

# Risk of occupational radiation-induced cataract in medical workers

SNEZANA MILACIC

Faculty of Medicine, University of Belgrade, Institute of Occupational Medicine and Radiological Protection, Belgrade, Serbia

## KEY WORDS

Ionizing radiation; cataract; health care workers

## SUMMARY

**Background:** *Ionizing radiation on the lens of the eye can produce a progressive cataract. Small cumulative doses, over a long time period, can produce adverse effects on the professional capabilities of health workers in the ionizing radiation zone.* **Objectives:** *The aim of this study was to ascertain whether occupational exposure to low levels of ionizing radiation can cause an increase in prevalence of cataract.* **Method:** *We compared a group with occupational cataract, consisting of 115 health workers in the ionizing radiation zone, and two control groups: a group of 100 health-care workers in the ionizing radiation zone, with a higher incidence of chromosomal aberrations, but without cataract; and another control group of 26 health-care workers with cataract, outside the zone; all risk factors for the development of cataract were considered: age, sex, difference in profession, duration of occupational exposure, years of service, level of blood sugar, blood pressure, arrhythmias, etc.* **Results:** *A more significant incidence of cataract was found in workers in the ionizing radiation zone, where the relative risk was 4.6;  $p < 0.01$ . Radiology technicians showed the highest prevalence (63.5%), while physicians-radiologists and pneumologists were second (15.7%) and third (10.3%) respectively; nurses showed a 3.5% incidence and nuclear medicine department workers showed an incidence of only 1.7%. Other risk factors had an effect on the development of cataract ( $p < 0.05$ ).* **Conclusions:** *Occupational exposure to low doses of ionizing radiation, together with other risk factors, is a significant cofactor in the occurrence of cataract as an occupational disease among x-ray exposed health care workers. The categories most at risk are radiology technicians, followed by radiologists.*