MMR IMMUNISATION: THE REALITY

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"Falsehood flies and truth comes limping after; so that when men come to be undeceived it is too late; the jest is over and the tale has had its effect." – Jonathan Swift.

BACKGROUND

Many of the journal's readers will remember only too well the days when measles was a universal infection of childhood. In most cases it was a mild disease, but complications occurred in up to 15% of cases, ranging from diarrhoea and pneumonia through to encephalitis and subacute sclerosing pan-encephalitis. The mortality was 1:5,000, i.e. 100 deaths per year in the UK. Although the immunocompromised were more at risk, 50% of the mortality was in previously healthy children.

Measles immunisation was introduced to the UK in 1968, and within two years the incidence of measles had fallen by 75%. This fall continued and by the early 1990s the UK mortality was less than three per year. Measles infection continued to occur in the unvaccinated and in cases of vaccine failure. Ten percent of patients fail to respond to the first dose, but 90% of these will respond to the second dose.

Statistics illustrate that in order to prevent epidemics there needs to be over 90% herd immunity⁽¹⁾. The current schedule is for the first dose (MMR1) to be given at 15 months of age and a booster at four to five years. The booster was introduced in 1996.

THE CONTROVERSIES

In the early 1990s adverse media publicity, together with public complacency, affected the uptake of MMR in the USA. This resulted in 46,000 reported cases of measles, 5,000 hospitalisations and 130 deaths, i.e. even in a developed country measles was still a potentially fatal disease.

In the UK, an article in the Lancet in 1995⁽²⁾ linked the MMR vaccine with Crohn's disease and in 1998 a separate study reported a link between MMR, gastrointestinal disease and autism⁽³⁾. Both these articles were given massive adverse press coverage with consequent eroding of parents' confidence in the immunisation. A recent Health Education Authority survey⁽¹⁾ found that 20% of mothers consider the vaccine to have a moderate or high risk of side effects.

In spite of subsequent scientific evidence from Finland, the USA and the UK suggesting that these adverse reports are unfounded and that there is no link between MMR, Crohn's disease and autism, the damage has been done. The press rarely give much prominence to negative findings which

exonerate the safety of medical interventions. Neither do they report that measles, as well as mumps and rubella, still cause substantial morbidity and mortality, and that the incidence is inversely proportional to the vaccine uptake.

PERSONAL EXPERIENCE

During her GP VTS training, one of the authors (RB) was asked by several mothers and nurses whether the MMR booster immunisation was safe, and should they allow their child to have it? She realised that she was struggling to find firm answers to these questions and wondered how health professionals on the front line would respond to such questions.

The opportunity came for her to find this out during her paediatric post in May 1998 when she undertook a study looking at the attitudes and practices of GPs and health visitors in relation to the MMR booster immunisation.

The study

An anonymous questionnaire was sent to all GPs and health visitors in Lancaster and Morecambe. Table 1 shows the more pertinent questions, together with responses from the two groups.

	GP		health visitor	
	% yes	% no	% yes	% no
do you notice a difference in compliance with other vaccines?	45	49	86	14
do you have enough information?	96	4	57	43
has this altered the strength of your advice?	26	74	36	60
would you have your own child immunised?	91	9	64	36

Table 1 Questionnaire on MMR booster to GPs and health visitors

This study illustrates that over one third of the health visitors surveyed either do not feel confident with the National Immunisation Guidelines, or believe that the potential risks of the MMR booster vaccine outweigh the benefits. Of the GPs surveyed, there is less evidence of a fall in confidence in the vaccine, although 9% would not have their own child immunised.

Comments

Assuming that GPs and health visitors are the main medical advisers of parents, one might assume that this lack of confidence, or doubt in the vaccine, would be reflected in the

message that parents are actually receiving. Fortunately there is not much evidence to support this in Lancaster and Kendal at the present time. Statistics confirm that the uptake for MMR1 vaccine is 94% in Cumbria and 86% in Lancaster in 1998, compared with 97% and 94% in 1994. The uptake for the MMR booster has never reached these figures since its introduction in 1996. Lancaster statistics show a steady rise to 80% in March 1998 but this has since reduced to 73%. Only time will tell whether this is the beginning of a downward trend, or within the limits of acceptable variation.

Is there a need to provide more information and reassurance to our frontline care-givers? The consequences of not doing this may be a measles epidemic (with a mortality of 1 in 5,000), which one imagines would restore confidence in the vaccine.

Would it be reasonable to publicise what we do and don't know, i.e. we cannot guarantee that MMR vaccine is totally without complications? We do know, however, the incidence of adverse effects of the eight million doses of MR given in the UK immunisation campaign of 1995 (Table 2). This campaign prevented 150,000 cases of measles, which would have caused a mortality of about 30. Would it be prudent for GPs and health visitors to keep a copy of this table, which illustrates that the risk of disease is far greater than the risk of immunisation?

	measles	measles vaccine
hospital admissions	1:100	0
convulsions	1:200	1:1000
meningitis/encephalitis	1:200-1:5000	1:1,000,000
subacute sclerosing pan-encephalitis	1:8000	0
death	1:5000	0
allergic response	0	1:100,000

Table 2 Relative risks of natural measles infection and MMR vaccine

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