Microphthalmos and anophthalmos and environmental pollutants

EDITOR,—Stuart Handysides draws attention to recent reports of anophthalmia.[1] In 1984 there was public anxiety in the area covered by Forth Valley Health Board in Scotland about emissions from a chemical incineration plant that was disposing of polychlorinated biphenyls. A review of morbidity in the area of the plant showed sufficient cases of microphthalmos to warrant further investigation.[2] A working party was set up to establish the prevalence of microphthalmos and anophthalmos in Scotland. It found no increased prevalence in the Forth Valley, nor any association to link the cases there.[3]

The working party identified liveborn infants with the condition in six health board areas during 1971-85. Ninety nine cases were found: 33 were associated with other eye anomalies, 41 were associated with other congenital anomalies, and 16 were part of a syndrome or chromosomal abnormality. The investigation was hampered by difficulties in ascertaining cases, particularly for children who had died. Twenty four sources of information were tapped. The yield from centrally recorded data—the Scottish neonatal discharge record (SMT 11), Scottish hospital inpatient statistics (SMR 1), and the school health service medical record card (SMR 10)—varied among the health boards; these three sources contributed 50% of the cases.

Greater Glasgow Health Board, with 31% of the total population, contributed 45% of the cases. It was the only health board with a well organised congenital malformation register. As well as defects apparent at birth being recorded, developmental screening of children by a health visitor on three occasions before their fourth birthday allowed newly detected abnormalities to be recorded. The register contained 90% of cases identified in this health board and was the sole source of identification for 40%, whereas the combined SMR data identified only 38%. The register identified the high mortality (40%) of microphthalmic children in this health board compared with a combined mortality of 13% in the five other health boards, two of which recorded no deaths.

A congenital anomaly register has now been set up in Scotland based on all the centrally recorded data. It will be as good as the various methods of recording data allow.

It was only a matter of time before another environmental pollutant came under suspicion of causing a congenital anomaly, raising calls for a proper epidemiological study. Until systems exist that allow accurate recording of congenital anomalies present at birth and of those recognised after the neonatal period such a study faces insurmountable difficulties. The system used by Greater Glasgow Health Board has much to commend it.

Advice to authors

Priority will be given to letters that are less than 400 words long and are typed with double spacing. All authors should sign the letter. Please enclose a stamped addressed envelope for acknowledgment.

Conclusions drawn from applying statistical techniques to incomplete data may be very misleading.

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1 Handysides S. Reports of anophthalmia under scrutiny. *BMJ* 1993;**306**:416. (13 February.)
2 Lenihan J. *Bonnybridge/Denny morbidity review: report of independent review group.* Edinburgh: Scottish Home and Health Department, 1985.
3 Scottish Home and Health Department. *Report of a working party on microphthalmos in the Forth Valley Health Board area, 1988.* Edinburgh: SHHD, 1988.

Ethical issues in randomised prevention trials

EDITOR,—Nicholas Wald shows that there is no inherent ethical conflict in setting up randomised controlled trials in clinical practice.[1] He does not mention, however, the choices that have to be made during execution of such trials, the ultimate allegiance of the clinician being to each patient separately while that of the researcher is to the overall trial design. In the ever changing conditions of real life the clinician would adjust any regimen to the patient's particular needs; in contrast, the researcher would do his or her best to make the patient conform with the standard set down by the protocol. Perhaps the practitioner conducting the trial should not be the patient's own doctor.

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1 Wald N. Ethical issues in randomised prevention trials. *BMJ* 1993;**306**:563-5. (27 February.)

EDITOR,—Nicholas Wald rightly emphasises the importance and the ethical nature of randomised multicentre prevention trials, but he makes two statements that cannot go unchallenged.[1]

Doctors do not, as he claims, exaggerate the distinction between research and medical practice. It is fundamental. Patients believe that their doctor, to the best of his or her ability, is following two rules: everything that is beneficial is being done, and nothing is being done that is not directly beneficial. In randomised prevention and therapeutic trials these rules are not followed. Patients are randomly assigned to treatments even if the doctor suspects that one form of treatment might be better. Observations are made that are not directly intended to benefit the patient. It is true that medical advice may be little more than an educated guess that proves wrong and that close supervision in a therapeutic trial may benefit the patient. This does not affect the ethical difference.

Patients subjected to research need the twin protection of informed consent and surveillance by ethics committees. I take issue with the view that district ethics committees are superfluous once central committees have approved a multicentre project. A single committee, even of the great and good, is not the source of all wisdom. For example, the research ethics committee of the Royal College of General Practitioners does not include a dietitian. Recently, this hospital's dietitian requested changes in the patient information sheet for a protocol approved by that committee. There are many in Bradford who read Urdu but not English, a point not always considered in London. No doubt circumstances vary in other districts in ways not obvious to outsiders. Local patients, investigators, and resources are known only to local people, and assessments must be made locally.

