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Pumpkin seed oil and phytosterol-F can block testosterone/prazosin-induced prostate growth in rats.

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Abstract

INTRODUCTION: This study was undertaken to investigate the effects of pumpkin seed oil alone or combined with Phytosterol-F on testosterone/prazosin-induced (T-P) prostate growth in rats.

MATERIALS AND METHODS: Forty adult Wistar rats were divided into five groups, including: one control group, rats treated with vehicle only, one group treated with T-P, and two groups of T-P-treated rats, one receiving orally pumpkin seed oil alone and one group receiving orally pumpkin seed oil combined with Phytosterol-F. Two weeks later, the prostatic weight-to-body weight ratio was determined after sacrifice. The total protein concentration was measured by using a protein assay. Some ventral prostatic tissues were histologically examined after hematoxylin-eosin staining.

RESULTS: Histological sections of the ventral prostate showed that the architecture of the prostate glands became hyperplastic in the T-P rats, but not in the control or vehicle-treated animals. As compared with the control or vehicle group, T-P rats had a significantly higher prostatic weight-to-body weight ratio for the ventral prostate ($p=0.05$ and $p=0.007$, respectively), but not for the dorsolateral prostate ($p=0.53$ and $p=0.73$, respectively). The T-P rats had significantly higher protein levels within both lobes (ventral lobe, $p=0.02$ and $p<0.0001$, respectively; dorsolateral lobe, $p=0.06$ and $p=0.005$, respectively). As compared with the T-P-alone rats, the TP rats treated with pumpkin seed oil alone or pumpkin seed oil combined with Phytosterol-F had a significantly lower weight ratio for the ventral prostate ($p=0.01$ and $p=0.004$, respectively) and significantly lower protein levels within both lobes ($p=0.03$ and $p=0.003$, respectively; $p=0.007$ and $p=0.002$, respectively). In addition, Phytosterol-F had some additive effect on the total protein synthesis within the ventral prostate ($p=0.02$).

CONCLUSION: Pumpkin seed oil alone or combined with Phytosterol-F can block the T-P-induced increases in prostatic weight-to-body weight ratio and protein synthesis.

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