Early carbohydrate metabolism disorders in a patient with acromegaly and family history of pituitary adenomas.

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Introduction

Acromegaly is a chronic, debilitating disorder caused by excessive growth hormone (GH) production predominantly due to a benign pituitary adenoma. The overall annual incidence of acromegaly is approximately 3.3 cases/million, with a prevalence of 58–130 cases/million people. Early carbohydrate metabolism disorders (ECMDs) are frequently associated with acromegaly. Early carbohydrate metabolism disorders (ECMDs) –defined as IFG, IGT or their combination – its prevalence in patients with acromegaly has been shown to vary between 16 and 46%.

Clinical case

A 47-year old man with a family history of pituitary adenoma (father had a somatotropinoma) was consulted at the Endocrinology Research Centre in October 2015. He complained weight gain, reduction of libido, headaches, joint pain and snore. Physical examination: height 186 cm, weight 113 kg, BMI 32.66 kg/m2. Brain MRI: pituitary macroadenoma (2,8 x 3,0 x 3,0 cm). So, acromegaly was confirmed.

Laboratory and clinical investigations

Time	0’	30’	60’	90’	120’	Comments
Measurements						
Glu, mmol/l	5,8	-	-	-	8,9	IGT
GH, ng/ml	2,08	2,11	2,46	1,84	1,41	No supression
IGF-1, ng/ml	1199	-	-	-	-	75-212
Insulin, mIU/l	40	-	-	-	-	2,3-26,4
C-peptide, ng/ml	1,5	-	-	-	-	1,1-4,4

Parallel sequencing was performed with **MEN1, CDKN1B, PRKAR1A, GNAS, AIP, SDHA, SDHB, SDHC, SDHD** genes determination.

No significant mutations were found; considering family history of pituitary adenomas genotyping might be informative.

Conclusion

Acromegalic patients are at high risk of developing ECMDs and secondary diabetes, so they all should be examined using multidisciplinary approach to prevent severe complications. As pituitary adenomas may be presented as FIPAs – genetic analysis (if there is a suspicion) should be performed.