EDITORIAL

Half a century since publication of the seminal study by Court-Brown and Doll of leukaemia following medical irradiation

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During the early- and mid-1950s the recent finding of a marked increase of leukaemia among the Japanese survivors of the atomic bombings of Hiroshima and Nagasaki in 1945 was provoking interest in the scientific community. One question that arose was whether the notable rise of leukaemia mortality that had been observed in Britain since 1920 might be attributed, at least in part, to increasing exposure to ionising radiation. This inspired the study of leukaemia among patients who had been treated with x-rays for ankylosing spondylitis, the findings of which were published in a Medical Research Council (MRC) report in 1957 [1]. The study was conducted by Michael Court-Brown and Richard Doll, and the circumstances surrounding the study and its extensions are described comprehensively in this Supplement by Peter Smith, who was heavily involved in the follow-up work.

Of some interest is the reported conversation between Richard Doll and Sarah Darby [2] as it relates to this study. In response to the question from Darby about what he thinks is his most underappreciated work, Doll answers,

“My favourite paper is the one with Michael Court-Brown deriving the dose–response relationship between radiation and leukaemia. . . . But this work is not often remembered nowadays. I doubt if many epidemiologists would pick the dose–response relationship between radiation and leukaemia if they were asked to associate particular observations with my work. Yet, it is certainly the second most important piece of work that I have done, after the effects of smoking, and it provided the first suggestive evidence of a linear relationship for the carcinogenic effect of ionising radiation down to quite small doses. In fact, the estimate of the risk of leukaemia per unit dose that it provided is not very different from the value that is accepted now.

“It was quite a difficult study to organise. We had to collect information on 14 000 patients treated throughout the country by radiotherapy for the benign condition of ankylosing spondylitis, and we had to measure the dose of radiation received in the marrow by doing experiments on a model man. In many ways it was the best-designed study I have ever participated in and possibly my best work.”

Darby asks if the study was ever published in a journal, to which Doll replies,

“No, it was never published in a journal. All the important information was included in the Medical Research Council report.”

Darby goes on to enquire whether Doll thinks that this absence of a publication in a journal might have played a role in the underappreciation of the study, given that it would be quite difficult to get hold of the MRC report these days, especially for people outside Britain, and Doll responds,

“Yes, probably, although later extensions of the study were published in ordinary scientific journals.”
With this Supplement, the MRC report of the work of Michael Court-Brown and Richard Doll on leukaemia after radiotherapy for ankylosing spondylitis is now published in a scientific journal, 50 years after it first appeared in 1957.

Thanks are due to the Medical Research Council for enthusiastically cooperating in the reproduction of the 1957 report and for supplying an original copy of the report.

References


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