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CORRELATION BETWEEN INCIDENTAL FINDING OF EMPTY SELLA ON BRAIN MRI WITH BODY MASS INDEX AND GRAVIDA IN FEMALE PATIENTS

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ABSTRACT : Primary empty sella (PES) can be explained as herniation of intrasellar cerebrospinal fluid cistern causing different size of enlargement of sellaturcica with remodeling of pituitary gland. When the unfilled sella turcica is a result of other disorders, the word of (secondary) "unfilled sella" is applied. Primary empty sella syndrome is reported in about 6-20% of radiological examination. The pathogenesis is not clear, numerous factors have been discussed, including diaphragm deficiency, intracranial hypertension and pituitary involution. PES may be incidental radiological finding in asymptomatic patients or it may be associated with different clinical conditions. MRI is the best actual modality for diagnosis of the empty sella, the sella look enlarged, CSF filled with CSF extending down from the suprasellar cistern. The objective of the study is to assess correlation empty sella with BMI and gravida in normal brain MRI of female patient. The study involved 300 patients, only females 17-55 year, divided into three groups, (group A), 73 patients with complete empty sella (group B), 61 patients with partial empty sella and (group C) (166) patients with normal sella and same age group, patients with secondary empty sella are excluded from the study. Number of gravida is obtained, BMI evaluated for these patients, the patient are divided into three groups according to BMI (normal overweight and obese) and gravida (nullipara, multi gravida and grand multi gravida) evaluated for any association with ES. The study included a total of (300) female patients whom underwent brain MRI examination. Age of members who participated in this study extended from (17) years to (55) years with a mean of (37.7) years and a median of (38) years. Link with number of pregnancies and BMI between group A (complete empty sella) and group C have shown strong statistical significance. Similarly, contrast of the total of gravidities and BMI between group B (partially empty sella) and group C have also shown strong statistical significance. Contrast of the total of gravidities between cluster (A) and group (B) has shown no statistically significant difference between the two groups. It is worth noting that 90.2% of patients with ES (whether complete or partial) had 2 or more pregnancies, 47.7% of those patients with ES are grand multi gravida and more than 42% of multigravida females had ES. A statistically showing strong relationship between the study group and BMI classification. (P-value < 0.001). I find that Group A were obese in a percentage about 72 .7% and Group B About 32.7%. Its mean that there was statically significant relationship between study group and BMI. In conclusion, there is a significant correlation for empty sella with gravida and BMI.

Key words : Pregnancy, unfilled sella, obese, brain MRI.

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INTRODUCTION

Anatomy

The pituitary gland is a tinny protrusions sits within the sellaturcica, a cup-shaped bony depression within the base of the sphenoid, with the nearby hypothalamus the pituitary conformation the hypothalamic-pituitary system.

This system act as the regulator for hormone manufacture and is therefore participate in human development, progress, replication , metabolism, lactation, reaction to tension and osmotic equilibrium. The pituitary gland composed of two parts, the anterior pituitary and the posterior pituitary. They are differ in origin, structure and function. The pituitary gland is the main endocrine gland of the human body by controlling other glands and secreting significant and vital hormones.

The anterior lobe of the pituitary gland originate as an in folded of oral ectoderm called Rathke's pouch, which is a glandular organization responsible for the synthesis with discharge prolactin, growing hormone, thyroid-stimulating hormone, adrenocorticotropic hormone,