

that fluid overload alone causes increased pulmonary capillary permeability to plasma proteins.

To avoid this potentially fatal complication a chest radiograph should be assessed carefully for features of fluid overload before OKT3 is used, and increased vigilance is needed.

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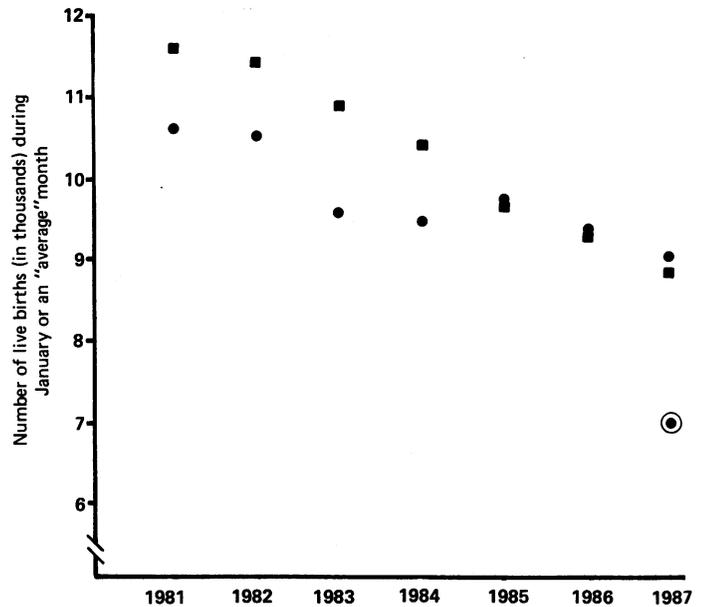
## The victims of Chernobyl in Greece: induced abortions after the accident

The Chernobyl nuclear accident took place early in the morning of 26 April, 1986, but the extent of the catastrophe became apparent in Greece a few days later. During most of May there was panic because of conflicting data and false rumours. By June more reliable information became available and it was realised that the average effective radiation dose to the population of Greece would not exceed 1 mSv (100 mrem). This dose is much lower than that which could induce embryonic abnormalities or other non-stochastic effects. In Greece, as in other parts of Europe, many obstetricians initially thought it prudent to interrupt otherwise wanted pregnancies or were unable to resist requests from worried pregnant women and their husbands. Within a few weeks misconceptions in the medical profession were largely cleared, although worries persisted to a variable extent in the general public. We tried to estimate the number of abortions performed because of the Chernobyl accident by recording the actual numbers of liveborn infants in Greece, by month, until the end of March 1987 and comparing these numbers with those expected on the basis of recent birth rate trends.

### Subjects, methods, and results

Women who had the first day of their last menstrual period during the month before the Chernobyl accident would be expected to give birth during January 1987. Many of these women thought that they had a high risk of giving birth to an abnormal embryo; furthermore, during May 1986 their embryos were at an early stage that permitted abortion with virtually no risk. By contrast, most women who had their last menstrual period (first day) during the first month after the Chernobyl accident became aware that they were pregnant in June, when the panic had subsided and their obstetricians, if not themselves, had a more realistic view of the radiation risk; these women would be expected to give birth during February 1987. On the opposite side of this time frame, women who had their last menstrual period (first day) during the second month before Chernobyl were, after the accident, at a relatively advanced stage of their pregnancy (both safer from radiation and riskier for termination); these women would be expected to give birth during December 1986.

In Greece abortions have always been easy to obtain and are now largely legalised. Very few are registered, however. Therefore the only way of estimating the numbers of abortions performed in otherwise wanted pregnancies because of fears about the effect of Chernobyl was by monitoring the monthly number of live births. The numbers of liveborn infants in Greece show a mild seasonal pattern and have been declining steadily since 1981. Accordingly, we calculated the expected numbers of liveborn children during January, February, and March 1987 on the basis of month specific simple linear regressions<sup>1</sup> of the observed monthly numbers of liveborn infants from 1981 to 1986.



Observed (○) and expected numbers of live births in Greece during January 1987. Expected numbers were calculated on the basis of the 1981-6 linear trend of (a) number of live births during January of the corresponding year (●) and (b) average monthly number of live births throughout the corresponding year. (■).

The observed and (in parentheses) the expected figures during January, February, and March 1987 were: 7032 (9103, with a 95% lower limit for an individual value of 8425), 7255 (7645), and 8350 (8453) respectively, whereas during December 1986 no reduction in the number of live births was evident in relation to the preceding two years. The striking difference between the observed and the predicted numbers during January 1987 is shown in the figure, in which expected numbers were derived from both the (more valid) January data and the (more stable) average monthly number of liveborn infants in the corresponding year.

### Comment

We estimated that in Greece during the period of concern after the Chernobyl accident—that is, during most of May 1986—23% of early pregnancies at perceived risk were artificially terminated ( $((9103-7032)/9103) \times 100$ ) and that during the whole of 1986 about 2500 otherwise wanted pregnancies (2.5% of the total) were interrupted because of perceived radiation risk (since there was only a small deficit of live births during March 1987 it is unlikely that there will be an important Chernobyl related deficit of live births in the subsequent months). This empirical estimate is not incompatible with the speculative figure of the International Atomic Energy Agency of 100 000 to 200 000 Chernobyl related induced abortions in the whole of Western Europe.<sup>2</sup>

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