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P004**The induction of chromosomal aberrations (CAs) during and following partial-body exposures**S. GUNDY, N. KATZ, J. LÖVEY, O. ÉSIK

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One possible way to obtain information concerning yield of CAs induced by partial-body irradiation is to observe patients undergoing radiotherapy. CAs were studied during and immediately after the termination of treatment in 13 differentiated thyroid cancer patients irradiated with 50 Gy (25x2Gy) in the region of either the neck lymph nodes (NLN) or of the area of NLN + upper mediastinum (UM) in a ratio of volumes of 1:3 (8 vs.5 patients). Furthermore, 10 testicular cancer patients were examined who were irradiated with 26 Gy (13x2Gy) in the pelvis (PAO-PIL) region in a volume 10-times larger than the NLN area. The yield of dicentrics/cell showed 3-3.6-fold individual variability in each of the groups (0.11-0.31 for NLN; 0.21-0.61 for NLN+UM; 0.13-0.47 for PAO-PIL, respectively). When the yields of dicentrics + rings were best fitted to a linear function during the courses of radiotherapy at fixed doses and locations, the variability of parameters was also excessive between the donors. We suppose that beside the location and volume of lymph nodes the main factor influencing the rate and overdispersion of CAs induced by partial-body irradiation may be the individual radiation sensitivity. This phenomenon impose some uncertainty when calibration curves are used for the estimation of whole-body-equivalent biological doses.

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