

Supratentorial Brain Tumours Related Endocrinopathies

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INTRODUCTION

- Brain tumors constitute the second most common tumors in childhood after leukemia.
- Benign infra-tentorial tumors, namely embryonic medulloblastoma, as well as cerebellar astrocytoma, are the commonest.
- Most of the supra-tentorial tumors (STT) are in the supra or para-sellar regions.
- Malignant tumors are rare.
- The chance for long-term cure is 50-90% with appropriate management.
- The STT and/or treatment may lead to traumatic brain injury (TBI) with endocrinopathic sequel.

METHODS

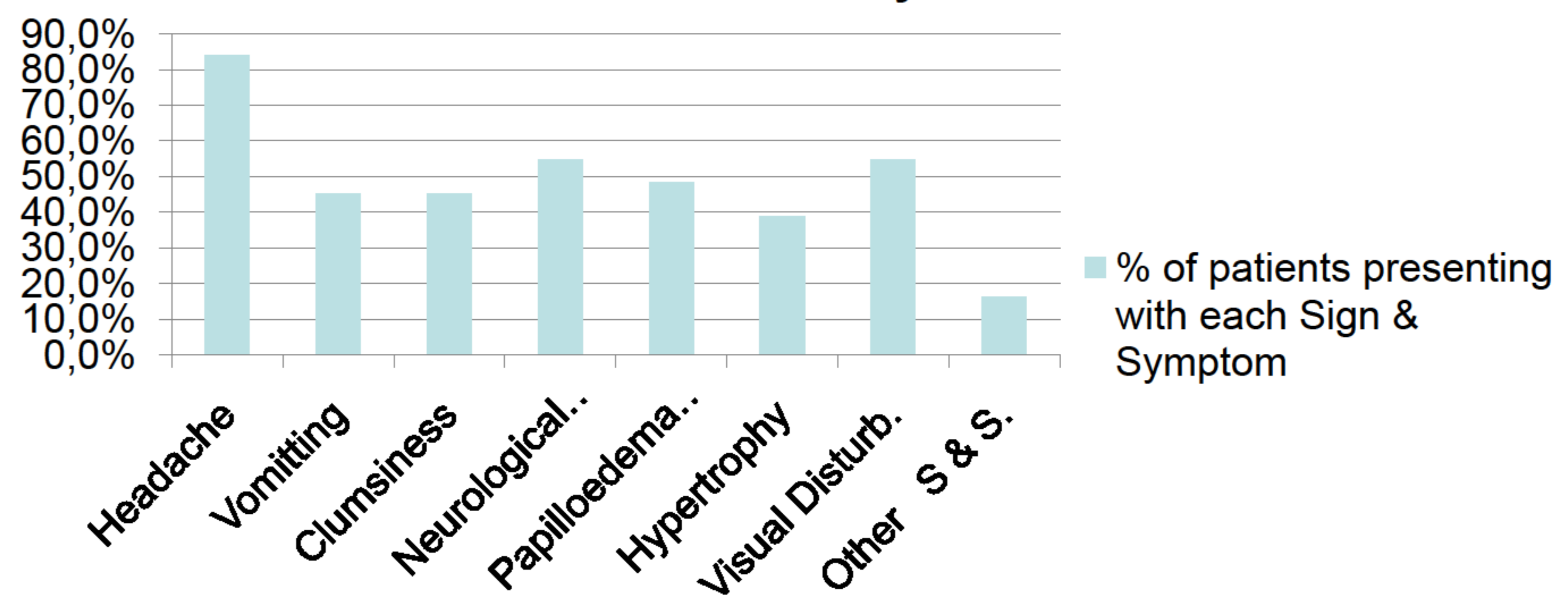
- A retrospective hospital based study of 32 children with STT reviewed at King Saud University Medical City, Riyadh, Saudi Arabia (2001-2013).
- All patients underwent intracranial surgery and occasionally additional treatment such as radiotherapy/Chemotherapy.
- The patients' care has been followed throughout the course of management.

Statistics

Age (yrs)
N Valid 32
Missing 0
Mean 9.95
Std. Deviation 4.672
Minimum 1
Maximum 17

Region:	
East Province	2(6.3%)
West Province	3(9.4%)
North Province	4(12.5%)
South Province	3(9.4%)
Middle Province	11(34.4%)
Other Nationality	9(28.1%)
Service First Seen By	
Endocrinology.	3(9.4%)
Emergency Rm.	3(9.4%)
Hematology & Oncology	2(6.3%)
Neuro-Surgery.	24(75%)

