5% and 50% vs 19% respectively). The prevalence of craniopharyngioma, germinoma and rathke cleft cyst were higher among the group developed DI (17.6% vs 0, 5.9% vs 0%, 11.8% vs 2.4 respectively).

For reoperation case and cases with post-operative complications, it does not result in higher rate of DI. However, the prevalence of post-operative complications was higher among those who developed hyponatraemia (46.7 % vs 9.1%).