

randomised studies may be needed to clarify this issue. However, from a practical standpoint, diazepam and phenobarbital are the only anticonvulsant drugs currently in widespread use throughout Africa, because of their low cost. Previous studies in cerebral malaria¹⁻³ have shown variable anticonvulsant efficacy with lower doses of phenobarbital, but the small sample size of these studies makes it impossible to comment on mortality. In addition to exploring the use of anticonvulsant drugs that cause less respiratory depression, it is now important to assess in a study of sufficient size whether a lower dose of phenobarbital can provide seizure prophylaxis that is both safe and effective in children with cerebral malaria.

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Chernobyl-induced radiophobia and the incidence of tuberculosis

Sir—In eastern Europe, including former USSR, rising tuberculosis (TB) rates have been reported.¹ Malnutrition, poor living conditions, and inadequate supplies of anti-TB drugs may be to blame.² Furthermore, especially in Belarus, Russia, and the Ukraine, coinfection with HIV-1 has been considered to partially be attributed to this phenomenon.³

After the Chernobyl nuclear accident, a significant increase in the incidence of childhood thyroid diseases was found, particularly in Gomel region of Belarus, where thyroid cancer incidence is 100 times higher than that before the accident.⁴ TB infection rate was also increased in this area since the accident.

According to the WHO report (<http://www.who.int/gtb/publications/>

[globrep00/index.html](http://www.who.int/gtb/publications/globrep00/index.html); accessed June 23, 2000), the decline in the rate of TB infection began to reverse in Belarus after 1993. A total number of reported cases of TB in 1992 was 2414 (23.6 per 100 000 population), whereas in 1997, a total number was 5832 (56.4 per 100 000). In particular, our data showed that TB rates in Gomel region have begun to reverse since 1991. The total number of TB cases in 1997 increased to 1227, as compared with 289 cases in 1986, when the accident occurred. Thus, the incidence increased more than four times in this region over 10 years.

Since the accident, diverse information on radiation, including rumours, has been disseminated in this area, which has resulted in anxiety about radiation safety (radiophobia) and its related health consequences. This public anxiety has led to the decline in the rate of TB screening, which was based on fluoroscopy. Thus, we strongly believe that, in addition to those factors mentioned above, radiophobia among the people in the contaminated areas may be partly responsible for the increased rate of TB.

Further analysis should be carried out to clarify the reason for this increase, together with the effective public education on radiation-related health effects.

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Not so inefficient reproduction

Sir—In his April 15 commentary¹ on prediction of pregnancy loss Charles Lockwood opens with the well-accepted statement that human reproduction is “a remarkably inefficient process”. We would like to challenge this concept. It is indeed true, and well discussed in the text, that only a fraction of conceptuses survive for long after fertilisation, and that some fetuses are lost during gestation. However, human reproduction could be seen as a very selective system, intended to optimise the final outcome.

Sexual reproduction is a complex phenomenon, which permits the expansion of genetic variability by matching genetically disparate DNAs and, possibly, RNAs, with each single fertilisation leading to a completely new genetic set. Genotype imbalance due to abnormalities in the number, morphology, and parental origin of chromosomes, mutations occurring in the gametes before fertilisation or in the early stages of the blastocyst formation, and the possibility of failure to eliminate foreign material carried in by the spermatozoa² are implicated in the selective elimination of genetically abnormal conceptuses. Preimplantation genetic examination of embryos obtained through extracorporeal fertilisation, suggests that most cases of unsuccessful attempts to achieve a viable pregnancy are a result of aneuploidy of the conceptuses, rather than failure of implantation. In this regard, the influence of maternal age is striking because in women over 40 years the success rate of in-vitro fertilisation is less than 10% with their own eggs, but over 30% with donated eggs from a younger woman. The 60% rate of chromosomal abnormalities observed in spontaneously aborted embryos indicates that selective elimination is extremely competent and that only one woman in every 1000, who is younger than 30 years, delivers a live chromosomally abnormal fetus.

After the blastocyst stage of embryonic development, the selection for normal phenotype continues. There is evidence that chromosomally abnormal clones can be restricted to the placenta with the development of a normal embryo.³ Whether this results from a chance event or an active mechanism, which compartmentalises abnormal clones in the placenta, remains to be investigated, but embryonic self-repair of its own