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Case Report
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Sellar and Suprasellar Pituitary Macroadenoma in 32 Years Aged Woman - a Case Report

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ABSTRACT

Introduction: pituitary adenomas are the most common disease affecting the pituitary gland. These benign tumors most commonly affect people at the age of 30–40 years. Pituitary adenomas with diameter < 10mm and ≥ 10mm were defined as microadenomas and macroadenomas pituitary adenomas respectively. Of these 30% are prolactinomas, 20% are nonfunctioning 15% secrete growth hormone and 10% secrete adrenocorticotrophic hormone.The present case report highlights about asymptomatic pituitary macroadenomas in diagnosis and treatment of non-functional adenoma and functional adenomas like prolactinoma, acromegaly, and Cushing disease. Here we present case report of a 32 years old female patient who is asymptomatic, no galactorrhea, and regular menses. On hormonal assay prolactin level was 2.5ng/ml. The lesion measures about 1.5APx 1.6MLx 1.5SI cm. Asymptomatic pituitary macroadenomas do not require any treatment hence concluded to manage conservatively in view of surgical complications and advised regular follow up every 6 months.

Key words: Pituitary gland; Macroadenoma; Non-functioning pituitary macroadenoma (NFPA); Asymptomatic; Prolactin.

Introduction

Pituitary adenoma is the tumor that affect the pituitary gland. Pituitary gland is a reddish-grey gland that weighs 500mg on average and is situated at the base of the brain; The anterior superior aspect of the pituitary is separated from the optic chiasma by the dura mater, which is perforated in the center by the infundibulum[1].

Pituitary tumors can be classified most effectively in two ways; by size and by function. Pituitary adenomas with diameter < 10 mm and ≥ 10mm were defined as microadenomas and macroadenomas respectively. Functionally, classified by the detectable elevation of a pituitary hormone as functioning and non-functioning adenomas[2]. In macroadenomas, 30% are prolactinomas, 20% are non-functioning, 15% secrete growth hormone, and 10% secrete adrenocorticotropic hormone (ACTH)[1].

Non-functioning pituitary adenomas (NFPAs), are benign tumors that develop from the adenohypophyseal cells and are distinguished by the absence of clinical signs of hormone hypersecretion[3]. It can still cause problems due to their size and pressure on surrounding structures, leading to symptoms such as vision problems, headaches, and hormonal imbalances due to compression of normal pituitary tissue. Headache is reported to be present in 16–70% of patients with pituitary adenomas[4].

Diagnosis of pituitary adenomas involves a combination of clinical evaluation, hormone level testing, imaging studies (such as MRI), and sometimes specialized tests like dynamic hormone testing to determine the hormone secretion patterns of the tumor. In this study, we describe a case of non-functioning pituitary macroadenoma with normal serum prolactin levels in 32 years old female patient.

Case Report

A 32 year old woman attended OPD, JSS hospital, Mysuru for visual acuity testing with complaints of headache in frontal and occipital region. History reveals that patient had irregular menstrual cycle with no history of galactorrhra, no history of visual disturbances. On complete evaluation patient had no abnormality in visual acuity and refractive errors. The serum hormonal profile showed prolactin level 2.5 ng/ml and other hormones like thyroxine, growth hormone, LH, FSH and TSH were within the normal limits. MRI imaging of paranasal sinus reveals heterogeneously enhancing lesion in sella on left side with suprasellar extension, erosion in left side of clivus and encasement of cavernous segment of left ICA. The lesion measuring 1.5(AP) x 1.6(ML) x 1.5 (SI) cms, pituitary gland seen separately from the lession. Anteriorly pituitary shows normal homogeneous signal intensity, no focal lesion. Infundibular stalk is midline with normal thickness. Optic chiasma is normal. Pituitary gland measures as 5(SI) x 8 (ML) x 7(AP) mm.

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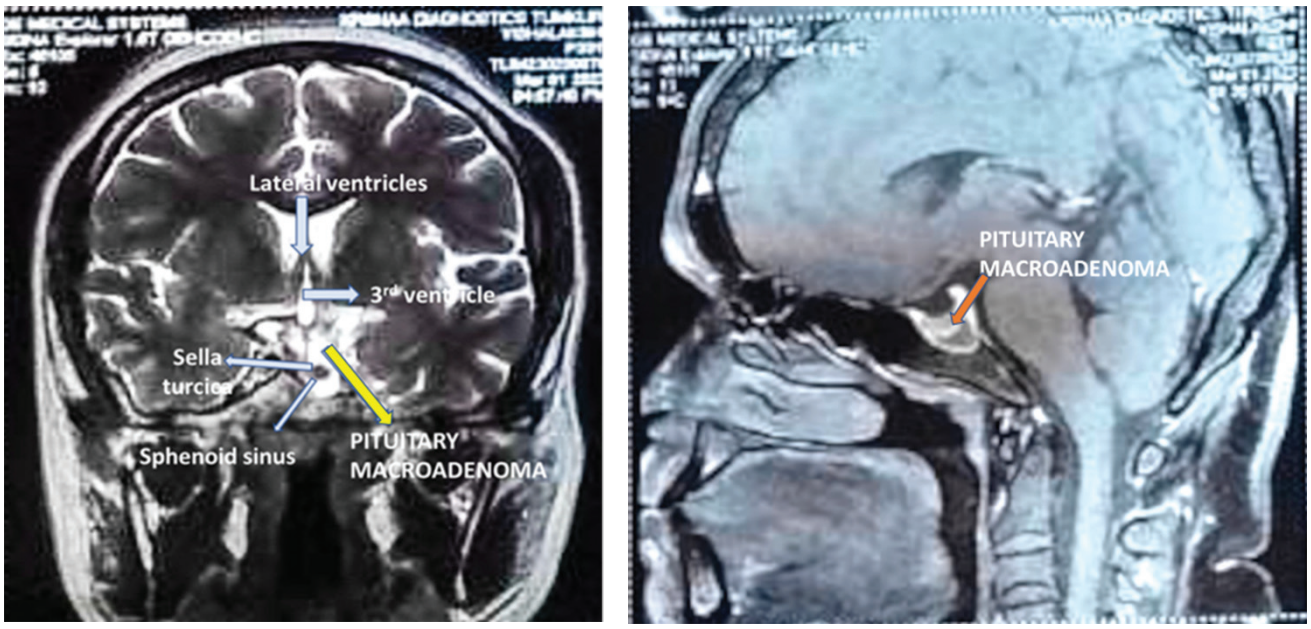

