Inhibition of the experimental induction of benign prostatic hyperplasia: a possible role for fluted pumpkin (Telfairia occidentalis Hook f.) seeds.

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Introduction: Pumpkins are thought to be useful in the management of benign prostatic hyperplasia (BPH). The ability of a 15% Telfairia occidentalis seeds incorporated diet to inhibit hormonal induction of BPH in rats was studied.

Materials and methods: Twenty male Wistar rats were divided into 4 equal groups - one test group and three control groups. The test group was placed on the test diet and was given subcutaneous injections of dihydrotestosterone (DHT) and estradiol valerate (ratio 10:1) every other day for 28 days. One control group, 'no test diet' (ND) group, received the hormones, but was placed on a normal diet. The other two control groups, 'no hormone' (NH) and 'no hormone/test diet' (NHD), received subcutaneous olive oil (vehicle) for the same duration and were placed on the test and normal diets, respectively. Markers of BPH and hormone profile were determined using standard methods.

Results: The mean relative prostate weight (×10(3)) was reduced in the test group (3.6 ± 0.2) relative to the ND group (4.0 ± 0.4). The protein content (mg/tissue) of the rats' prostates decreased significantly (p < 0.05) from 68.3 ± 2.7 in the ND group to 43.4 ± 3.9 in the test group. Serum prostatic acid phosphatase levels (U/l) decreased significantly (p < 0.05) from 4.8 ± 0.4 in the ND group to 4.0 ± 0.9 in the test group. Histological findings corroborate these data. The testosterone:estradiol ratio (×10(3)) was significantly (p < 0.05) increased from 7.1 ± 0.1 in the ND group to 8.4 ± 0.4 in the test group.

Conclusion: The test diet inhibited the induction of BPH in rats and may act by increasing the testosterone:estradiol ratio.

Mesh-Begriff(e): Animal Feed; Animals; Cucurbita/metabolism; Disease Models, Animal; Estradiol/blood; Male; Prolactin/blood; Prostate/pathology; Prostatic Hyperplasia/pathology; Prostatic Hyperplasia/prevention & control; Protein Tyrosine Phosphatases/blood; Rats; Rats, Wistar; Seeds/metabolism; Testosterone/blood; Time Factors

Chemische Substanzen: Testosterone (3XMK78S47O); Estradiol (4TI98Z838E); Prolactin (9002-62-4); prostatic acid phosphatase (EC 3.1.3.2); Protein Tyrosine Phosphatases (EC 3.1.3.48)