Conflicts of interest

The authors have none to declare.

http://dx.doi.org/10.1016/j.jasi.2017.08.034

28

Effect of electromagnetic radiation of mobile phone in testis of albino rats

Priyanka Singhal

Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India

Background: In the past two decades use of mobile phones has increased tremendously. The widespread use of mobile phones has raised the research activities in many countries to determine the effect of electromagnetic radiation emitted from it. The present study was carried out to see the possible effects of electromagnetic radiation on reproductive system.

Materials and methods: Eighteen male albino rats were divided into three groups of 6 each, i.e. control and two experimental groups. In experimental groups animals were exposed to electromagnetic radiation by placing a mobile phone over the cage for 5 h per day for two months. Mobile phone was turned to answering mode for ½ hour per day in one group and 1 h in other group. After 2 months, all the animals were sacrificed and were dissected to see the histology of testis.

Results: Results showed reduced diameter of seminiferous tubules, disruption and thickening of basement membrane, disorganized germinal epithelium, and reduced number of all the germ cells, detachment of sertoli cells from basement membrane and reduced size and vacuolations in the Leydig cells.

Conclusion: Thus it can be concluded that mobile phone radiations adversely affect the reproductive system by producing histopathological changes in testis.

Conflicts of interest

The author has none to declare.

http://dx.doi.org/10.1016/j.jasi.2017.08.035

29

Effect of mobile phone radiation on thyroid glands of rats

Gupta Shalini*, Gautam Prateek

BRD Medical College, Gorakhpur, Uttar Pradesh, India

Introduction: Electromagnetic radiation emitted by cell phone tower is a new form of environmental pollution and is new health hazard. This radio frequency radiation pollution and is a matter of world wide concern due to its undesirable effect on human health. The present study was done to visualize the effect of cell phone radiation on thyroid glands of rat by studying its different parameters.

Materials and methods: The study was conducted in Department of Anatomy of BRD Medical College Gorakhpur on male rats for duration of 3 months. Mobile phone used was GSM model with bandwidth 900 MHz and S.A.R 0.38 W/Kg.

Observation and result: With increase in exposure of radiation the microscopic anatomy of thyroid was getting distorted also hormonal analysis shows increase in level of TSH and decrease in T4.

Discussion: Despite years of research the question of whether exposure to microwave radiation emitted by mobile phone affect human health remain unsolved. The primary outcome measures of this study were the microscopic anatomy of thyroid gland and the level of TSH, T3, T4. Various scientists like Burchard et al., Rajkovic et al., Koyvet et al. assessed the effect of mobile phone radiation on various subject and found the result similar to our study with slight variation.

Conclusion: Lack of ionizing radiation and low energy level emitted from cell phone had initially led to this public perception that mobile phone use was safe, but result obtained from this study showed a significant alteration in TSH, T3 and T4 level.

Conflicts of interest

The authors have none to declare.

http://dx.doi.org/10.1016/j.jasi.2017.08.036

30

A study of comparative histopathology of coronary, radial, ulnar, epigastric and internal thoracic arteries for assessing suitability in coronary artery bypass grafting

Rashmi Malhotra*, Munish Wadhawan

AIIMS, Rishikesh, India

Introduction: To study the histopathology of coronary, radial, ulnar, epigastric and internal thoracic arteries in order to investigate the cause of their occlusions in coronary bypass grafts.

Materials and methods: One centimetre long specimens were taken from each of these arteries just distal to their commencements from ten cadavers. These tissues were fixed in formalin and blocks were prepared. Histology slides were prepared using routine histological techniques.

Results: We found a correlation between the internal calibers of the ulnar and coronary arteries. Intimal changes and the presence of atheromatous plaque were observed in coronary, radial and ulnar arteries, but not in the internal thoracic artery.

Conclusion: Like coronary arteries and their branches, radial, ulnar and epigastric arteries are muscular arteries and ageing results in thickening of the intima, which becomes fibrotic and duplication of internal elastic lamina. The media becomes fibrous, hypertrophic or atrophic. In contrast, the internal thoracic artery is an elastic artery. Ageing is characterized by loss of elastic laminae of the media and more marked intimal thickening. Long-term patency related to histological characteristics of radial, ulnar and epigastric arteries should be kept in mind by the cardiovascular surgeons in selection of suitable arterial graft

Conflicts of interest

The authors have none to declare.

http://dx.doi.org/10.1016/j.jasi.2017.08.037