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VACCINATIONS

PREVENTION OF DISEASES CAN BE A CAUSE OF ILL HEALTH

The vear 2000 in retrospect

The year 2000 will be remembered as a turning point in the history of vaccinations. Concepts that have been traditionally ignored in vaccination research became familiar. Terms such as 'ill health', 'good health' or 'non specific effects on health' were suddenly widely used.
Until recently the only questions raised in the medical literature have concerned the effectiveness and the specific side effects of a particular vaccine. These questions were often the basis of endless discussions between the pro- and anti-vaccination groups. The difficulty to surpass such a narrow viewpoint is rooted in the time when babies were offered only one or two vaccinations. Today the main question should concern the interactions between the great number of vaccines routinely offered to modern babies. Researchers, practitioners and parents should think first in terms of good health and bad health. This is not easy to do especially when you have been brainwashed with the dangerous concept of 'preventive medicine', which suggests that health is the absence of disease and that the longer the list of diseases you prevent, the healthier you are. The year 2000 has offered opportunities to realize that the prevention of diseases may be a cause of ill health. On the one hand we have learnt from studies of the 'Gulf war syndrome'. One the other hand we have learnt from studies about child mortality in the third world.

Shots in the desert

Everybody heard about the so-called 'Gulf war syndrome'. It is now well accepted that there were increased rates of ill health in those who served in the Gulf around 1990. The veterans reported such a great diversity of symptoms that doctors were obliged to create the new entity of 'CDC multisymptom illness' (CDC = Centers for Disease Control and Prevention). The important point is that researchers had to renew their concepts and their usual vocabulary in order to explore the "role of vaccinations as risk factors for ill health in veterans of the Gulf war"(1). This was the exact title of a large study published in May 2000 in the British Medical Journal (BMJ). The mere title clearly indicates that the objective was to study the long term non specific effects on health of a complex combination of vaccinations. Of course our interest, in the framework of primal health research, is not in the vaccinations of adults, but in the vaccinations of babies. However we must be aware of the studies of multiple vaccinations of adults, because they undoubtedly influence the way we raise questions about vaccinations during the primal period.

Valuable studies of the Gulf war syndrome are possible because tens of thousands of servicemen participated in the conflict. For example the UK deployed 53 462 military personnel. Many of them received biological warfare vaccines (anthrax and plague). Whooping cough vaccine was always associated with plague as an adjuvant. They also received routine vaccines such as tetanus, cholera, poliomyelitis, typhoid, yellow fever, hepatitis B and IgG for hepatitis A. In 1997, Rook and Zumla offered theoretical reasons to implicate multiple vaccinations as a possible cause of ill health in Gulf war veterans(2). All these vaccines tend to unbalance the immune system and to deviate it "towards Th2". They also underlined that stress hormones (cortisol) and pesticides tend to exaggerate such deviations. According to the study published in BMJ, multiple vaccines received during deployment multiplied by 5 the risks of having the 'multisymptom illness'.

This study should be remembered for its historical interest. The questions regarding vaccinations were not raised in terms of effectiveness and side effects, but in terms of non specific effects on health. The concept of ill health, which implies the concept of good health, was introduced in the mainstream medical literature.

Lesson from Guinea-Bissau

Guinea-Bissau, in West Africa, is one of the world's poorest countries. It has one of the highest mortality in childhood. In such a context it is possible to use child survival as a criteria of health. A Danish team of researchers looked at child survival in order to study the non specific effects on health of different vaccines(3). The study involved 15 351 women and their children born during 1990 and 1996. The vaccination schedule recommended in Guinea-Bissau is BCG and polio at birth; diphteria, tetanus, and pertussis and polio at 6, 10 and 14 weeks; and measles at 9 months of age. The mortality over periods of 6 months was evaluated.

The findings show that both BCG and measles vaccines halved child mortality. The significant reduction in mortality was unrelated to tuberculosis or measles deaths: it appears that BCG and measles vaccines have a non-specific beneficial effect on health. On the other hand, children who received the combination of diphteria, pertussis and tetanus (DPT) and polio vaccines had a risk of death multiplied by 1.84.