Better communication between the organisers of multicentre research and district ethics committees is needed. This is not a reason why district ethics committees should yield to pressure to abdicate their responsibilities to local citizens.

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1 Wald N. Ethical issues in randomised prevention trials. *BMJ* 1993;**306**:563-5. (27 February.)

Assessment of students

EDITOR,—In her review of methods of assessing students Stella Lowry argues the need for methods of assessment that match learning objectives.[1] Considerable advances have been made in the assessment of knowledge and clinical skills—for example, multiple choice questions and objective structured clinical examinations. In addition to providing the knowledge and skills needed for medical practice the new curriculum at the medical schools of the Royal London Hospital and St Bartholomew's Hospital aims to foster lifelong learning and awareness of strengths, weaknesses, and learning needs. As a part of this the development of skills in self reflection and self critique of performance is important for continuing learning and personal development.

A new formative assessment for third year students has been introduced this year—namely, an integrated workbook assignment. This entails interviewing a patient, tape recording the interview, selecting a section to transcribe, and analysing the communication process involved in taking the history. The student must also write up the medical history and examination findings and discuss the psychosocial, ethical, legal, and nursing considerations of the patient's case. This task, which follows on from a programme covering these subjects, incorporates the strands of communication skills, behavioural sciences, ethics, and law in the assessment. Students must complete a satisfactory workbook assignment before entering parts 5 to 10 of the MB, BS examination.

To overcome the problem of case specificity, assessment of the interview section is based not on how well the students did but on their ability to evaluate their communication with the patient. Their critique is verifiable by reference to the tape recording of the interview. Students do not have to search for the "ideal" patient. Even if they were not satisfied with their history taking their analysis of their performance, the difficulties or constraints perceived, and ideas for improvement are the most important material for assessment in this task.

The first cohort of 240 students has just completed this assignment. The students have reported useful insight from their self assessments and have been able to identify things they did well, problems, and how they could improve.

This method of assessment matches two key

aims in our new curriculum. Firstly, in relation to communication skills it addresses the development of students' skills in self awareness and reflective learning. Secondly, the workbook encourages the students to understand their patient as a complex person whose health and wellbeing depend on more than biomedical considerations. The depth and extent of this understanding have been shown in some work of exceptional quality and insight.

We believe that the integrated workbook assignment embodies the ideals of our curriculum and, in particular, has considerable potential for continuing the General Medical Council's recommended strands of ethics, law, behavioural science, and communication skills throughout the clinical course.

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1 Lowry S. Assessment of students. *BMJ* 1993;**306**:51-4. (2 January.)

Harvard's "new pathway"

EDITOR,—As one who taught on Harvard's "new pathway" during the two pilot years,[1] as well as on its traditional courses, I would like to make some comments.

The success of any programme rests on the faculty's enthusiasm and support. Teaching well takes time and often yields little tangible reward. Harvard's new pathway got through its pilot years relying on the motivated staff and fellows. This staff may not be available at many medical schools.

The greatest change in the curriculum produced by courses based on the new pathway is seen in the preclinical faculty. Preclinical staff usually have busy schedules and may not be particularly well oriented to clinical matters. For example, teaching, say, the pharmacology of tetracycline in the traditional way is usually fairly easy for a preclinical pharmacologist with a related scientific interest. Less easy for (and possibly of less interest to) preclinical staff is dealing with a case study for the new pathway; such a case might start with the pharmacology of tetracyclines, pass through their therapeutic use in general, and end on a debate about whether oxytetracycline should be used as prophylaxis for traveller's diarrhoea in Mexico. Team teaching, with both preclinical and clinical staff present at each session, may be a feasible alternative, given the staff available at most medical schools.

It is true that the new pathway was oversubscribed in both pilot years. During the first pilot year, however, there was a sense among the "traditional" class that their colleagues in the new pathway were taking an extraordinary gamble with their medical education. During the second year this feeling persisted, but less strongly. I do not agree with Stella Lowry that "special arrangements that had been made for the new pathway students had caused resentment among other students, who felt that they were being treated like second class citizens."

Lastly, the success rate at Harvard in the national board examinations has always been extremely high (as it is at most American medical schools). These examinations are probably a poor instrument for measuring the quality of medical education because they concentrate on factual retention.

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1 Lowry S. Making change happen. *BMJ* 1993;**306**:320-2. (30 January.)

Community based medical education

EDITOR,—Dr Nigel Oswald, cited by Stella Lowry,[1] is correct in implying that learning skills in clinical decision making requires seeing large numbers of patients in a short space of time. This, however, is an argument against rather than for community based learning.

