A Morphological Study of the Effects of X-Rays on the Melanocytes of the Skin, Under Light Microscope

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Under Light Microscope

{Original Article (Anatomy)}


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ABSTRACT

Objective: To observe the effects of x-irradiation on the melanocytes of the skin under light microscope

Study Design: A prospective experimental study.

Place and Duration of Study: The study was carried out at Department of Anatomy, Basic Medical Sciences Institute, Jinnah Postgraduate Medical Centre Karachi from 2008 to 2009.

Materials and Methods: Thirty animals were taken and were divided into two groups. Each group was further subdivided into three subgroups containing five animals each according to the time of sacrifice i.e. 48 hours, 15th day and 45th day respectively. A single whole body x–irradiation in a dose of 5 Gy was given. Animals were sacrificed under ether anesthesia after completion of their respective periods. Tissues were processed and 4-5 micron thick paraffin embedded sections were cut and stained with Masson’s Fontana stain.

Results: Insignificant (P>0.05) decrease in number of melanocytes was obtained when compared to control in group B1 animals. In group B2, increase in size and number of melanocytes was noted with long dendritic processes and large amount of melanin seen scattered between the layers of epidermis was present and results were moderately significant (P<0.01) in case of face and abdomen and significant (P<0.05) in case of back. In group B3 Size and number of melanocytes were also increased with large amount of melanin scattered between the layers of epidermis. The results obtained were highly significant (P<0.001) in case of face and moderately significant (P<0.01) in case of abdomen and back.

Conclusion: X-irradiated skin of face, abdomen and back of the guinea pig depicted increased number and size of melanocytes with long dendritic processes and large amount of melanin scattered between the layers of epidermis.
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Key Words: X-irradiation, Melanocytes, Masson’s Fontana stain.

REFERENCES


3. Landthaler M, Hagspiel HJ, Late irradiation damage to skin caused by soft x-radiation therapy of cutaneous tumour Arch Dermatol 1995;131: 182-86.


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