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Radiodiagnosis

PARTIAL EMPTY SELLA SYNDROME: CASE REPORT AND REVIEW

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ABSTRACT Empty sella syndrome is a MRI finding where spinal fluid is found within the sella, the space created for the pituitary gland. We present here a case report of 38 yrs old female with galactorrhea and headaches who was diagnosed to have the syndrome.

KEYWORDS :

INTRODUCTION:

Empty sella syndrome (ESS) is a condition where the pituitary gland is partially or totally absent from the pituitary fossa [1,2]. Although ESS can be found commonly as incidental finding during brain studies [3], symptomatic case of ESS is rare. ESS can be primary or secondary. Primary ESS is due to defective development of diaphragma sella, with arachnoid herniation to the pituitary fossa due to increased intra cranial pressure [4], which is found mostly in young people [5]. Secondary ESS is due to infarction or atrophy of pituitary gland and usually found in obese and middle aged women [6,7]. Incidence of primary ESS is 8-35%. Male to female ratio is 1:5[7]

CASE HISTORY:

A 38 years old, obese female patient came to our opd with complaints of milk discharge from both breasts since last 2-3 months and headaches in last 4-5 years. She is taking treatment for her hedaches from general practitioners since last 4 years she takes analgesics as required. She had four children 3 sons and 1 daughter all full term vaginal delivery last child birth 7 years back. There was no history of any other co morbid disease. she is having regular menstrual cycles. On examination , she was obese (BMI=27.2) vitals were stable, breasts were normal and there was no neurodeficit. Visual fields were normal.rest systemic examination was within normal limits. On investigation her MRI was suggestive of infundibulum extending to sellar floor and relatively thining of anterior pituitary gland. Hormonal studies were done which showed serum TSH was 2.27 (normal 0.35-4.94), serum Prolactin levels were 130.38 ng/ml (normal 5.18-26.53), serum LH levels were 1.83 mIU /ml (normal 1.8-11.78) and FSH levels were 4.92m IU /ml (3.03-8.08) Rest of the investigations was within normal limits. Thus the diagnosis of Empty sella syndrome was made. She was started on Tab. Cabergoline 0.5 mg once a week and followed up regularly.

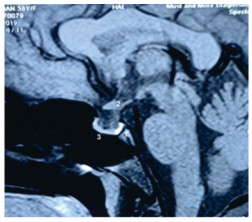

Fig. 1:MRI Brain
1- Posterior pituitary
2- Supersellar region
3- Floor of sella

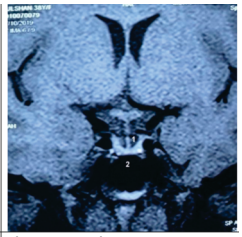

Fig 2: MRI Brain
1- infundibulum stalk
2- Floor of sella

DIAGNOSIS:

Magnetic resonance imaging (MRI) can readily confirm the diagnosis of an empty sella. On T1 sagittal MR images, extension of CSF into the sella is easily identified and remaining gland is compressed along the floor. Typical central position of the infundibulum is a useful sign in an empty sella which helps to rule out a cystic lesion in the suprasellar region [8]. MRI will demonstrate the sella to be filled with CSF and the infundibulum can be seen to traverse the space, thereby excluding a cystic mass. This is known as the infundibulum sign [9].

TREATMENT: Based on the type of empty sella. There is no specific treatment if pituitary is normal. If Prolactin levels are high interfering with function of ovaries or testes, medications that lower prolactin levels may be suggested. For secondary empty sella syndrome treatment involves replacing the hormones that are lacking.

DISCUSSION:

A high incidence of pituitary dysfunction was documented in patients with the primary empty sella syndrome. These consisted of panhypopituitarism, secondary hypogonadism, hyperprolactinemia, isolated ACTH deficiency and diabetes insipidus (DI) [10].

Prolactin (PRL) is unique among the pituitary hormones in that the predominant central control mechanism is inhibitory, reflecting dopamine-mediated suppression of PRL release. This regulatory pathway accounts for the spontaneous PRL hypersecretion that occurs with pituitary stalk section, often a consequence of compressive mass lesions at the skull base [11]. Normally in primary empty sella, the pituitary stalk is compressed, thereby dopamine does not reach the pituitary gland. Hence prolactin levels are increased.

Hyperprolactinemia and intermittent increases in PRL levels have both been associated with the primary empty sella, and as many as 25 % of women with an empty sella have elevated prolactin levels. The degree of hyperprolactinemia found in empty sella syndrome is moderate (usually less than 100 ng/ml) compared to prolactinomas with levels greater than 200 ng/ml) [12].

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