

## Pattern of compensatory hypertrophy in contralateral testis after unilateral orchiectomy in immature rabbits

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### Abstract

**Introduction:** Our aim was to evaluate effects of hemicastration in immature rabbits on the histology of the contralateral testis after puberty. **Materials and Methods:** Eighteen immature male rabbits were randomly divided into two groups. The first group underwent right or left hemicastration and the second, sham operation. After their puberty, the rabbits underwent the second operation. In the former group the contralateral testis and in the latter, the right or left testis was removed and sent for pathologic examination. The two groups were compared in terms of Leydig cell count, testis volume, and seminiferous tubule count and diameter. **Results:** The mature rabbits' mean weight at the orchiectomy time, seminiferous tubule count, and seminiferous tubules diameter did not show significant differences between two groups. However, testis volumes and Leydig cell count were significantly higher in the first group with hemicastration prior to puberty. The mean testis volume was  $3.2 \pm 2.1$  mL in the first group and  $1.87 \pm 0.85$  mL in the second group ( $P = .03$ ), and the mean Leydig cell count in every 10 microscopic high-power fields was  $16.2 \pm 0.96$  and  $42.0 \pm 18.9$ , respectively ( $P = .04$ ). **Conclusion:** Our research demonstrated that prepubertal hemicastration in rabbits led to the compensatory hypertrophy in the contralateral testis after puberty and an increase in the number of the Leydig cells.

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