

REPAIR CAPACITY OF RADIOINDUCED DNA DAMAGE IN BREAST CANCER PATIENTS. Nascimento, P.A.; da Silva, M. A.; Oliveira, E.M.; Suzuki, M.F.; Okazaki, K. -IPEN - CNEN/SP.

The individual repair capacity is a fundamental factor in the genetic susceptibility to carcinogenesis. In the present study, we compare three healthy donors and two breast cancer patients by comet assay. The blood samples were irradiated with 0.2 to 10 Gy in Co-60 source and assayed 1, 3 and 24 hours after the expositions. The cells were embedded in agarose layers, lysed, electrophoresed, neutralised and stained. Photographs were taken under fluorescence microscope. The DNA damage and repair were quantified by measuring the tail length of 50 comets per dose. The results show that after 1 hour there is an increase in the DNA migration with the dose in both groups. In the healthy group the data of 3 and 24 hours are almost the same, suggesting that many of radioinduced lesions were efficiently repaired within 3 hours (about 80%). In the cancer group, many of the lesions still remain (about 42%). Comparing the repair kinetic between these two groups, we can conclude that although the radioinduced damages were similar, the restitution of the DNA integrity is faster in the healthy group than in the breast cancer one.