



## No.57 – Vaccinations and ITP: An ounce of

**American Perspective** reprinted from: **Jun 2016**

Title: **Vaccinations and ITP: An ounce of prevention**

Authors: **Prof James N. George, M.D., Prof Spero Cataland, M.D., Dr Cindy Nuenert M.D.**

Questions about ITP and vaccinations usually come about in one of two ways. First, is there a link between vaccinations and the development of ITP? Second, can people on medications that weaken the immune system, such as corticosteroids or rituximab, safely receive vaccinations? Vaccinations cause our bodies to react to a particular bacteria or virus and create a response from the immune system. This way the next time our body sees that bacteria or virus it is ready to fight and prevent us from getting the disease. Some vaccinations use bacteria or viruses that are killed, while others use live bacteria or viruses. Because vaccines are “stimulating” the immune system there is concern that this can lead to “confusion” of the immune system, causing the body to have an incorrect response and produce antibodies against one of its own cells. This is what happens in ITP, when the body produces antibodies against its own platelets.

As a pediatrician the question about the link between ITP and childhood vaccinations comes up frequently since children receive a number of vaccinations. The best information we have on this question is with childhood ITP and the Measles, Mumps, Rubella (MMR) vaccination. This is a common live vaccine given between 12-15 months of age and then again between 4-6 years. The rate of ITP following MMR vaccination is about 1 to 4 cases for every 100,000 vaccines given. However the rate of thrombocytopenia following natural infection with rubella or measles is much higher, anywhere from 6 to 1200 cases for every 100,000 infected individuals. ITP that develops following the MMR vaccine typically occurs about 6 weeks after the vaccine. Much like non-MMR ITP, it is usually mild with significant bleeding being very rare and in 90% of children the disease is completely gone at 6 months. What about the child who has a history of ITP and needs their vaccination? Based a review of cases, giving the first or second MMR vaccination to patients with a history ITP does not lead to recurrence of the thrombocytopenia. In some cases, if the child has already received one vaccination, it is reasonable to have the child tested for a response to that vaccination and only provide further vaccination if no response is seen. When I talk to families of children with ITP, I try to offer reassurance and we discuss that it is better and safer for the child to receive vaccinations on time so they are protected from the natural disease.

If someone is on medications that weaken the immune system, there is worry that perhaps they could become sick from vaccines or the body will not respond appropriately. Vaccines may be less effective if the immune system is weakened. Any vaccines given during this time may need to be repeated after the effects of the medication on the immune system are gone. For example, patients who receive rituximab may not have a response to vaccinations for up to 6 months after the medication is given. It is also important to determine which vaccinations are safe to give. The Center of Disease Control (CDC) makes recommendations for vaccination during times when patients are on medications that can weaken the immune system. Based on the CDC recommendations all vaccines using killed viruses or bacteria can be safely given even when the immune system is weakened, however vaccines using live viruses or bacteria may need to be delayed.

In the majority of patients with either a history of ITP or active ITP, vaccinations should be given on schedule. An exception should be made for patients who are receiving medications that may weaken the immune system. The most important thing is to discuss vaccinations with your doctor at the time they are regularly scheduled and before starting any new treatment.