

## A STUDY OF PITUITARY GLAND TUMOURS

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### ABSTRACT

#### BACKGROUND

Pituitary gland is known as the "Master Gland" of the body as it controls majority of the endocrine glands of the body. Embryologically, they are formed by two parts. There are two types of malignancies encountered namely adenomas and carcinomas. Vast majority of the neoplasms located in the sella turcica are benign pituitary adenomas derived from adenohypophyseal cells. The aim is to study the pituitary malignancies.

#### METHODS

The sample size included 100 cases of intra-cranial neoplasms that turned in the Department of Medicine in KVG Medical College, Sullia and different local private hospitals of Sullia and Mangalore.

#### RESULTS

Pituitary tumours comprised 6(6%) of all the tumour studies. They occurred maximally in the age above 14 years. Tumours showed a male predominance. All the tumours were located in pituitary fossa.

Principal presenting complaint was visual disturbance.

Microscopically, the tumour was composed of small polyhedral to round cells with a uniform darkly staining round nucleus and scant eosinophilic cytoplasm. The cells formed papillary structures or were arranged in a trabecular pattern.

#### CONCLUSION

There is a male predominance in this study and the percentage of cases was found to be less in this region of Karnataka.

#### KEYWORDS

Pituitary, Gland, Master, Carcinoma, Adenoma.

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**INTRODUCTION:** Pituitary gland is known as the "Master Gland" of the body as it controls majority of the endocrine glands of the body. Embryologically, they are formed by two parts.

**Pituitary Adenomas:** Vast majority of the neoplasms located in the sella turcica are benign pituitary adenomas derived from adenohypophyseal cells.

Pituitary tumours constitute about 10 to 15% of the intracranial neoplasms. Small incidental adenomas may occur in up to 27% of pituitary glands examined at autopsy<sup>1,2,3</sup> and up to one fifth of the population has a pituitary abnormality on MRI.<sup>4,5</sup>

Uncommon in paediatric population, representing about 2% of pituitary adenomas.<sup>6,7,8,9</sup> Verma R N, Subramanyam C S V, Banerjee A K et al showed 12(4.2%) cases of pituitary adenomas among 283 cases of intracranial neoplasms.<sup>10</sup> Primary neoplasms of CNS by type, Rochester, minn, 1935-1968 showed 21(30%) cases of pituitary tumours among 96 cases.<sup>11</sup> Among 12 cases, 11 were males and 1 case was female by a study conducted by Verma RN, Subramanyam CSV, Banerjee AK.<sup>10</sup>

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**Pituitary Carcinomas:** Tumour of adenohypophyseal cells that exhibits cerebrospinal and or systemic metastasis.

**AIMS AND OBJECTIVES:** To study the Pituitary malignancies.

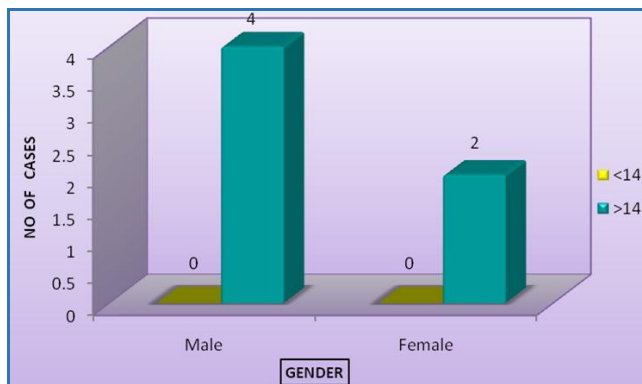
**MATERIALS AND METHODS:** The sample size included 100 cases of intracranial neoplasms that turned in the Department of Medicine in KVJ Medical College, Sullia and different local private hospitals of Sullia and Mangalore.

The cases were studied in an inter-department co-ordination. Most of the cases were diagnosed by clinical approach and confirmed by the Department of Radiology and The Department of Pathology.

