Fallout of the Enterocolitis, Autism, MMR Vaccine Paper

On the 28th Feb 1998 The Lancet published a paper by Andrew Wakefield[1] that proposed a new condition of enterocolitis, regressive autism and an association with MMR vaccine as the apparent precipitating event. At a press conference describing the 12 children case series he urged the use of single vaccines instead of MMR. The study generated immediate alarm and controversy. After its publication the findings had far reaching consequences. The implication that the MMR vaccine could precipitate Crohnâ s disease and Autism was widely disseminated by the media. Attempts by the health authorities to reassure and calm fears were ineffective. Parents became extremely alarmed. Public confidence in the MMR vaccine was undermined and immunisation rates fell sharply below the critical 92% required for herd immunity. There was a rapid resurgence in the numbers of children affected with measles. Dublin was particularly badly affected.[2] A paper published in 2003 describing the Irish experience of measles reappearance received worldwide attention[2]. It graphically illustrated the damage that can be caused when a vaccination programme is impaired. A total of 355 children attended Temple Street A&E with Measles and 111 were admitted with either pneumonitis or dehydration. Seven children required ventilation and 3 children died.

The allegations against the MMR vaccine were difficult to refute and the restoration of confidence in the vaccine was painfully slow. An IMJ commentary in 2000 stated that the current large number of children developing Measles was due to the significant reduction in the proportion being administered MMR vaccination[3]. Vaccination rates were as low as 75% in some parts of the country. The Dept. of Health had become very concerned. The then Minister for Health and Children Michael Martin launched â A Vaccination Awareness Campaignâ to highlight the problem. Despite everybodyâ s best efforts the problem of low vaccine uptake rumbled on. This is not surprising. Allegations of vaccine risk are difficult to defend. In relation to vaccination, todayâ s allegation is remembered long after tomorrowâ s explanation is forgotten.

It is important to consider how the Measles crisis arose. There was a hypothesis that wild Measles infection in infancy could increase the risk of Crohnâ s disease in later life. It was also suggested that there was a temporal relationship between the rising number of cases of Crohnâ s disease and the introduction in 1968 of live attenuated Measles virus vaccine in the national schedule in the UK. Many observers at the time, however, had reported that the increase in Crohnâ s had taken place much earlier. Following the publication of the Lancet paper implicating MMR, many research groups applied PCR techniques to examine tissue from inflammatory bowel disease cases for Measles virus. None found the Measles virus genome sequence in the samples. Thus the association between Crohnâ s and the MMR was refuted. In the case of Autism, there are good epidemiological studies showing that Measles vaccination does not precipitate its development.

The investigative journalist Brian Deer working mostly for The Sunday Times has followed and written about the story since 2004. In the last month he has written 3 successive articles bringing all the complex strands of the case[4].

In 2004, ten of the Lancet paperâ s 13 authors retracted the section which claimed an association in time between MMR, enterocolitis and regressive developmental disorders. In 2006, The Sunday Times published an article implying that the study had a conflict of interest in that payments had been received from a lawyer who hoped to bring a lawsuit against vaccine manufacturers. In 2007 the General Medical Council opened its case alleging serious professional misconduct against the papers 3 senior authors. In May 2010 the GMC panel ordered Wakefield and Walker Smith to be erased from the medical register. Wakefield was found guilty of subjecting children to invasive procedures that were clinically unjustified. Walker Smith was deemed unethical. The inquiry which took 217 days cost 7 million.

In Feb 2010 the Lancet finally retracted the paper[5]. Richard Horton, editor, described aspects of the paper as utterly false and said that he felt deceived. Particularly in relation to the claims that the children were consecutively referred and that the investigations were approved by the local ethics committee. He said that the Lancet had done what it could to establish that the research was valid by having it peer-reviewed but that there is a limit to what peer-review can ascertain. He went on to say that the entire system is dependent on trust. For the most part it works well but there will be instances where things will go wrong. Harvey Marcovitch commenting in the BMJ asks why it took more than a decade for the Lancet to retract the paper. He added that scientific fraud may be more common than we think quoting a review that 2% of scientists admitted fraud while 14% believed that colleagues had falsified data.

The important issue is that we learn the lessons from the controversy. Prevention of research adverse events is as important as the clinical activities in medicine. Scientific inaccuracy can have serious consequences for patients such as the Measles recrudescence that occurred in this instance. We all have a reasonable grasp of what constitutes good research but the big difficulty is its implementation. Research governance depends heavily on individuals being prepared to freely give up their time and expertise. Common examples are those who serve on ethics committees and those who peer-review manuscripts. These â volunteersâ are essential to medical and scientific research activities. They are the guardians of good standards and their contribution deserves greater recognition.

A good immunisation programme is one of the cornerstones of optimal child health. Challenges will continue to arise from time to time. Unsubstantiated fears must be quickly addressed before they become fixed in the public mind.

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References

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