The authors interpret their findings with caution because the inquiries were performed in difficult circumstances. However selection biases are unlikely, because different vaccines were associated with opposite tendencies. The report of this recent study should be instrumental in transmitting the concept of non specific effects on health of early multiple vaccinations in infancy.

In fact there have been previous studies in the third world suggesting that measles vaccines influence child mortality. As early as 1991 a prospective randomised study (86.7%) among the non vaccinated. in rural Senegal detected an increased mortality at 41 months among children who had received an high-titre measles vaccine at 5 months, compared to those who had received a standard low-titre vaccine(4). None of these deaths were related to measles. Another study in rural Senegal, published in 1993, demonstrated a divergent mortality for male and female recipients of low-titre and high-titre measles vaccine(5). In 1995 an analysis of all studies comparing mortality of unimmunized children and children immunized with standard titre measles vaccine in developing countries lead to the conclusion that standard measles vaccine has a beneficial effect which is unrelated to the specific protection against measles disease(6). These studies were conducted in countries as divers as Bangladesh, Benin, Burundi, Guinea-Bissau, Haiti, Senegal and Zaire.

And what about babies in wealthy countries?

The lessons from the Gulf and from the developing countries inspire inescapable questions. What about the possible long term effects on health of the complex vaccination schedules offered to babies in wealthy countries? It is currently difficult, even impossible, to provide valuable answers to such questions. Child mortality rates are so low that they cannot be used as criteria. Also vaccination rates are so high that it is difficult to establish a control group, that is to say to compare the health of a vaccinated group with the health of a non vaccinated group. The non vaccinated children often belong to families who are unconventional where their attitude to health is concerned. This means that there are many possible confounding factors that only a randomisation might eliminate. Unfortunately we cannot learn either from epidemiological studies of certain aspects of ill health - such as asthma or diabetes in childhood - which are mysteriously frequent in the industrialized societies. Researchers who try to detect risk factors for such diseases take into account a great number of variables…but they always forget to look at the immunization status(7,8,9).

In spite of all these difficulties the results of our three-step inquiry suggest that the non specific effects on health of early multiple vaccinations are real in wealthy countries as well. Furthermore there are striking similarities between the results of our inquiry and the results of studies conducted in other contexts, particularly in the context of Guinea-Bissau. We also came to the conclusion that whooping cough vaccination, and the vaccinations usually associated with whooping cough, have a negative effect on health (10), while BCG has a positive effect (11).

For those who did not read our summer 1994 newsletter (vol. 2 no.1) or our autumn 1998 issue (vol. 6 no.2) let us recall that we first analysed criteria of health in a population of 446 children (mean age 8 years) who was homogeneous in terms of infant feeding (all children had been breastfed more than a year and had received only breastmilk during the first 6 months). None of them had received BCG. In this particular population there were significant differences when classifying the children according to whooping cough (pertussis) vaccination(12). When presenting the results we focused on pertussis vaccination (always associated with diphteria and tetanus) as a risk factor for asthma in childhood. To the question: 'Has your child ever been diagnosed as asthmatic?' there were 26 positive answers in the immunised group (10.69%) compared with 4 in the non immunized group(1'97%). The

difference is highly significant (95% confidence interval 1.93 – 15.30). We did not find the same difference between the two groups with respect to the diagnosis of eczema (13). In fact there were significant differences when other criteria of health were considered. Among the 243 pertussis vaccinated., 130 had ear infections versus 59 among the 203 non vaccinated. We also looked at the time spent in hospitals as criteria of health. Among the vaccinated children 173 (71.2%) have never been hospitalized versus 176 (86.7%) among the non vaccinated. More precisely, 53 children have been hospitalized for less than 5 days and 17 for more than 5 days in the vaccinated group, versus 24 and 3 in the other group. When we considered "other diseases" (i.e. not ear infection, asthma , eczema and whooping cough),there were 84 cases in the vaccinated group (34.6%) versus 49 in the non vaccinated group (24.1%). From this inquiry we could conclude that children who are not immunized against whooping cough are in better health than those who are immunised.

