



ASSOCIATION OF SIRT1 RS3740051 GENE POLYMORPHISM WITH PITUITARY ADENOMA

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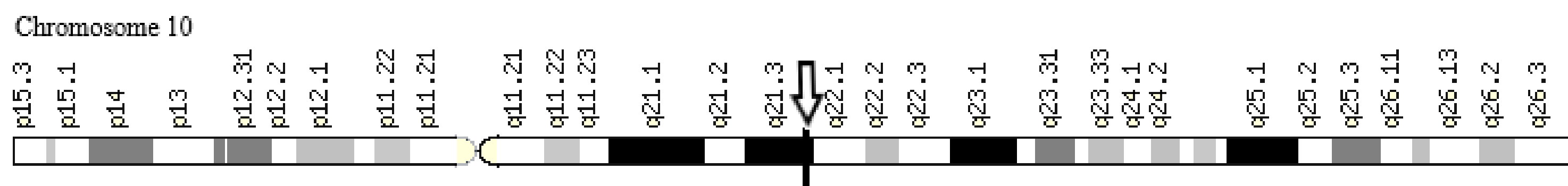
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INTRODUCTION

Pituitary adenomas (PAs) are the most common central nervous system (CNS) tumors, located in a bone cavity termed the sella turcica (1). Most of all PAs are benign, but it is not uncommon for them to grow large and invading locally into the surrounding structures and cause irreparable consequences (2). Investigation of tumor is required, as this affects the management and prognosis of PA. SIRT1 gene is a nicotinamide adenine dinucleotide-dependent histone deacetylase (HDAC), which regulate the function of tumor suppressors including FOXO proteins and p53 by deacetylation also serves an important role controlled balance between cell death and survive (3). SIRT1 is located at 10q21.3, which is the short (p) arm of chromosome 10 at position 21.3 (Pic. 1) (4). Rs3740051 is one of many nucleotide polymorphism that was not investigated. There were done few researches looking for associations between SIRT1 polymorphisms and PA, but there are not examine all SIRT1 polymorphisms yet.

Picture 1. The location of SIRT1 gene. (4)



AIM

To determine the association of SIRT1 rs3740051 gene polymorphism and PA development and how they associated with gender.

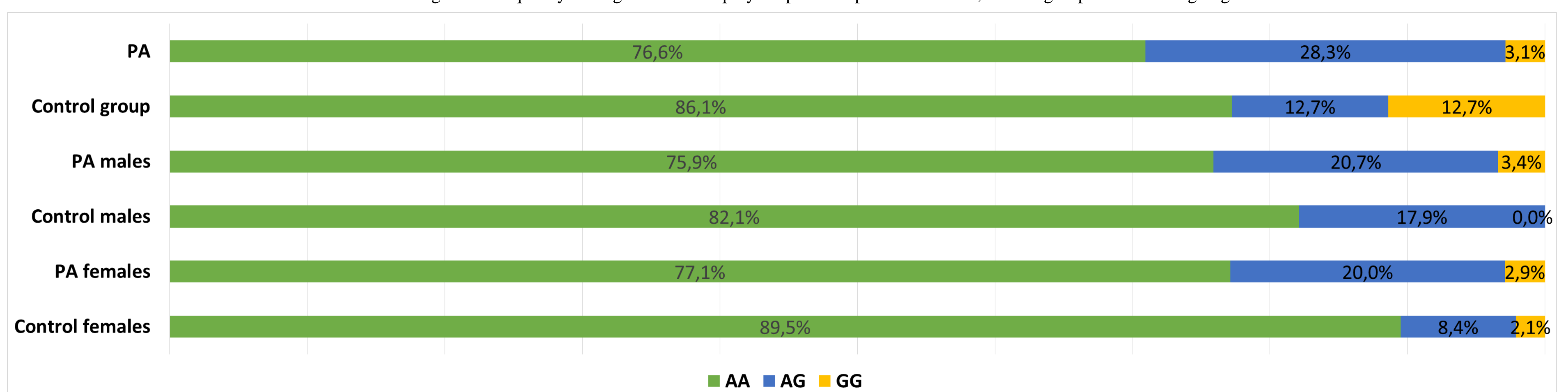
METHODS

We examined 64 (55 men, 9 women) patients with a diagnosis of PA. The reference group involved 173 (86 men, 87 women) healthy subjects. The genotyping of SIRT1 rs3740051 was performed using the qPCR method. The potential association with single nucleotide polymorphism (rs3740051) was evaluated for all patients. Statistical analysis was performed using the SPSS / W 20.0 software (Statistical Package for the Social Sciences for Windows, Inc., Chicago, Illinois, USA).

RESULTS

Statistical analysis did not reveal significant genotype (AA, AG, GG) distribution differences between the PA and control groups ($p=0.182$). Analysis of SIRT1 rs3740051 polymorphism genotype distribution by gender did not reveal any statistically significant differences as well. Genotype (AA, AG, GG) distribution in PA and control females ($p=0.175$) and males ($p=0.237$). The data is presented in Figure 1.

Figure 1. Frequency of single nucleotide polymorphism in patients with PA, control group and according to gender.



CONCLUSION

The SIRT1 rs3740051 polymorphism was not associated with PA and gender.

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