THE ROLE OF MENOPAUSE IN OCCURRENCE OF ADRENAL INCIDENTALOMAS: A 10 YEARS SINGLE CENTER EXPERIENCE


Introduction
A highly regulated system, hypothalamic-pituitary-gonadal axis, has evolved to ensure that LH is produced at appropriate concentrations, which, in females, change with time in a cyclic nature. Too much LH causes precocious puberty and excessive steroid hormone production, which can lead to cell immortalization and tumorigenesis. Menopause is a physiological state of highly elevated LH levels. Clinical studies have implicated elevated gonadotropins levels in tumorigenesis. The strongest correlative evidence comes from menopausal women who represent the largest cohort of patients with granulose cell tumors. LH receptor expression has been reported in the normal adrenal gland. Gonads and the adrenal cortex have an intimate ontogenic relationship. Convincing evidence has been shown in animal models that adrenal gland is responsive to LH.

Aim
Our aim was to assess the frequency of menopausal women in patients with adrenal incidentalomas admitted to the Department for obesity, metabolic disorders and reproductive endocrinology at Clinic for endocrinology, diabetes and metabolic disorders, Clinical Center of Serbia.

Patients
Over the last 10 years we have evaluated 653 patients with adrenal incidentaloma: 454 women (69.52%) and 199 (30.48%) men. Out of 454 women 361 (79.51%) women were in menopause and 93 women (20.48%) were in reproductive period. Mean age of menopausal women was 59.30 +/- 8.13 years, mean BMI 27.62 +/- 4.74 kg/m2, mean LH 26.68 +/- 14.78 IU/L and mean FSH 82.12 +/- 41.89 IU/L. Mean menopause age was 47.40 +/- 5.21 years, and mean lasting of menopause at the time of diagnosis was 11.68 +/- 7.72 years.

Conclusion
In a considerably large cohort of women with adrenal incidentaloma evaluated in our Center, 79.51% was in menopause at the time of diagnose. Our data suggest that menopause plays an important role in adrenal tumorigenesis.