STUDY OF CLINICAL AND ENDOCRINE PROFILE OF PATIENTS WITH PITUITARY TUMOURS ATTENDING A TERTIARY CARE HOSPITAL

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ABSTRACT

BACKGROUND
Pituitary tumours are relatively common endocrine tumours. They can present with symptoms related to hormone excess or hormone deficiency. They can also present with compressive symptoms like visual problems and headache.

OBJECTIVE
To study the various clinical presentations and endocrine profile of patients presenting with pituitary tumours to a tertiary care hospital.

DESIGN
Cross sectional study.

MATERIAL AND METHODS
We collected and analysed the clinical data including hormonal status of 33 consecutive patients who presented to our department from March 2014 to February 2016 for evaluation of pituitary tumours.

RESULTS
Majority of the subjects studied belonged to 40-50 years group (33.34%).The most common type of pituitary tumour in our population was non-functioning pituitary tumours (45.45%). The next common cause was somatotroph adenoma (27.27%) followed by prolactinoma (15.15%) and corticotroph adenomas (12.13%). There was significant male predominance (60.60%) among total cases. Among all patients, headache (54.54%) was most common presentation followed by features related to hormone excess (51.51%).

CONCLUSIONS
Pituitary tumours can present with variety of symptoms. A detailed endocrine workup is essential in each case to reach at correct diagnosis. In our cohort, non-functioning pituitary tumour was the most common tumour subtype.

KEYWORDS
Pituitary Tumour, Growth Hormone Secreting Tumour, Corticotroph Adenoma, Non-functioning Pituitary Tumour.

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INTRODUCTION: Pituitary adenomas are benign adenomas which express and secrete various hormones. These hormone excess states may result in various systemic manifestations. On the other hand, compression of normal pituitary cells by tumourous tissue can lead to hormone deficiency state. Apart from it, they can lead to various compressive symptoms due to involvement of adjacent structures. According to the WHO classification in 2004, endocrine pituitary tumours are clinically classified as functioning (mainly secrete adrenocorticotropic hormone [ACTH] with Cushing's disease; growth hormone [GH] with acromegaly and prolactin [PRL] with amenorrhea–galactorrhoea) and non-functioning (mainly – luteinising hormone [LH] and follicle stimulating hormone [FSH]) tumours.[1] We undertook the study to observe the various clinical presentations and endocrine profile of patients presenting with pituitary tumours to our tertiary care hospital.

MATERIAL AND METHODS: All consecutive patients presenting with pituitary tumours to Endocrinology Department of SCB Medical College, Cuttack from March 2014 to February 2016 were enrolled in the study. A detailed

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clinical evaluation including detailed history taking was carried out for all patients.

The evaluation of pituitary tumours was undertaken as per standard protocol. Biochemical and detailed hormonal evaluation were done. A dedicated pituitary MRI was done in each case. Formal visual assessment including perimetry was also done. Written and informed consent was taken from each subject. Institutional ethical committee clearance was taken. The data was analysed using standard statistical methods. The graphs and tables were generated using Microsoft Excel 2007 software.

RESULTS: A total of 33 patients presented with pituitary tumours during our study period. Majority of cases were males (n=20) who consisted of 60.6% of study population and rest were females (Figure 1). The most common age of presentation was seen in 40-50 years age group which accounted for 33.34% of cases (Figure 2). The major manifestations among all patients included headache (54.54%), features related to hormonal excess (51.51%), visual abnormalities (48.48%) and pressure effect (39.39%) (Figure 3). Pituitary imaging showed macroadenoma in majority of the cases (72.73%) and microadenoma in 27.27% cases. The most common type of pituitary tumour in our study group was due to non-functioning pituitary tumours (45.45%). The next common tumour variety was somatotroph adenoma (27.27%) followed by prolactinoma (15.15%) and corticotroph adenomas (12.13%).

