**Material and Methods**

Within the scope of the paper, the experimental groups were formed from 35 healthy adult male Wistar Albino rats, 12-16 weeks old and weighing 230±15 g. Experiments on rats were carried out in the laboratory. Within the scope of the study, 35 rats were designed to form 5 groups. RF radiation application times. The first group is the control group and no application was made. RF radiation exposure was applied with a ESIME Zacatenco radiation equipment, field levels were measured with EMR 300. At the end of the 30-day experiment period, one of the testicular tissues belonging to the groups was preserved for oxidative damage examination, and the other testicular tissue for histological examination.

Paraffin blocks were obtained after the routine follow-up procedures were fixed in 10% neutral formaldehyde solution for at least 72 hours, and 4–5-micron thick sections were taken from the prepared paraffin blocks. Testicular tissues of the groups were examined by immunohistochemical methods. Immunohistochemical uptakes were evaluated for each antibody and for each group, and data were generated using Kruskal-Wallis and Mann-Whitney analysis to determine whether there was a significant difference in uptake intensities between groups. Parameters for oxidative damage were investigated in testicular tissue.

The radiation was carried out in the Electromagnetic Compatibility Laboratory, the equipment used to irradiate the rats was a GTEM (Transversal Electromagnetic in Giga Hertz). Cell, an amplifier and a signal generator.

The radiation batch (UHF) was subjected to a frequency of 860 MHz and a power of 0.5 W in the radiation equipment, for 4 hours/day for 35 days in winter and in summer, a second batch was subjected to this same radiation only for 15 days, taking care that the temperature was between 23-25℃ and a humidity of 70%, without access to food or water.

A group of rats was used to submit it only to isolation for 4 hours a day without being exposed to radiation and a group of control rats which did not receive treatment.

After the sections taken from the experimental groups were kept in an oven at 60 °C for 30 minutes, they were removed from xylol for 2x15 minutes and cleared of paraffin. Then, the slides were passed through decreasing series of alcohol (100%, 96%, 80%, 70%, 50%) and air-dried. After 10 minutes of washing in running water, they were stained in Harris Hematoxylin for 10 minutes and washed in running water for 10 minutes. It was dipped in 70% alcohol+2-3 drops of glacial acedic acid mixture and washed again in running water for 10 minutes. After the slides were kept in Eosin for 15 minutes and washed in running water for another 10 minutes, they were passed through a series of increasing grades of alcohol (50%, 70%, 80%, 96%, 100%), taken in xylol for 2x15 minutes and closed with entellan. In order to generate statistical data; 6 tubules were selected randomly for each subject, and the seminiferepithelial length was measured in 6 different regions in each tubule, and the data were recorded.

Glutathione (GSH) in tissue was studied with the spectrophotometric method with the ready kit. Solutions used: 0.3 M NaH2PO4 DTNB-dithio nitro benzoic acid (0.4 mg/mL 1% sodium citrate). Tissue samples were weighed and homogenized with a homogenizer in cold TCA (1 g tissue+9 mL 10% TCA) on ice. Then, the homogenate was centrifuged at 4.000 rpm for 15 minutes at +4 ℃, and the supernatant was taken and centrifuged again at 4.000 rpm for 8 minutes. 2 volumes of supernatant were mixed with 8 volumes of NaH2PO4 and 1 volume of DTNB solution. After waiting 5-10 minutes at room temperature, the absorbance of the mixture was read in the spectrophotometer at a wavelength of 412 nm versus the blank, and tissue GSH levels were calculated per μmol/g tissue.