% of Patients presenting with each Sign & Symptom individually



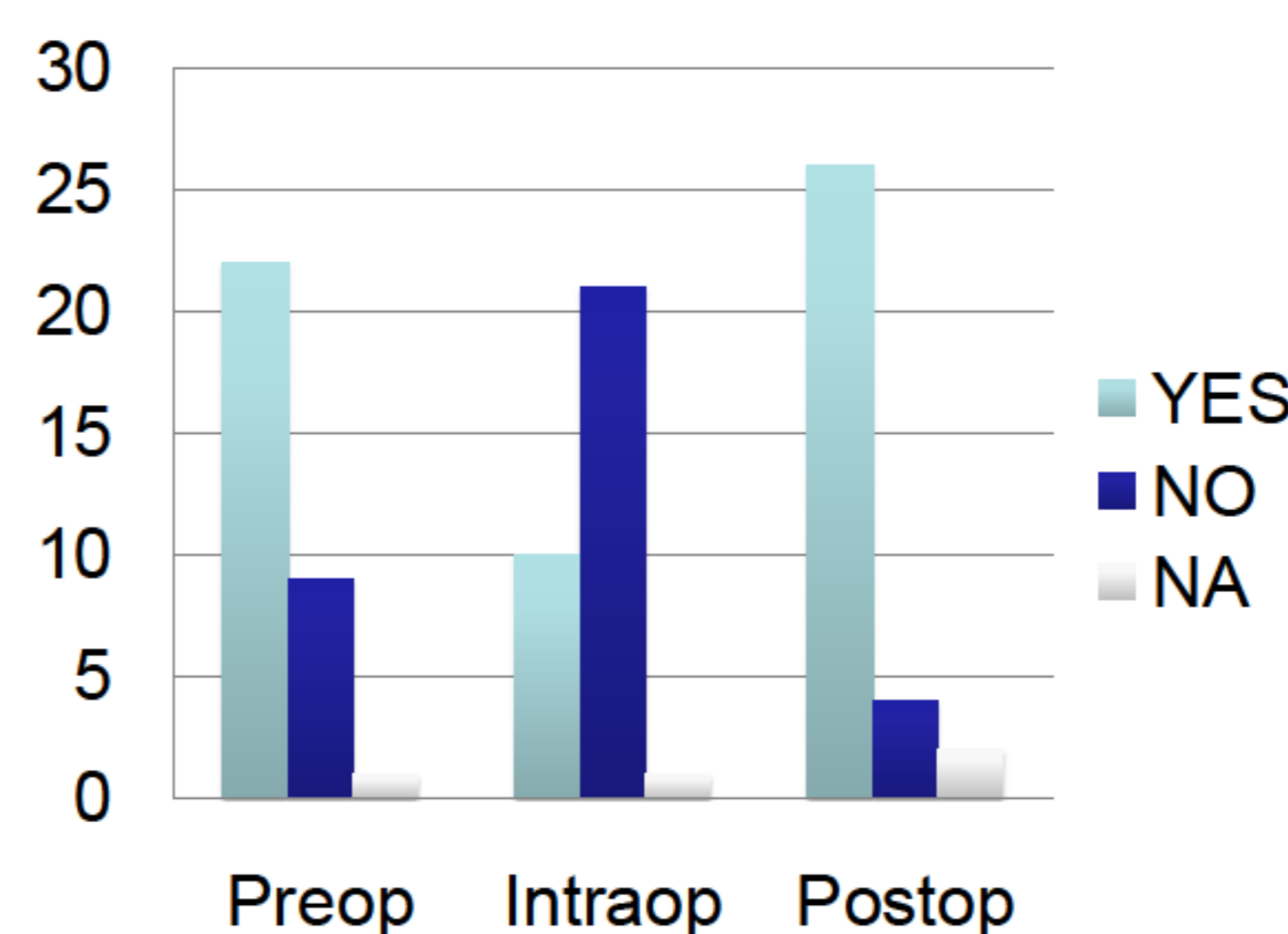
Complication % out of 32 subjects

Imdt. postop DI	21.875
Imdt. postop Siezure	6.25
Imdt. postop Hydrocephalus	15.625
Imdt. postop SIADH	9.375

Imdt. postop SIADH	20
Imdt. postop..	33,3
Imdt. postop Siezure	13,3
Imdt. postop DI	46,7

% out of 15 Patients

Medications



Endocrine

Persistent Complication	% Out of the 17 subjects	% Out of total 32 cases
Diabetes Insipidus	58.8	31.25
Cortisol Deficiency	82.4	43.75
Other Endocrinopathy	58.8	31.25

RESULTS

- Five patients had dynamic tests: (triple tests, n=4) (2 failed all of the tests and 1 had a failed synacthen test).
- Post operatively, 7 had DI, one required on table DDAVP and hyperglycaemia requiring insulin in one patient.
- Twenty patients received dexamethasone for 3-7 days, 4 were discharged on hydrocortisone. PICU stay was for 1-3 days on average.
- Histopathology showed variety of tumours including: 2 teratoid rhabdoid tumour, 6 gliomas, 6 astrocytoma, 4 carniopharyngioma and 3 germinoma.
- Twelve patients required radiotherapy including 2 who also required chemotherapy.
- Follow up revealed 2 patients with evolving panhypopituitarism, and one developed hyperprolactinaemia and DM within 2 years of follow up.

CONCLUSION

Children with STT are prone to develop TBI at all stages of their illness and management. It is crucial to have a multidisciplinary team approach with baseline and follow up endocrine workup.

