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What is My Risk of Cancer ?

Y. R. Ahuja¹ and N. Rajeshwari²

1. Department of Genetics & Molecular Medicine, Vasavi Medical and Research Centre, 6-1-91, Khairatabad, Hyderabad 500 004, Andhra Pradesh, India

2. Department of Genetics and Biotechnology, M.S. Ramaiha College of Arts, Science & Commerce, MS Ramaiha Nagar, Bangalore 560 054, Karnataka, India

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ABSTRACT There are various approaches towards risk assessment in cancer, eg, identification of mutations/deletions in oncogenes, anti-oncogenes, mutator genes and epigenetic changes. These procedures are time consuming and expensive. Therefore, a search was made for a procedure, which would be time saving and inexpensive. Net result of accumulation of the above mentioned mutations/deletions/changes leads to a gradual increase in genomic instability. Therefore, it was considered logical to use a test to measure DNA damage in suspected cases for the identification of high-risk individuals. For this purpose, single cell gel electrophoresis assay (commonly known as comet assay) was selected because (1) it is the most sensitive assay known to estimate DNA damage, (2) it gives information on single cell basis, and (3) it requires a small sample size and is efficient in time. In our laboratory, we have used this method to identify individuals at high risk of cancer of the cervix and breast. Our results in general are comparable with the figures reported in the literature. Since cancer has a long gestation period, high risk individuals need to be followed-up for confirmation of the predicted outcome as well as for counseling.

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