

Annual Congress on

## Advancements in Neurology, Neuroscience and Pediatric Neurology

June 18-19, 2018 Rome, Italy

### Postoperative rise in serum sodium level, an indicator of diabetes insipidus after pituitary adenoma surgery

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**Objective:** To study the efficacy of post-operative rise in serum sodium level as indicator of diabetes insipidus after pituitary adenoma surgery.

**Methodology:** The study is randomized control trail. It was conducted in Departments of Neurosurgery and Biochemistry, Punjab Institute of Neurosciences, Lahore General Hospital, Postgraduate Medical Institute and Ameeruddin Medical College from March 2016 to December 2017. Ethical approval was obtained from Hospital Ethics Committee. Total number of 169 patients was enrolled for transsphenoidal surgery of their pituitary adenoma. Sample size was calculated from the reference study conducted by Schreckinger M, et al. Non probability consecutive sampling technique was used to collect the sample size. Data was calculated from all the patients regarding age, gender, duration of transsphenoidal surgery, postoperative evidence of diabetes insipidus by measuring rise in serum sodium level >145 mEq. Mean and standard deviation was calculated for demographic variables like age and gender while frequency and percentage was calculated for outcome variables like type of diabetes insipidus and sensitivity and specificity of serum sodium >145 mEq test. Chi square test was applied and analysis was done using computer software SPSS version 23. P value less than 0.05 was considered significant.

**Results:** Overall 169 patients were enrolled in this study, both genders. Gender distribution showed there were 68% (n=115) males and 32% (n=54) females. The mean age of the patients was  $40.88 \pm 4.95$  years. Post-operative transient noted in 13.6% (n=23) patients. Serum sodium level (specific) observed in 92.9% (n=157) patients. While, >145 mEq sensitive was observed in 88.2% (n=149) patients. The main outcome variable of this study was diabetes insipidus permanent, in our study, it was noted in 9.5% (n=16) patients. There was no association between diabetes insipidus permanent and effect modifiers.

**Conclusion:** From this study we conclude that level of sodium >145 mEq is very sensitive and specific test which can be used to predict the outcome after pituitary adenoma surgery in the form of diabetes insipidus.

#### Biography

Noor-ul-Huda Maria is a Neurosurgeon at Punjab Institute of Neuroscience, Pakistan. She has completed her Fellowship training from the same institute as well. She has always been passionate about neurosurgery. She has got special interest in research work and has various articles published in national and international journals.

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