

Population Censuses and Surveys) would not have been possible using routinely available data. It will, however, be possible using incidence data once the office has completed the postcoding of addresses in the cancer registration files (working retrospectively back to 1971). It will not be possible using mortality data for the years before 1981 without a major recoding of address information.

In conclusion, the Office of Population Censuses and Surveys' report was not, and could not have been, a study of cancer risk among people living within two to three miles of nuclear installations. It is clear, however, from reports discussed in chapter 2 of the study that for some members of the public concern about possible risks extends at least as far as 10 miles. Data have now been presented that indicate cancer levels within these limits.¹

Dr Russell Jones considers the epidemiological evidence for an increase in childhood cancer in the vicinity of nuclear installations to be "consistent and compelling." In my opinion, a more balanced conclusion is that there have been some increases relating to different age groups and different distance zones in the vicinity of some installations and that there is as yet no clear evidence on what the cause of these increases might be.¹⁰⁻¹²

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Torsion of the testis: why is the prognosis so poor?

SIR,—We agree with Dr S Bennett and colleagues (28 March, p 824) that the principal cause for the present unacceptably high rate of immediate orchidectomy associated with testicular torsion is the delay in seeking medical advice by the patient or his parents.

In a study similar to theirs we analysed the case records of 90 consecutive patients who underwent urgent surgical exploration for suspected testicular torsion at St Peter's Hospital, Chertsey, Surrey, in 1978-84. This district general hospital also has a catchment population of about 300 000. Forty four patients, with a mean age of 15.7 years, were found to have an intravaginal testicular torsion, and nine of them required orchidectomy; the remaining

35 underwent bilateral orchidectomy. Twenty two patients (five orchidectomy, 17 orchidopexy) were initially seen by general practitioners, and immediate referral to hospital occurred in all but one patient, who received antibiotics for 48 hours before orchidectomy. Among the 44 patients the mean delay from onset of symptoms to surgery was 30 hours (range 12 to 72) in the orchidectomy group and 6.4 hours (range 1 to 20) in the orchidopexy group. All patients were submitted to surgery within three hours of arriving in hospital (mean 1.2 hours). Thus eight out of nine patients with testicular torsion required orchidectomy because they presented late either to their general practitioner or direct to hospital.

Our study confirms the need to educate the public to seek prompt medical attention for an acutely painful scrotum since the alternative may be castration by self neglect. For this group of patients there is a strong case for urgent self referral to hospital.

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SIR,—We agree with Dr S Bennett and colleagues (28 March, p 824) that the loss of testes after testicular torsion is now usually due to late presentation rather than to misdiagnosis by a hospital or general practitioner. In Oxford we have experienced less delay in presentation, and as a consequence our immediate salvage rate over the past eight years (103 patients) has been 78%.

An important aspect of treatment is the need for urgent detorsion once torsion has been diagnosed. Operative detorsion as usually practised in Britain inevitably entails some delay. In our last 31 patients the median delay from admission to operation was two hours five minutes (range 56 minutes to five hours). A delay of more than two hours is probably unacceptable, and greater use should perhaps be made of manipulative detorsion.¹ Successful manipulative detorsion must, of course, be followed by operative confirmation and bilateral orchidopexy.

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SIR,—Like Dr S Bennett and coworkers (28 March, p 824), we are concerned at the poor prognosis of patients with torsion of the testis, but we believe that their conclusions were influenced by the fact that their study was confined to patients aged 16 or under and included fairly few cases of torsion.

We reviewed 66 patients with testicular torsion (42 of them were 16 or under) presenting to two teaching and two district general hospitals in Northern Ireland in 1983-5. Eighteen cases were misdiagnosed: the rate of misdiagnosis was 19% in patients aged 16 years or under and 41% in those aged over 16. Late presentation (more than six hours after torsion) occurred in 26 cases: 45% of those aged 16 years or under and 25% of patients aged over 16.

Misdiagnosis is a continuing problem, occurring more often in patients aged over 16, while late presentation occurs more often in patients aged 16 or under. The authors' review, being confined to the younger age group, would not have detected this trend. We therefore believe that education of

both the general public and the medical profession about the condition and its vagaries in presentation is still required, especially with regard to presentation with abdominal pain and the difficulty of excluding torsion on clinical grounds.

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Head injuries in the elderly

SIR,—It is natural that Dr M C Charny and colleagues (21 March, p 770) should accept at face value the report from the United States about the limited value of skull radiography after head injury as the conclusions reached largely coincide with those drawn by the Royal College of Radiologists' study in Britain.

There are several reasons why this American study is not as relevant to Britain as is implied. In the United States there are seven times as many neurosurgeons and seven times as many computed tomography scanners per head of population. American doctors do not therefore face the same problem of triage for referral for scanning or consultation at (or transfer to) a neurosurgical centre. For these decisions, as well as for deciding which of the patients with head injuries who can walk and talk should be admitted to a general hospital for overnight observation, the detection or exclusion of a skull fracture is important. This is because the presence of a skull fracture increases by many times the risk of the development of an intracranial haematoma, the most common cause of avoidable mortality and morbidity after head injury. Yet the American study does not mention intracranial haematoma, and the estimates of risk in the Royal College of Radiologists' study were based on only seven patients with this complication.

Another problem is that neither the study from the United States nor that by the Royal College of Radiologists adequately separates children from adults. In the royal college's series 37% of the patients were aged 15 years or younger, and the American series had 6% under the age of 2 years; a fracture rate was quoted for those aged under 10 years, but there was no mention of what proportion of the series were in this age group. The importance of this distinction is that intracranial haematomas are much less common in children. In the west of Scotland 51% of patients with head injury attending accident and emergency departments were under the age of 15 but only 11% of 1100 patients undergoing operations for haematomas were. That is why we have so far published risk factors only for adults and why the guidelines published by a nationwide group of neurosurgeons in Britain also apply only to adults.¹⁻³ The application of these guidelines has led to a considerable reduction in the admission of adults after mild head injury, based on excluding a fracture. The guidelines have also led to earlier detection of haematomas requiring operation and to improved operative mortality and morbidity.⁴

It is unfortunate that Dr Charny and coworkers could not resist the opportunity yet again to denigrate the studies that have been conducted in Scotland for more than a decade. They assert that "guidelines for the management of patients with head injury cannot be derived from data on patients with head injury admitted to a neurosurgical ward as such patients are inevitably highly atypical of all patients with head injury." But our published estimates of risk factors for haematoma are based on samples of 2773 patients attending accident and emergency departments and 2783 admissions to primary surgical wards, with extrapolations to total populations at risk of around 27 000 accident and emergency cases and 5000 patients from primary surgical wards in the west of Scotland. The features that characterise adults with intracranial haematomas were, of course, discovered by analysis of patients who had undergone operation (540 adults for the published estimates). This seems a more reliable base than the seven cases of haematoma in the Royal College of Radiologists' study.

We agree with Dr Charny and colleagues that "progress is made by refuting the evidence of others rather than ignoring it." It therefore seems strange