at either 5 or 10 μg ml^{-1}, fixed at various times after culture initiation and harlequin stained. After 5 μg ml^{-1}, up to 48% of cells were in second mitosis by 48 h (Fig. 2) and 37% even after 300 rad of X rays. BUdR evidently induced some mitotic delay because the frequencies of cells beyond first division (Fig. 2) were, in general, considerably lower after 10 μg ml^{-1} than after 5 μg ml^{-1} (ref. 17). This suggests that in normal culture conditions, without BUdR, there may be even more than 50% of cells at second division by 48 h. Because the magnitude of mitotic delay is dose dependent[16] there will be, at 48 h, a decreasing proportion of cells in second division with increasing dose, which will lead to an exaggeration of the curvature of the dose–response curve when the BUdR method is not used.

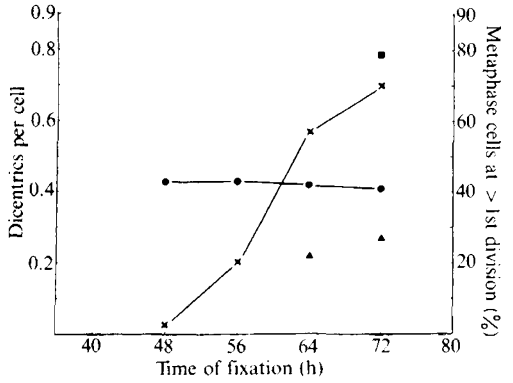

Fig. 3 Dicentric frequencies in cells from donor *D* (see Table 1) at first (●) and second (▲) mitosis after exposure to 200 rad of X rays. Also shown is the proportion of cells at >1st mitosis (×, irradiated; ■, control) at different sampling times.

To investigate aberration frequencies in first-division cells at different sampling times, whole blood from four healthy male donors (aged 21–33 yr) was exposed to 200 rad of X rays (290 kV, 8 mA, 100 rad min^{-1}) at 37 °C, cultured in medium with 10 μg ml^{-1} BUdR, sampled between 40 and 72 h and harlequin stained. Non-irradiated cells were exposed to 10 μg ml^{-1} BUdR or no BUdR, and some irradiated cells were cultured without BUdR. The results are shown in Table 1 and Fig. 3. There was no significant difference between sampling times in aberration (dicentric) frequencies in first-division cells (donor *A*, first experiment, $\chi^2_4 = 0.79$, $P = 0.90$–0.95; donor *A*, second experiment, $\chi^2_3 = 0$, $P = 1.0$; donor *B*, $\chi^2_5 = 2.46$, $P = 0.70$–0.80; donor *C*, $\chi^2_2 = 0.08$, $P = 0.95$–0.98; donor *D*, $\chi^2_3 = 0.063$, $P > 0.99$). BUdR did not induce aberrations (compare BUdR treatment with no treatment in Table 1). As in our preliminary studies (Fig. 2), with 10 μg ml^{-1} BUdR the frequency of second divisions at 48 h was low. BUdR did not influence the frequency of aberrations induced by radiation (compare 200 rad only with 200 rad + BUdR at early fixation times before onset of second mitosis). Dicentric frequencies in second-division (harlequin-stained) cells were approximately half those in first-division cells, as expected if (1) 50% of dicentrics form bridges at first anaphase and 50% "fall-free" (ref. 18), and (2) cells with or without dicentrics at first mitosis are equally capable of undergoing second division. The means of the dicentric frequencies at all sampling times in first division cells from donors *A* (second experiment) *B*, *C* and *D* were similar, being 43.0, 40.3, 44.3 and 42.3 per 100 cells, respectively, but the frequency from donor *A* in the first experiment (52.4 per 100 cells) was significantly higher than these at the 5% significance level. The reason for this is not clear and repeat samples from the other donors will be required to assess the importance of this observation.

The distribution of dicentrics between first division cells at each fixation time conforms to a Poisson distribution (Table 1). This provides further evidence of homogeneity of lymphocytes in chromosome radiosensitivity other than the equality of aberration yields in first-division cells at different sampling times.

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Corrigendum

In the letter 'Nanosecond transient Raman spectra of photolysed carboxyhaemoglobin' by K. B. Lyons *et al.*, *Nature* **275**, 565–566 (1978), paragraph 6 line 15 and paragraph 8 line 6 reads 0.002 Å not 0.02 Å. On Fig. 1*c* 3 cm^{-1} should read 2 cm^{-1}.

Erratum

The following note in proof should have appeared in the Matters Arising item 'Synergistic chelation therapy or mixed ligand complexes for plutonium and cadmium poisoning?' by P. M. May and D. R. Williams, *Nature* **278**, 581; We would like to correct an error in our *Nature* paper[4]. In paragraph 4 and in Fig. 3 legend we reported that tablets of EDTA with salicylate or DNPS (Dimaval) protected mice from acute cadmium poisoning given 1 h post-cadmium. This should have read 5 min rather than 1 h as far as complete survival is concerned. Naturally, complete survival is observed 15 min but not 1 h post-cadmium for a single injection of the combination.