

**Essay: It is time to face up to the problems of MMR vaccination and its possible relationship to Autism.**

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Since Wakefield published in the Lancet his observation that MMR vaccine might be involved with the development of autism, literally hundreds of publications have appeared that denied this possibility. (1,2,3)

Invariably, these publications used epidemiological data to make their print. (2,3) It is common knowledge that epidemiologic statistics can **not** establish absolutely that something does not occur, ie: “absence of proof is not proof of absence.” (3)

During the past seventeen years, concomitantly with the furor that occurred after Wakefields’ observation, hundreds of observations have appeared on internet chat rooms and in the public press that concluded that autism did appear after MMR vaccination. The observers were ,in the main, anguished parents whose children were affected with autism. When one listens to these parents carefully, it is hard to not conclude that in this case “where there is smoke there may be fire.” (4)

Accordingly, if for no other reason than to reassure these and other parents that MMR vaccination is safe, some surrogate studies in this regard are in order. By surrogate studies I mean carefully scripted in vitro studies that might reveal not only how MMR vaccine can cause autism but how this hypothetical phenomenon might be prevented. This suggestion was made in the 1980s by Westall and Root-Bernstein who used as their experimental model experimental

allergic encephalomyelitis (EAE). (8)

Their work has been expanded and followed up on by a group of brilliant, dedicated researchers. Their body of work led to the suggestions that I have made here regarding surrogate experiments that should be done to approach the understanding of mechanisms that are possibly involved in MMR vaccine causing autism and to approach methods of prevention of a phenomenon of this type should it occur. (4-16)

The suggested studies of this type are as follows:

1. Since it has been repeatedly suggested that molecular mimicry is involved in acquired autoimmunity, the antigens in the MMR vaccine should be studied in regard to their having molecular mimicry with cells in the brain that may be involved with autism. Molecular mimicry may be defined as an autoimmune phenomenon that occurs when an antigen is introduced into a host that has polypeptides that are identical to or similar to those in the host's tissues. As a result, the host's immune system produces T or B cell clones that attack the tissue of the host in which the commonly held polypeptides reside. (7-16)

2. The antigens in the MMR vaccine should be studied to determine whether they have chemical complementarity with common viruses that exhibit molecular mimicry to cells in the brain that may be involved with autism. (8)

3. It should be determined whether children whose autism surfaced after MMR vaccination have a distinctive immunologic pattern of human lymphocyte antigens (HLA). (15)

4. A well crafted study regarding the immune patterns of children with autism should be done

to determine if children whose autism surfaced after MMR vaccination had developed the abnormal immune parameter of the type so beautifully revealed by the work of Singh. (5) The next step would be to determine if transfer factor normalized these abnormalities. (6)

5. Children who have the HLA patterns characteristic of those found in autism should be studied before and after MMR vaccination to determine if the vaccination evoked clones of T or B cells that reacted against cells that are thought to be involved in autism. Gran, Hemmer and Martin have published the methods by which this might be done. (14)

6. While these studies are being done it would be reasonable to stop the giving of multiple antigens at one time because of the possibility that these combination antigens may be a precipitating factor in the development of not only autism but of other acquired autoimmune diseases, such as multiple sclerosis. (8).

7. Finally in vitro studies based upon the work of Westall and Root-Bernstein (8,9) should be made. These would entail giving mice or rabbits genetically susceptible to EAE each proposed vaccine along with BCG or another immune adjuvant to see whether the animal developed EAE or another autoimmune syndrome. Until that is done, giving multiple antigens at one time to children should be prohibited. (8,9,13)

Will these studies be done or these added precautions be instituted in view of the fact that organizations such as the prestigious National Institute of Medicine feel that the matter is closed?(3) They will only occur if the parents of the children involved, through all avenues open to them, insist on it, for example, through their senators and house representatives, the internet,

and attorneys who will advise the companies that make vaccines that these types of studies may protect them from future legal problems.

Until this is done there will be a cloud over MMR vaccination in spite of the fact that we all know MMR vaccination has been of benefit to children throughout the world.