TITLE

Early water intake restriction prevents SIADH following transsphenoidal surgery, Low BMI predicts postoperative SIADH

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OBJECTIVES

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The goals of this study are to assess the incidence, risk factors of SIADH in patients that underwent transsphenoidal surgery and validate the efficacy of early water intake restriction.

METHODS

1.207 patients underwent transsphenoidal surgery (129 women, 78 men, aged between 9 and 82, mean age 46)

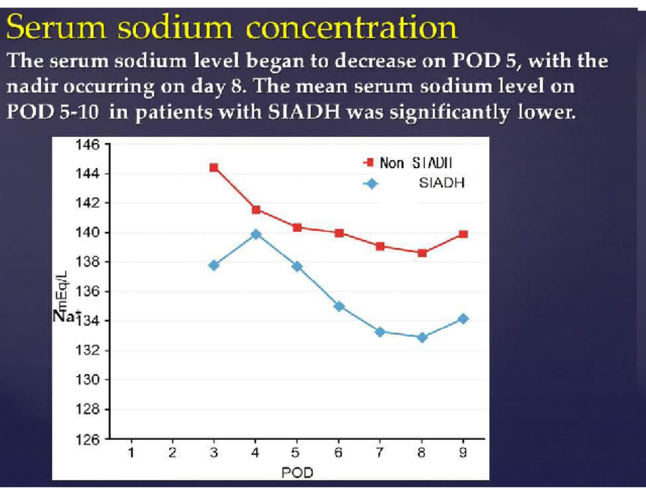
Rathke's cleft cyst 112, Plurihormonal adenoma 38, GH-secreting adenoma 20, ACTH-secreting adenoma 17, gonadotroph adenoma 15,and prolactinoma 8

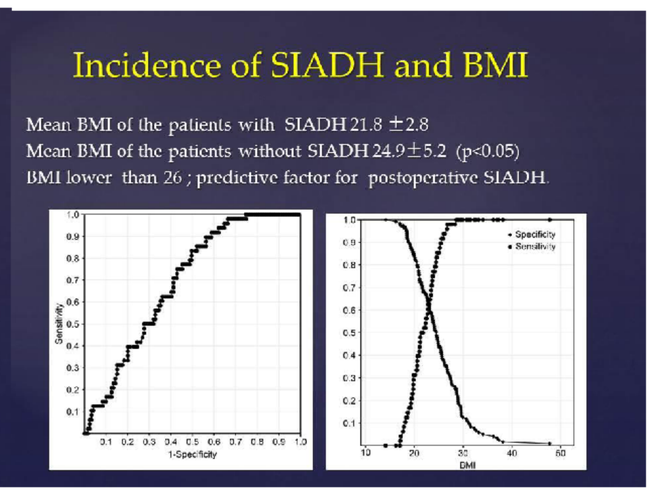
2. Determined incidence and risk factors for postoperative SIADH (BMI, age, gender, tumor size, urine volume, serum Na^+)

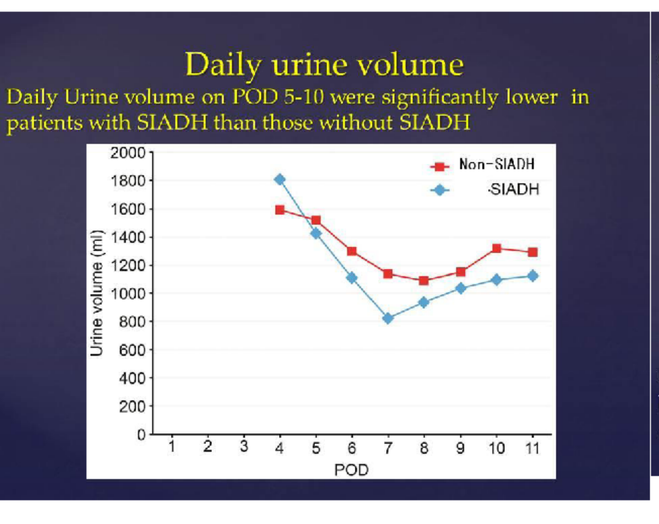
3. Early prophylactic water intake restriction. (,<1800ml)

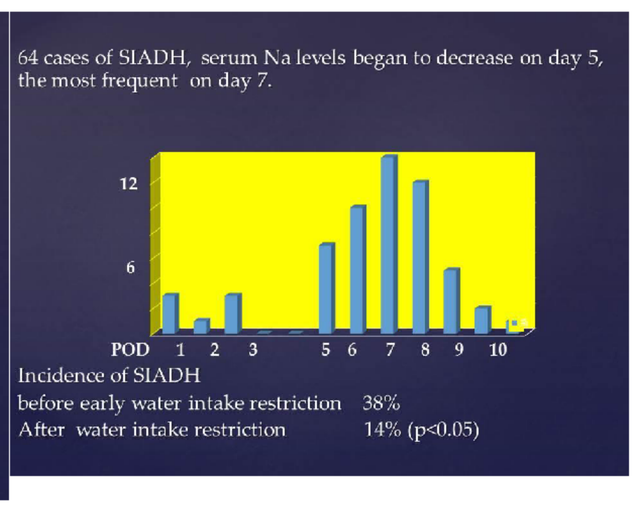
4. Statistical analysis; Mann-Whitney, ROC, χ square test

Graphs and tables









RESULTS

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Mean BMI of the patients with SIADH 21.8 ±2.8

Mean BMI of the patients without SIADH 24.9±5.2 (p<0.05)

BMI lower than 26 ; predictive factor for SIADH.

The serum sodium level began to decrease on POD 5, with the nadir occurring on day 8. The mean serum sodium level on POD 5-10 in patients with SIADH was significantly lower.

Daily Urine volume on POD 5-10 were significantly lower in patients with SIADH than those without SIADH

Incidence of SIADH

before early water intake restriction 38%

After water intake restriction 14% (p<0.05)

CONCLUSIONS

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1.Serum sodium concentrations should be measured after transsphenoidal surgery.

2.Low BMI was significantly associated with postoperative SIADH.

3.Early prophylactic water intake restriction significantly contributed to preventing postoperative SIADH.

References

Published Case series of SIADH (hyponatremia)

Authors/year	N	SIADH (%)	Risk Factors
Lee et al., 2008	94	18	age>50
Wei et al., 2003	183	39	age, tumor size
Zada et al., 2007	241	23	female, previous DI
Olson et al., 1995	58	21	surgical trauma, estrogen
Kelly et al., 1995	99	9	macroadenoma
Sane et al., 1994	91	35	smaller tumor, Cushing
Kinoshita et al., 2011	88	31	age>60
Hussain et al., 2013	339	22	BMI, female
present series	207	33	BMI