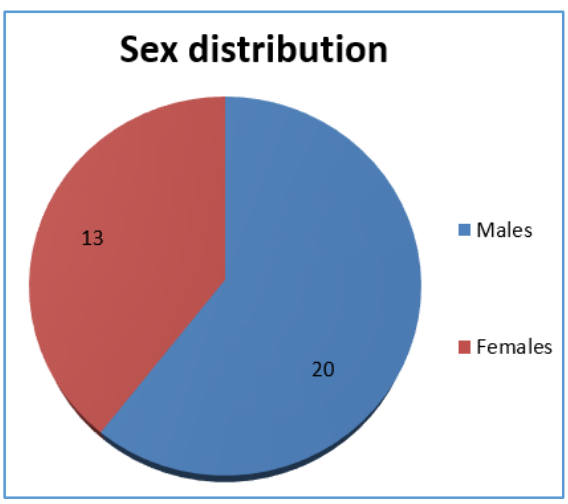

Fig. 1: Pie Chart showing Sex Distribution of Cases

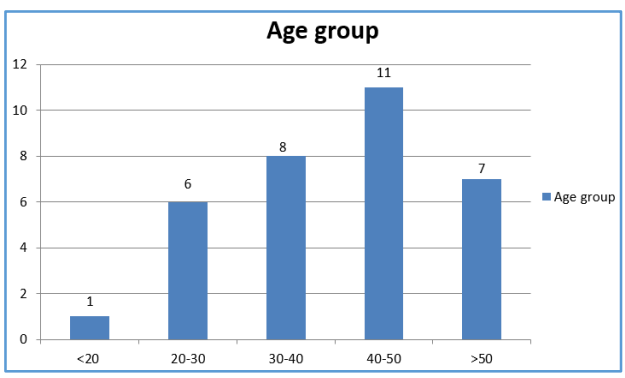

Fig. 2: Graph showing Age Group Distribution among Cases

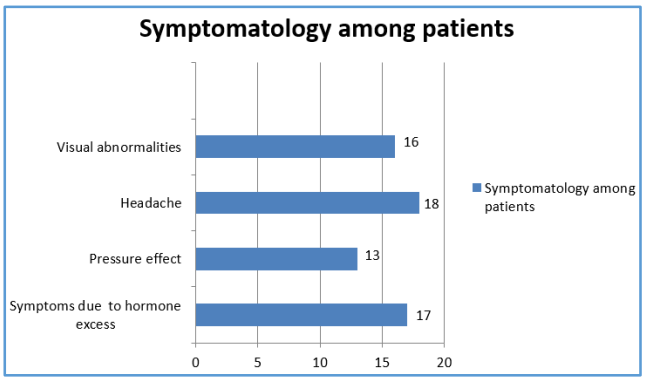

Fig. 3: Graph showing Main Symptoms among Patients

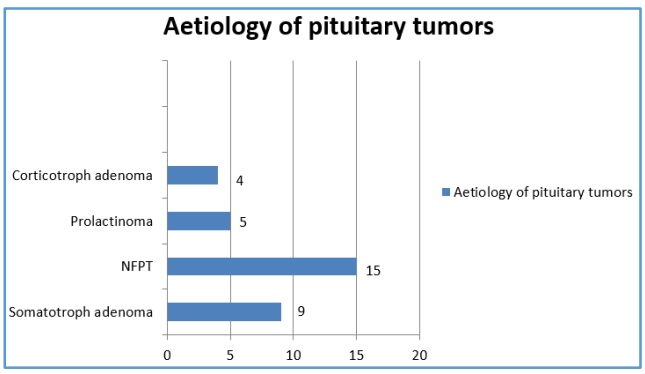

Fig. 4: Graph showing Distribution of Subtypes of Pituitary Tumours

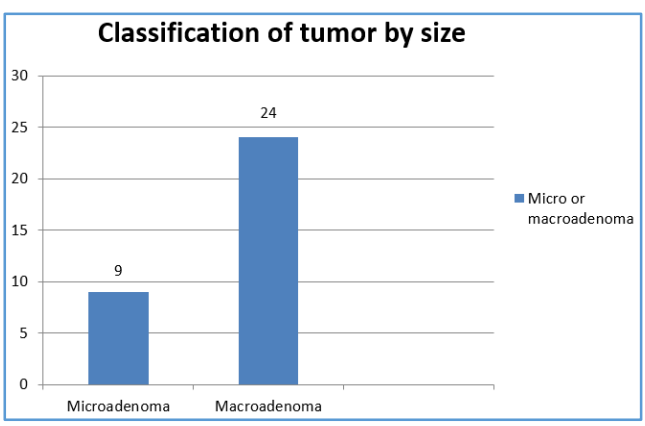

Fig. 5: Graph showing Classification of Tumour by Size

DISCUSSION: Majority of the patients presenting with pituitary adenoma were males (60.6%) in our study. This is in agreement to studies done by Zargar et al[2] and Zerehpoosh et al[3] who also reported the male predominance in their respective cohorts. They reported male to comprise of 54.66 % and 57.5% respectively. The majority of patients were in 40-50 years age group (33.34%) in our study which is similar to figures of Zerehpoosh et al.[3] Leibowitz et al[4] also reported the highest incidence of pituitary tumours in 40-49 years age group.

The most common presenting symptom was headache in our study. Zerehpoosh et al[3] also reported headache and visual symptoms to be the presenting features. Hennessey and Jackson et al,[5] similarly reported headache and visual

symptoms to be the most common presenting manifestations of pituitary tumours. Gruppetta et al[6] reported headache to be the presenting feature in 40% of their cases. In our study population, we found that NFPT was the most common pituitary tumour (45.45%). The next most common tumours were somatotroph adenoma (27.27%) and prolactinoma (15.15%). Zarger et al[2] reported somatotroph adenoma to be the most common pituitary tumour in their study (58.66%). Zerehpoosh et al[3] reported prolactinoma to be the most common tumour in their cohort (29.1%). However, they also reported NFPT to be the most common cause of recurrent pituitary tumour (36.8%). Prolactinoma (46.2%) followed by NFPT (34.2%) were the main subtypes of pituitary tumour reported by Gruppeta et al[6] in their study. The other studies which also reported prolactinoma as the most common tumour subtype were done by Raappana et al [7] and Fernandez et al.[8] These differences could be due to different population in which studies were carried out. In a study done by Rishi et al[9] from northern India reported NFPT to be the most common pituitary tumour (51%). In another study by McComb et al,[10] authors reported 50% of total tumours to be non-functional without any evidence of hormone hypersecretion in 50% of their cases.

CONCLUSION: Our study showed that the most common tumour was NFPT which presented with compressive symptoms like headache and visual field defects. Pituitary tumours are one of the common endocrine tumours seen in endocrine practice. A thorough endocrine workup is necessary to classify the tumour subtypes. This is essential because treatment strategies are different for different tumours. A delay in diagnosis could result in significant morbidity and mortality.

ABBREVIATION:

ACTH- Adrenocorticotropic Hormone.
GH- Growth Hormone.
PRL- Prolactin.
LH- Luteinising Hormone.
FSH- Follicle-Stimulating Hormone.
NFPT- Non-functioning Pituitary Tumour.

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