Figure 1. Coronal and sagittal contrast-enhanced MRI scan showing sellar and suprasellar pituitary macroadenoma.

Discussion

Clinically, non-functioning pituitary adenomas can be favourable, but they can also make diagnosis challenging due to the lack of an immediately recognizable condition. This article presents a patient with a complaint of headache in frontal and occipital region, irregular menstrual cycle, no history of galactorrhra and no history of visual disturbances. MRI imaging of paranasal sinus reveals heterogeneously enhancing lesion in sella on left side with suprasellar extension, erosion in left side of clivus and encasement of cavernous segment of left ICA. The lesion measuring 1.5(AP) x 1.6(ML) x 1.5 (SI) cms. Increased tumor size causes the sella's diaphragm to extend, which activates pain fibers in the dura mater, causing headaches that are primarily localized in the frontal and occipital regions. In MRI optic chiasma appeared to be normal and hence there is no visual disturbances.

Bauman reported a case of 48-year-old male patient with symptoms of a severe headache, hypopituitarism, and diminished libido. He was diagnosed with a non-functioning pituitary macroadenoma,. Low amounts of testosterone, LH, and FSH were found in a hormonal profile. Transsphenoidal surgery was suggested when the pituitary gland's contrast MRI revealed a 2.5cm diameter tumor[5].

C.S.Vidya reported a case of 35-year-old female patient who complained of blurry vision in her left eye and had a history of galactorrhoea for two years as well as an irregular menstrual cycle for a year is presented in this study. Bitemporal hemianopsia was discovered using visual field research, and the serum hormonal profile revealed increased prolactin levels. The study shows a instance of a pituitary macroadenoma with a predominance of prolactin hormone release[1].

Two cases was reported by Daniel *et al.* The first case was s 51-year-old man was admitted to the hospital after having seizures because of cranioencephalic trauma. He mentioned prior behavioral changes, sadness, sphincter incontinence, and vision issues. Hypogonadism symptoms and enlarged bilateral testicular volume were found during a physical examination. In the sellar-suprasellar region, magnetic resonance imaging (MRI) revealed a sizable lesion with mass impact. FSH (517 mIU/mL) levels were high and testosterone (1.3 ng/mL) and luteinizing hormone (LH) (2.2 mIU/mL) levels were low, respectively, according to hormone tests. After a partial excision of an immunopositive FSH adenoma, FSH decreased, however the patient passed away from postoperative complications. In the second case a 36-year-old woman was referred due to bilateral numerous 2-year-old ovarian cysts and secondary amenorrhea. Both ovaries had undergone unsuccessful wedge resection, and subsequent research revealed a pituitary macroadenoma on MRI, elevated levels of FSH (20.2 mIU/mL) and estradiol (288 pg/mL), as well as repressed LH (0.5 mIU/mL). The adenoma, which tested positively for FSH, was completely removed surgically. Following surgery, the patient experienced regular menstrual periods, ovarian cysts vanished, and hormone levels returned to normal[6].

Anup Bista *et al.* described a case of a woman who was 37-year-old woman in her second trimester of pregnancy who has twins and has been diagnosed with symptomatic pituitary macroadenoma. Hormone levels were prolactin: 123.44 ng/ml, thyroid stimulating hormone (TSH): 4.39 mIU/L, growth hormone: 0.24 ng/ml, and cortisol: 9.16 mcg/dl, fetal ultrasound, and obstetric scan were all normal. A well defined macroadenoma compressing the

optic chiasm was identified by magnetic resonance imaging (MRI), requiring surgery. Under general anesthesia, the patient had the tumor transnasally and transsphenoidally resected. Following surgery, an ophthalmology consultation was conducted, and the results of the perimetry test revealed that the patient's vision had improved. After 36 weeks and 6 days of pregnancy, she gave birth to healthy twins[7].

Pop L *et al.* described a case of 26-year-old primipara woman who has undergone caesarean section complained of frontal and temporal throbbing headaches, nausea, and photophobia 48 hours later. A pituitary tumour measuring 33x10.5x15.5mm was discovered in her. Although a conservative course of therapy was first suggested, the clinical prognosis was unfavourable, thus the patient had endoscopic transsphenoidal resection. A pituitary macroadenoma was found, as evidenced by the histological examinations. The patient is disease-free during the 2-year checkup[8].

Conclusion

Non-functioning pituitary macroadenomas do not require any treatment. After complete radiological and hormonal analysis and discussion patient concluded to manage conservatively in view of surgical complications and advised regular follow up every 6 months. Further treatment is planned depending on accelerated growth and clinical symptoms.

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