The second step of our inquiry is represented by our study of 274 pupils of British Rudolf Steiner schools. 125 of them had been immunized against whooping cough versus 149 non immunized. Among the 125 pupils vaccinated against whooping cough, 23 (18.4%) were diagnosed as asthmatic, versus 6 (4.02%).The difference was once again statistically significant.

The link between pertussis vaccination and asthma in childhood was to a certain extent confirmed by an American study that used data from the Third National Health and Nutrition Examination Survey on infants aged 2 months through adolescents aged 16 years(14). DTP or tetanus vaccination appeared to double the risk of allergies and related respiratory symptoms in children and adolescents. Unfortunately, in this study, children who had received tetanus only were mixed with those who had DTP.

The third step is represented by an analysis of the medical records of the 210 pupils of the French Steiner school La Mhotte. Pupils of Steiner schools belong to families whose lifestyles are apparently similar, whatever the side of the Channel. However there are differences where vaccinations are concerned. French immunised children usually receive BCG at birth or a very early age. None of the children who had received both whooping cough vaccination and BCG have been diagnosed as having asthma. We came to the conclusion that BCG protects whooping cough immunized children against asthma.

This protective effects of BCG contributes to explain differences between countries. In countries with the highest prevalence of asthma, BCG is not routinely offered (e.g. UK, New Zealand, Australia, Republic of Ireland). Before the fall of the communist system, BCG during infancy was routine practice in Eastern Europe. The rates of asthma in childhood and adolescence in such countries is comparatively low. School children in Leipzig, East Germany, born three years before unification, still had a comparatively low rate of asthma in 1995-96, whereas the prevalence of atopic sensitization was already increasing(15).

The first conclusion of our inquiries is that we detected negative effects on health of pertussis vaccination (and the usually associated vaccines), while we detected positive effects of BCG. The second conclusion is that we have a lot to learn about the interactions between vaccinations. Today it would be ethical to start long term prospective randomised controlled studies. This is the most reliable method to evaluate the ratio of benefits to risks for any medical procedure. The very first step is to divide a population into two (or more) groups by

drawing lots (randomisation). One group is randomised to receive a treatment. Another group is allocated another treatment. Then there is a long period of follow-up, so that comparisons are possible. Where mass vaccinations are concerned, it would be unethical (immoral ?) to continue the current programmes without starting prospective randomised controlled studies of the non specific effects on health of different combinations of vaccines.

HOW CAN INFORMED PARENTS DECIDE ?

It is difficult to play the role of parents at the dawn of the 21st century. Today parents are condemned to constantly make choices. Choices are more difficult in certain countries. There are differences between countries such as the UK, where vaccinations are not obligatory, and a country like France, where there is a list of obligatory vaccinations. Finally the questions raised by the parents are the same everywhere and the decisions are more or less open to choice.

As long as early multiple vaccinations are not evaluated via the most reliable methods, the only hard data we have at our disposal are about effectiveness of a particular vaccine and possible short term adverse 'reactions'. For example nobody can evaluate the life expectancy of babies who received ten vaccinations compared with those who did not receive more than one or two. That is why parents (and health professionals) must take into account their beliefs, their intuition, their worries and their personal attitude regarding risk calculation.