#### RESULTS:

Age in years	No. of cases	Gender	
		Male	Female
<14	0	0	0
>14	6	4	2
<b>Total</b>	<b>6</b>	<b>4</b>	<b>2</b>

**Table 1**



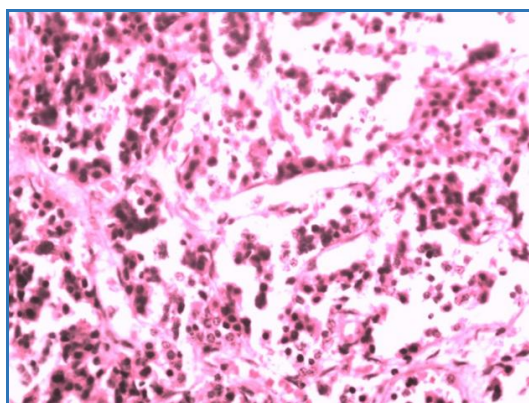
**Graph 1: Age and sex incidence of pituitary tumours**

Pituitary tumours comprised 6(6%) of all the tumour studies. They occurred maximally in the age above 14 years. Tumours showed a male predominance. All the tumours were located in pituitary fossa.

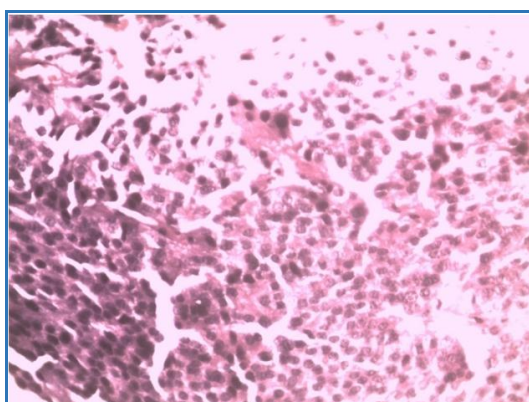
Principal presenting complaint was visual disturbance.

Microscopically, the tumour was composed of small polyhedral to round cells with a uniform darkly staining round nucleus and scant eosinophilic cytoplasm. The cells formed papillary structures or were arranged in a trabecular pattern.

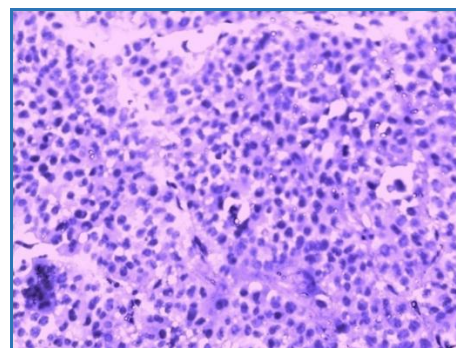
**DISCUSSION:**



**Fig. 1: Microphotograph of Pituitary adenoma-Acidophilic type. Tumour cells with acidophilic granular cytoplasm**



**Fig. 2: Microphotograph of Pituitary adenoma-Mixed type. Tumour with both chromophobic (left) and acidophilic cytoplasm (right)**



**Fig. 3: Pituitary adenoma-chromophobic type. Sheets of cells with round central nuclei and chromophobic cytoplasm.**

The pituitary tumours comprised 6(15.8%) of intracranial tumours in the present study. The highest incidence (7.6%) was reported by Pal and Chopra<sup>12</sup> and the lowest incidence (3.4%) by Banerjee et al.<sup>13</sup> The average age incidence of these tumours was 37.6 years in the present study. This was higher than the age incidence in the Pal and Chopra<sup>12</sup> study and very less than that of study by Kleinchmidt,<sup>14</sup> probably because only older old patients were considered.

Name of the study	% of intracranial	Average in years
Verma RN et al <sup>10</sup>	4.24%	37.9
Banerjee et al <sup>13</sup>	3.4%	39.2
Pal and Chopra et al <sup>12</sup>	7.6%	31
Demaster's K et al <sup>14</sup>	56%	77
Present study	6%	37.6

**Table 2: The age and percentage incidence of pituitary tumours compared with other studies**

All the compared studies given in table 27 show male predominance including our study except a study conducted by Demasters K et al.<sup>14</sup>

Name of the study	M:F ratio
Banerjee et al <sup>13</sup>	5:1
Percy et al	14:7
Demasters K et al <sup>14</sup>	5:8
Pal and Chopra et al <sup>12</sup>	9:1
Present study	2:1

**Table 3: Comparison of sex - incidence of pituitary tumours**

**CONCLUSION:** There is a male predominance in this study and the percentage of cases was found to be less in this region of Karnataka.

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