

عنوان مقاله:

Testosterone propionate and Swarna Bhasma treatment modulated D-galactose induced reproductive alterations in male Wistar rats: An experimental study

محل انتشار:

مجله طب تولید مثل ایران، دوره 21، شماره 4 (سال: 1402)

تعداد صفحات اصل مقاله: 10

نویسندگان:

Aashish Kumar Netam - *Department of Zoology, Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh, India*

Vikas Pankaj Bhargava - *Department of Zoology, Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh, India*

Rambir Singh - *Department of Horticulture, Aromatic and Medicinal Plants, Mizoram University, Aizawl, Mizoram, India*

Poonam Sharma - *Department of Zoology, Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh, India*

خلاصه مقاله:

Background: The male reproductive system undergoes several adverse age-related changes like decreased hormone synthesis, sperm count, and testicular alteration that can impact on fertility. **Objective:** The study aims to investigate the effects of testosterone propionate (TP), and ayurvedic formulation Swarna Bhasma (SB) on D-galactose (D-gal) induced reproductive aging in male Wistar rats. **Materials and Methods:** 60 male Wistar rats were divided into 10 groups of 6 animals. Reproductive aging was induced by D-gal (150 mg/kg Bwt) exposure for 60 days. The rats were then treated by post and combination treatment with TP (2 mg/kg Bwt) and SB (6.75 mg/kg Bwt). Then sperm parameters, reproductive hormones, inflammatory markers, testicular antioxidant enzymes, steroidogenic enzymes, and histological manifestation of testis were evaluated. **Results:** Exposure of D-gal caused significant ($p < 0.001$) decrease in serum testosterone (T), testicular steroidogenic, and antioxidant enzymes. Administration of TP increased the serum T level, testicular antioxidant enzymes, and spermatogenic profile at a significant level of ($p < 0.001$) compared to D-gal. Further, the SB treatment significantly ($p < 0.001$) elevated the serum T level, sperm count, testicular antioxidant enzymes, steroidogenic enzymes, when compared to D-gal. **Conclusion:** Both the treatment of TP and SB treatments recovered the reproductive impairments caused by D-gal. However, exogenous T supplementation via TP administration is associated with various side effects during long-term use. SB is an Ayurvedic formulation having a long history of usage in India. The current findings suggest that the SB may be used as a good alternative for potentiating reproductive function in aging males.

کلمات کلیدی:

D-galactose, Aging, Testosterone propionate, Swarna Bhasma, Testis, Hypogonadism, infertility
دی گالاکتوز، پیری، تستوسترون پروپیونات، Swarna Bhasma، بیضه، هیپوگنادیسم، ناباروری.

