



S3. THE IMPORTANCE OF BIOMONITORING OF DNA DAMAGE IN OCCUPATIONAL EXPOSURE TO CHEMICALS

A. Nurşen BAŞARAN

Hacettepe University, Faculty of Pharmacy, Department of Pharmaceutical Toxicology, 06100, Ankara, TÜRKİYE

People in various occupational settings have the potential to be exposed to some hazardous chemicals which are used in industry and in agriculture. Since many of these chemicals are known to be genotoxic and can lead to genetic alteration, the exposures of these substances have been associated with an increased risk for certain diseases including cancer. Occupational exposure has been estimated to account for nearly 10% of all human cancer. The level of the exposure depends on the working area, duration of exposure and individual protective measures. The measurement of molecular or cellular biomarkers as the indicators of exposure or preventive factors has many applications in occupational toxicology. Reliable and fast methods are necessary for screening workers professionally at risk in different occupational settings. The evaluation of DNA damage and DNA repair as the biomarker of genotoxic substance exposure and cancer risk is important in biomonitoring and molecular epidemiological studies. The Comet assay which has been regarded as simple, inexpensive, reliable, rapid and trusted biomarker assay, determines DNA damage and DNA repair in single cells. In this presentation, the importance of biomonitoring of DNA damage that can be assessed by Comet assay in some occupations will be presented. Work characteristics affecting the DNA damage of the exposed workers and the existence of policies governing chemical exposures will also be discussed.