Meanwhile the only strategy one can suggest to parents is to try to shorten the list of vaccines the child will receive. They must look at the different vaccines one by one and take into account how serious is the disease the vaccine is supposed to prevent , how effective the vaccine is and what we know or suspect about the short- and long- term side effects. They must also take into account the geographical context. The risks of catching certain diseases depend on the place where people live

Parents should begin by considering the components of the widely used combination diphteria – tetanus – pertussis. They should focus first on pertussis (whooping cough) which is never obligatory but is routinely associated with the two others. It is not a very effective vaccine. There have been epidemics among vaccinated children (e.g. the Cincinnati epidemics). According to the Guinea-Bissau data and our data it has a detrimental effect on health. On the other hand the disease whooping cough may be life threatening during the first year of life. However it is noticeable that in Japan and Sweden babies do not receive pertussis vaccination during the year following birth (in Sweden because this vaccine was excluded from the routine programme in 1979). Yet Japan and Sweden have the lowest infant mortality rates in the world (that is the rate of deaths before the age of a year). There is no doubt that the absence of pertussis vaccination is compatible with exceptionally low infant mortality rates.

There is no risk of catching diphteria in Western Europe or North America. The main reason parents still have to vaccinate against diphteria is the desire to participate in a global effort to eradicate the disease.

Tetanus vaccination is undoubtedly highly effective. It has long lasting effects. The risks of adverse reactions are very low. On the other hand tetanus is a life threatening disease. Parents

are in an uncomfortable situation when a child is injured or burnt. In the casualty department the medical staff is obliged to inject an immune globuline (passive immunization), which can induce severe allergic reactions. They will start a vaccination at the same time.

When the association diphteria – tetanus – pertussis is reduced to tetanus, it implies that the antigen load is minimal and the amount of ajuvants as well. These are aluminium hydroxide - a potent inducer of IgE response(16) and a mercury derivative (not in the USA).

In industrialized countries the main reason to vaccinate against poliomyelitis is the desire to participate in a global effort to eradicate the disease. Today, in such countries, the only cause of paralytic polio is oral vaccination. In the USA, the last case of non vaccine induced paralytic polio occurred in 1979. The issues are different for those who plan to live in third world tropical countries.

MMR (measles, mump, rubella) is highly topical. Many parents are cautious because they heard of MMR as a possible risk factor for chronic bowel diseases and autism. There is a lack of hard data. The absence of prospective randomised controlled studies leads to sterile discussions. The media made a misleading report of a Finnish study that was supposed to rule out 'categorically' the link between MMR and autism. In fact it was a non controlled study(17). This means that there was no possible comparison with a non immunized population. This study was not designed to evaluate MMR as a possible risk factor for autism. One can understand parents who prefer to avoid MMR and also those who would like to do measles only. This is easy in certain countries (e.g. France). It is more difficult in the UK, because there is no monovalent vaccine available on the NHS. However it is possible. Parents can visit www.argonet.co.uk/users/jabs.

Hib (Haemophilus influenza type b) is a rare cause of meningitis today and many adverse reactions have been reported.

Mass vaccination against group C meningococci is a British phenomenon. Let us quote a 1999 commentary in the Lancet : « The introduction of any vaccine that targets only a fraction of the population of a bacterial pathogen should be viewed as a large-scale experiment in bacterial population biology ». Let us recall that five of the 13 meningococcal serogroups commonly cause disease. The most common bacterial meningitis is related to group B, for which there is no vaccine. B meningococci disease has increased in 2000 (18). Why ? The C vaccine called MMC ('meningococcal serogroup C conjugate vaccines') is undoubtedly effective compared with the plain C polysaccharide vaccines, but there are uncertainty about its long term effects.

Hepatitis B vaccine is included in the series routinely offered to babies. Parents who are themselves sero-negative may be reluctant to vaccinate their child. Let us recall that it is first a sexually transmitted disease. Certain health professionals can be at risk of being contaminated. Drug addiction with exchanges of needles is another risk factor. Contamination via pharmaceutical blood products is unlikely today. Finally parents have many reasons to postpone their decision, at least until puberty.

Mass chicken pox is an American phenomenon.

As for BCG, it is not routinely included in the vaccination programmes in English speaking countries. According to the data we have at our disposal, it would not be wise to vaccinate against whooping cough children who have not previously received BCG. There is also the issue of children living in a family where there is a TB person.

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Our objective is not to study in depth all the vaccines that can be used in infancy. It is just to suggest a strategy to parents who are obliged to make a choice.

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