This is illustrated by an example from our practice. An average general practice of 10000 patients refers 34 patients a year for assessment of breast lumps. A student attending a well directed breast clinic may personally see this number of patients in less than a month and be taught to make an accurate clinical assessment. She or he would have to spend a year in general practice to have the opportunity to acquire similar skills. To paraphrase Oswald, "It is more important to see 30 patients who might have breast cancer than five who do (but it is useful and likely that you will see them too)."

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1 Lowry S. Trends in health care and their effects on medical education. *BMJ* 1993;**306**:255-8. (23 January.)

Teaching how to elicit and interpret physical signs

EDITOR,—John R Hampton may be right to lament the decline in doctors' abilities to elicit and interpret physical signs, but I believe that he is wrong to conclude that training in the setting of general practice will sound the death knell of these skills.[1]

My memories of cardiac teaching rounds are of a dozen students queueing to listen to a murmur while the registrar stood at the end of the bed swinging a stethoscope and staring out of the window. Aware of restive colleagues, one listened hurriedly and joined the whisper going round the group: "What did you hear?" Coming back later on one's own was rarely useful: even if the relatives weren't round the bed there was rarely a doctor prepared to give guidance. "We don't spoonfeed you here" was one of the less excusable reasons given for declining to help floundering students.

Traditionally, doctors were trained by being apprenticed to established physicians. In hospitals the system has broken down under the pressure of numbers and new teaching methods are only slowly being found, but teaching in general practice has remained close to the tradition in which older generations of doctors learnt their skills.

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1 Hampton JR. Path to clinical confidence. *BMJ* 1993;**306**:595. (27 February.)

Move a medical school to Milton Keynes

EDITOR,—Why not move one of London's medical schools to Milton Keynes? Designated to receive most of its population from London, the city could now adopt one of its medical schools as well. There are precedents for such a move: during the second world war some students and staff from University College Hospital, London, relocated to Cardiff.

Milton Keynes has its own hospital; consultants and senior staff could move there with the medical school. Even the name of the medical school could be retained with just the postcode changed.

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Antenatal diagnosis of Down's syndrome

EDITOR,—The increase in antenatal diagnoses of Down's syndrome suggests a more widespread use of biochemical screening. This, and analysis of the results by David E Mutton and colleagues,[1] is to be encouraged but raises some interesting points which have potential implications for resource allocation. The two main reasons for antenatal screening are (*a*) to plan the most appropriate place and mode of delivery to minimise the hazard to neonatal life and (*b*) to offer termination of pregnancy if the diagnosis is made before 24 weeks' gestation (previously 28 weeks').

From Mutton and colleagues' raw data, assay of serum α fetoprotein concentration detected 21% of the detected cases in women under 35 while triple testing detected only 17%. This might suggest that assay of α fetoprotein concentration alone is better at detecting Down's syndrome than triple testing. The converse, however, is the case, and the difference can probably be explained simply by the more widespread use of assay of α fetoprotein concentration during the period studied.

Although the total proportion of diagnoses seems to be rising, the rise is steepest in those who historically have fallen into a high risk group—that is, woman aged 35 and older. This is not surprising as the algorithm to assign risk is weighted in favour of such cases. Unfortunately, around three quarters of cases of Down's syndrome occur in fetuses of women under this age, and in 1991 biochemical testing detected only 6·5% of all cases of the syndrome. From the analysis we do not know the proportion of pregnant women who participated in this form of screening, but it seems that around 48% of cases might be detected if triple screening was universal.[2]

Detailed ultrasound scanning detected 7·2% of all cases of the syndrome, though, again, the same rules apply—that is, what proportion of all antenatal patients underwent detailed scanning? Recently, however, Luck reported that in an unselected population detailed ultrasound scanning detected all of the cases of Down's syndrome when a physical abnormality was present.[3] At least half of all fetuses with the syndrome have a congenital heart defect, and many others have bowel atresias. Perhaps of greater importance, however, is that only half of liveborn infants with aneuploidies have Down's syndrome. Many of the other common aneuploidies (such as trisomy 13, trisomy 18, and Turner's syndrome-XO) are associated with physical abnormalities that are more readily appreciated on ultrasound scanning than the subtle ones associated with Down's syndrome.[4] Furthermore, ultrasound scanning detects other physical anomalies, of which some are associated with genetic abnormality. Many represent a hazard to neonatal life. If these anomalies are detected in good time the parents can receive counselling and the subsequent management of the pregnancy can be planned, so reducing the national perinatal mortality rate.[5]

Detailed ultrasound scanning has been shown to be cost effective as it detects most cases of Down's syndrome as well as other life threatening conditions.[5] Perhaps its wider implementation in early pregnancy should be an aim of all obstetric departments.

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