

# ANALYSIS OF THE ASSOCIATION BETWEEN *SRA1* RS801460 POLYMORPHIC VARIANT AND THYROID NODULES OCCURRENCE IN UKRAINIAN WOMEN WITH PROLIFERATIVE TYPE OF BENIGN BREAST DYSPLASIA WITHOUT ATYPIA

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## Introduction

It was revealed the association between oncological processes in mammary and thyroid glands. The steroid receptor RNA activator 1 (*SRA1*) is a long non-coding RNA that can act through the steroid hormone receptors transactivation. Thus, a potential role for *SRA1* in the pathogenesis of hormone-sensitive tissues tumors is suggested.

## Aim of the study

To study the possible link between *SRA1* gene rs801460-polymorphism and thyroid nodules (TN) in Ukrainian women with proliferative type of benign breast dysplasia (BBD) without atypia.

## Materials and methods

Whole venous blood of 117 Ukrainian women with proliferative type of BBD without atypia was used for the study. Genotyping of *SRA1* rs801460 polymorphic variant was performed using polymerase chain reaction-restriction fragment length polymorphism analysis (PCR-RFLP). The SPSS software package (version 25.0) was used for mathematical analysis.

## Results

It was found the following genotypes frequencies in patients with and without TN: C/C – 8.3%, C/T – 91.7%, T/T – 0% and C/C – 36.2%, C/T – 48.6%, T/T – 15.2% respectively. There was a statistically significant differences in genotypes distribution ( $\chi^2 = 8.110$ ;  $P = 0.017$ ). It was revealed a significant association between *SRA1* rs801460-polymorphism and thyroid nodules under crude over-dominant model of inheritance ( $P = 0.021$ , OR = 0.086, 95% CI = 0.011 – 0.689) and after the adjustment for age and BMI ( $P = 0.020$ , OR = 0.083, 95% CI = 0.010 – 0.681).

## Conclusion

Statistically significant association was found between *SRA1* rs801460-polymorphism and thyroid nodules development in Ukrainian females with proliferative type of BBD without atypia. Patients with C/T-genotype have less risk of thyroid nodules occurrence compared to homozygotes (C/C and T/T).

**Keywords:** rs801460-polymorphism, *SRA1*, thyroid nodule.