

عنوان مقاله:

Protective and therapeutic role of melatonin against tunicamycin-induced ER stress in testicular tissue of rats

محل انتشار:

مجله علوم پایه پزشکی ایران، دوره 25، شماره 2 (سال: 1401)

تعداد صفحات اصل مقاله: 9

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خلاصه مقاله:

Objective(s): This study aimed to investigate the possible consequences of administering exogenous melatonin as prevention or treatment against tunicamycin-induced endoplasmic reticulum (ER) stress in the testicular tissue of rats. Materials and Methods: In this study, ۴۲ adult Sprague Dawley rats, randomly divided into seven equal groups, were administered intraperitoneal tunicamycin to induce ER stress. Both prophylactic (PMel) and therapeutic melatonin (TMel) groups were administered melatonin for seven days. ER stress in the cell was detected through immunohistochemical and molecular analyses using GPR۷۸ expression. Results: Increased oxidant levels and apoptosis rates were shown in testicular tissue because of ER stress. The sections in the melatonin-administered and control groups were similar, with melatonin-administered groups showing an increase in the antioxidant ratio. Histometric examinations revealed both TMel and melatonin applications reduced the diameter of the tubules. However, immunohistochemical and molecular analyses showed that PMel administration decreased the concentration of GRP۷۸ more effectively than TMel. Conclusion: Applying melatonin prior to cell damage occurrence .can be recommended for its effectiveness in protecting from tunicamycin-induced ER stress

کلمات کلیدی:

Apoptosis, Endoplasmic reticulum stress, Endoplasmic reticulum chaperone BiP, Melatonin, Testis, Tunicamycin

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