Breast cancer incidence rises in contaminated areas 10 years after explosion at Chernobyl reactor

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Women in the areas that were most contaminated by radiation after the explosion at the Chernobyl nuclear plant in Ukraine are two to three times more likely to develop breast cancer than women in less contaminated areas, a study has found.

The study, which was published online ahead of print publication on 27 February in the *International Journal of Cancer* (www3.interscience.wiley.com, doi: 10.1002/ijc.21885), says that excess cases began to appear 10 years after the incident, which happened in 1986, and that the relative risk was higher among women who were younger at the time of exposure.

"Our results confirmed the reported increase in breast cancer incidence in young women in the most contaminated areas of Belarus and Ukraine. In addition to this general increase, women who resided in the most contaminated districts appear to have a two- to three-fold increased risk of breast cancer compared with women in less contaminated areas," the authors wrote.

"The results of this study may have important public health implications in countries affected by the Chernobyl accident," they added.

The explosion at the reactor resulted in contamination of large areas of Belarus and Ukraine and exposure of hundreds of thousands of people in the most contaminated areas to substantial doses of radiation, say the authors, who are from the International Agency for Research on Cancer and the Finnish, Ukrainian, and Belarusian cancer registries.

The study results show that the numbers of cases of breast cancer registered between 1986 and 2001 were 10 454 in Belarus and 18 113 in Ukraine.

The data show that the incidence of breast cancer increased in all areas of Belarus and Ukraine between 1986 and 2001. The average incidence before the explosion was highest in the areas where the lowest radiation doses were accumulated after the accident. But the relative increase is steepest in the areas with the highest accumulated radiation dose.

Age adjusted incidence of breast cancer in eastern Belarus and five districts in Ukraine, before and after the Chernobyl explosion in 1986

Source: *International Journal of Cancer*

The relative risk was highest in women who were premenopausal at the time of the explosion. The relative risk among women who were aged less than 45 in the districts of Belarus where average whole body cumulative dose was above 40.01 mSv in 1997 to 2001 was 3.33 (95% confidence interval 1.71 to 6.5), compared with women in the same age group from areas where the dose was <5 mSv, whereas the corresponding relative risk among women in all age groups was 2.24 (1.51 to 3.32).

The authors wrote, "This increase appeared approximately 10 years after the accident and

is highest among women who were younger at the time of exposure. The increase is similar for localised and metastatic disease, ie it is unlikely that the observed excess would be largely attributable to increased diagnostic activity.

"Analyses of trends in cancer incidence by average cumulative dose levels, however, taken together with the relative risk analyses, appear to indicate that a significant radiation-related increase has also occurred, particularly among women who were below the age of 45 at the time of the accident, and resided in the most contaminated districts." □

GMC hears complaints about UK fertility specialist

Owen Dyer *London*

A well known UK fertility specialist charged patients for things they did not "want, need, or get," the General Medical Council heard this week.

GMC counsel Joanna Glynn told the GMC's fitness to practise panel that Professor Ian Craft, director of the London Fertility Centre, had a "cavalier attitude" to warning patients about certain procedures.

"This case is about a financial sharp practice, charging patients for things they did not want, need, or get. It's about poor con-

sulting procedures. It's about giving patients poor information," she said.

The case against Professor Craft stems from complaints by two patients. One, known only as Ms B, first visited the clinic in February 1998 seeking in vitro fertilisation (IVF) treatment. But Professor Craft told her that she had endometriosis and first needed laparoscopic surgery, the hearing was told.

"Professor Craft said it would be a risky procedure and that there were only two doctors in the country—one being himself—who could competently carry it out," said Ms Glynn.

Ms B consented to the private operation, paying a fee of £2375 (€3463; \$4124). Later, during a visit to the clinic for an injection, Ms B was told that Professor Craft wished to see her, said Ms Glynn; the three minute

interview with Professor Craft, in which Ms B claims nothing of significance was spoken, cost £125. "Ms B felt she had no choice but to pay," said Ms Glynn.

In June 1998 Ms B attended the clinic for egg collection. Shortly before entering the theatre, she was allegedly presented with an additional consent form for intracytoplasmic sperm injection. Only when she came to pay did she realise that the treatment would cost her a further £1200, said Ms Glynn.

After Ms B had had two unsuccessful cycles of IVF treatment, the second complainant, Ms K, answered an advertisement from Professor Craft's clinic seeking egg donors. The GMC alleges that Professor Craft failed to inform her of the risks of ovarian stimulation, even after a scan showed that she had

polycystic ovary syndrome.

In May 2002 Ms K developed ovarian hyperstimulation syndrome after her eggs were collected, said Ms Glynn.

Finally, in March 2003, Ms K offered to act as a surrogate mother for Ms B. But, said Ms Glynn, the clinic had incorrectly frozen all four of Ms B's stored embryos on one straw. This practice is contrary to the protocol that the clinic had submitted to the Human Fertilisation and Embryology Authority in its licence application, which set a maximum of three per straw.

Ms B "had at that time had a hysterectomy and so completely relied on those embryos," said Ms Glynn. The surrogacy attempt failed.

Professor Craft denies all charges of misconduct. The case is expected to last until 24 March. □