

THYROID DISORDERS IN PATIENTS WITH ACROMEGALY IN BASRAH CITY

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(Received 30 May 2020, Revised 25 August 2020, Accepted 30 August 2020)

ABSTRACT : Acromegaly is a rare chronic metabolic disorder of adults caused by excessive production of growth hormone and hence more production of insulin-like growth factor 1 (IGF-1). The purpose of present study is to estimate the prevalence of thyroid disorders in patients with acromegaly and their changes according to treatment modalities, assessment the effect and correlation of GH and IGF-1 level with the levels of TSH, TT4, FT4 and TT3 and evaluation the status of TG in patients regarding the levels of GH, IGF-1 and treatment modalities. The cross-sectional study included 59 patients with acromegaly (31 female (52.5%) and 28 male (47.5%); mean age: 45.80±12.58 years), who are regular attendants to FDEMC between August 2019 and February 2020. All patients have active GH secreting pituitary adenomas (16 had microadenoma). In conclusion, high prevalence of thyroid disorders in patients with acromegaly. Thyroglobulin level was elevated in patients with acromegaly especially when it is uncontrolled. Total T4 are significantly increased in patients with acromegaly and serum GH and IGF-1 level in acromegaly had no significant correlation with TSH, FT4, TT3 and Tg levels.

Key words : Acromegaly, thyroid disorders, thyroglobulin.

INTRODUCTION

Acromegaly is a rare chronic metabolic disorder of adults caused by excessive production of growth hormone and hence more production of insulin-like growth factor 1 (IGF-1). The underlying cause of most cases has been revealed to be micro-or macro-adenoma of anterior pituitary gland. (Melmed, 2017). A recent study in southern of Iraq showed that the GH-secreting adenoma was the most common adenoma (Mansour *et al*, 2018) with a prevalence of 8.2 people per million and 5.3 patients per million occurred annually was showed in a study from the northern of Iraq (Qasim, 2017). It often diagnosed late (4 to 10 years of onset) and equally effected on both sexes (Lavrentaki *et al*, 2017). Thyroid diseases are frequently seen in patients with acromegaly. Many studies from different countries showed different results for the prevalence of thyroid autoantibodies in acromegalic patients. In addition to, hypothyroidism found to be the common thyroid disorder associated with acromegaly rather than hyperthyroidism (Manavela *et al*, 2015; Natchev *et al*, 2020).

Due to the limited studies that reveal these issues in acromegalic patients in Basrah, our study tries to estimate the Prevalence of thyroid disorders in patients with acromegaly and their changes according to treatment

modalities, assessment the effect and correlation of GH and IGF-1 level with the levels of TSH, TT4, FT4 and TT3 and evaluation the status of TG in patients regarding the levels of GH, IGF-1 and treatment modalities.

MATERIALS AND METHODS

Our cross-sectional study involved fifty-nine patients with acromegaly (31 female (52.5%) and 28 male (47.5%); mean age: 45.80±12.58 years), who are regular attendants to FDEMC. All patients have active GH secreting pituitary adenomas (16 had microadenoma), their diagnosis was established through combined positive GH under oral glucose tolerance test (OGTT) with neuroimaging study specifically pituitary directed MRI showing results consistent with the diagnosis of acromegaly. All patients were assessed for signs and symptoms of thyroid diseases after written informed consent was signed, according to a protocol approved by the Ethics Committee of the Health and Medical Technical College, Southern Technical University. Serum GH, TSH, TT4, TT3, FT4, TG, TgAb and TPO Ab levels were determined using Roche kits. These measurements were performed using the electrochemiluminescence immunoassay "ECLIA" method in analysis. Serum IGF-1 level was determined by using DRG company kit which using the enzyme linked immunosorbent assay (ELISA)