MEDICAL PRACTICE

Personal Paper

Measles again

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One of the attractions of the campaign for measles immunisation has always been that the benefits would be seen, if not exactly immediately, certainly within the space of a few years. These benefits are obviously the reduction in incidence, mortality, and morbidity due to the disease; eradication may be a utopian ideal which is theoretically possible but which in practice is difficult and expensive to achieve and to maintain—although 1982 has been set as the target date for eliminating the disease in the United States,¹ where acceptance rates for immunisation are high. Immunisation policy there has resulted in a tenfold decrease in measles mortality and morbidity.²

In Britain routine immunisation was taken up a decade after its introduction in the USA, and the reduced incidence of measles has been less dramatic; nevertheless, in round figures the average yearly notification in Britain has been reduced from 250 000 in the mid-fifties to about 50 000 in the mid-seventies.

Long-term effects

On the other hand, the long-term effects of measles immunisation, other than the lowered incidence, are only now being fully appreciated. Because these effects are difficult to measure, assessment of their possible meaning has been postponed. There is now probably enough evidence to make at least a preliminary judgment.

AN ADULT INFECTION

What are the long-term untoward results of measles immunisation? The most important is the changed incidence of the disease; measles from being characteristically a childhood infection will become increasingly an adult one. This has hardly begun to happen in Britain, but in the USA in 1977 65% of

affected individuals were over 10 years of age.³ Does this shift in the age incidence matter; cannot revaccination in latter childhood solve the problem? Unfortunately things are not quite so simple.

A study of 34 cases of measles in an outbreak at the University of California in the spring of 1977⁴ by Krause and colleagues emphasised some of the difficulties. Half of the affected patients thought that they were protected. Ten patients previously vaccinated developed typical measles, whereas of two subjects who had received killed measles vaccine, one had a severe attack of atypical measles. This syndrome, which is now well documented, includes high fever and unusual rash (including papules, blisters, and small haemorrhages) starting on the arms and legs and spreading to trunk and face. Koplik spots are not seen; there may be multiple opacities on the chest x-ray film. It appears to be a hypersensitivity phenomenon induced by killed measles vaccine that may be evoked either by subsequent wild measles infection⁵ or by attenuated vaccine.⁶ Even after an interval of 12 years⁴ from first vaccination this syndrome may be encountered.

Krause and his colleagues emphasised the problems encountered in vaccinating adults; 17% needed rest in bed and 16% had fever. One woman reported a temperature of over 38°C and remained in bed for six days. There were also prolonged multisystem complaints in three women.

In assessing problems with measles some facts are clear—vaccination with attenuated live vaccines is safe, and if undertaken after the age of, say, 15 months—highly effective (probably more than 90%)⁷; the precise duration of immunity is uncertain—but some young adults immunised in childhood develop the disease. Killed vaccine if followed by inactivated vaccine can induce atypical measles. Revaccination in adults appears to have a sizable incidence of side effects—some of which are severe.

Future policy

What then should be a rational policy for continuing measles immunisation in Britain? Should we continue the present official

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policy, which is that all children should be immunised in the second year of life? In practice this policy is taken up very haphazardly producing what might be called an entirely "laissez-faire" position. It could be argued that this produces the worst of all worlds—in that measles continues in the community—although admittedly at a considerably reduced incidence; we will tend, on the lines of the American experience, to make measles an adult disease as a result of loss of vaccine-induced immunity in the group aged over 15, and may also produce a considerable body of susceptible adults who have never been immunised and who escaped the disease in childhood because of partial success of the present immunisation programme.

A second alternative is to emulate the American programme for eradication. It remains to be seen if the USA policy succeeds, and in any event acceptance rates in Britain are never likely to reach the 80-90% that eradication seems to demand. With very rapid communications to countries where measles is still endemic, eradication of measles in Britain at present is a non-starter.

We are left with a policy of selective immunisation—that is, the policy of routine immunisation should cease and be replaced by one in which only vulnerable patients are offered vaccine. Admittedly there might be some difficulty in identifying all vulnerable children, but a start could be made by including those with chronic respiratory disorders, Down's syndrome, and those underweight; the severe malnutrition in African children, which appears, in part at least, to account for the high measles mortality in that continent, is not seen in Britain, but it would

seem wise to include poorly nourished children in a selective measles immunisation programme. The results of this selective immunisation would be a rise in the overall incidence of the disease, prevalent for the most part in children, with little or no commensurate rise in mortality, given that the selection and immunisation of susceptibles had been successfully achieved. A further benefit might accrue from reduced expenditure on vaccine and serological testing.

This policy might be summed up as the use of measles vaccination as a compromise between the ideal of eradication and the natural incidence of the disease—but selective immunisation would be a planned compromise rather than the haphazard compromise inevitably produced by present policy.

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Pathological investigation of maternal deaths: a cause for concern

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The latest report on confidential inquiries into maternal deaths in England and Wales covering the years 1973-5¹ is critical of the standard of reports provided by some pathologists performing necropsies on maternal deaths. In particular the inadequacy of the histological data is emphasised. Thus for the first time the compilers of the report have accepted only cases of amniotic fluid embolism that have been confirmed histologically. In previous reports over half of the cases have been included on the basis of clinical data alone.² There is also criticism that the source of pulmonary emboli is often unsought. Such criticisms are clearly valid,³ and while to some they may seem rather minor points they must be an indication that these clinical tragedies are not always given the attention they deserve at necropsy.

At a time when the value of the necropsy has been questioned⁴ and the number of necropsies performed in hospitals has declined⁵ these criticisms should arouse much concern among morbid anatomists. It is all the more unfortunate in that obstetricians were the first to attempt to audit their clinical practice by producing the confidential inquiries into maternal deaths, and undoubtedly an enormous amount of work by both the obstetric and anaesthetic assessors may be at least partially confounded by inadequate pathological reports. The purpose of this paper is to indicate the size of the problem and suggest some ways in which the pathological component of these inquiries might be improved.

Size of the problem

The current report deals with 390 deaths, which represent 94% of the known deaths. Thus on average during 1973-5 about 140 maternal deaths occurred a year. Probably the current annual rate is somewhat lower. Of these, 235 deaths were directly attributable to pregnancy or childbirth and 155 were due to associated causes. Attributable deaths are defined in the Fédération Internationale de Gynécologie et Obstétrique classification as deaths occurring within six weeks of delivery. The report, however, does include eight true maternal deaths and 45 associated deaths occurring after this period. The major causes of true maternal death include abortion, pulmonary embolism, haemorrhage, and hypertensive disease in pregnancy. These four categories account for just over half the deaths, but further important causes cited include ectopic pregnancy, sepsis, amniotic fluid embolism, and ruptured uterus. Among the associated deaths blood diseases, epilepsy, intracranial haemorrhage, neoplastic disease, and suicidal or accidental death are the most common causes.

Purpose of the necropsy

The prime purpose of the necropsy is to determine the cause of death. The determination of the cause of death, however, does not absolve the morbid anatomist from further responsibility in the investigation of maternal deaths. In the past he has contributed considerably to knowledge of both the normal and abnormal changes occurring in pregnancy. The discovery of

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