

## عنوان مقاله:

Extracellular matrix interaction and apoptosis of the epididymal epithelium following hypothyroidism in Balb/C mouse

## محل انتشار:

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## خلاصه مقاله:

The role of epididymis in post-testicular maturation of spermatozoa is to gain the potential to fertilize the ovum. It is well known that thyroid malfunction has a negative impact on male reproductive system. Hypothyroidism causes marked structural and functional changes in the ductus epididymis, as well as is able to influence extra cellular matrix (ECM) proteins secretion and cell death. This study was designed to characterize some changes induced by hypothyroidism in the mouse epididymis. ۲۰ Balb/C mice were randomly divided into control group, and hypothyroid group that was received ۰.۰۵% ۶-n-propyl-۲-thiouracil (PTU). After the confirmation of hypothyroidism, Real-Time PCR, immunohistochemistry and Periodic Acid-Schiff (PAS) staining, TUNEL assay and biochemical measurements were carried out. laminin  $\alpha 5$  and collagen IV mRNA levels were upregulated in the hypothyroid group compared to the control group ( $p < 0.05$ ). However, no significant differences were observed in the immunoreactivity of laminin  $\alpha 5$  and collagen IV proteins of epididymal basement membrane (BM) between the two groups. Also, in PAS staining no significant differences were found in the intensity of BM staining between the two groups. Hypothyroidism increased

markedly epididymal epithelium apoptosis ( $p<0.05$ ). In addition, hypothyroidism reduced superoxide dismutase (SOD) enzyme activity while increased malondialdehyde (MDA) level ( $p<0.05$ ). Collectively, data indicated that probably there is a relationship between alterations in the BM components and biochemical factors and increased apoptosis in the epididymal cells. These results suggest a regulatory role of thyroid hormones on the BM and structure of epididymis

### کلمات کلیدی:

Epididymis, Hypothyroidism, Laminin  $\alpha 5$ , Collagen IV, Apoptosis

### لینک ثابت مقاله در پایگاه سیویلیکا:

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