

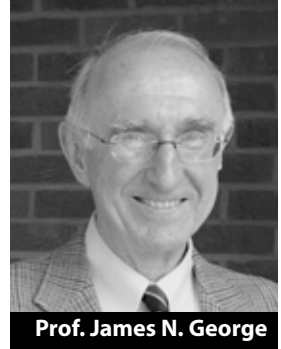
# American Perspective



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## Platelet Counts During Pregnancy



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Platelet counts became routine with the use of automated blood cell counters about 40 years ago. It was only then that the Full Blood Count (FBC) became the standard test when any blood count was requested. Often doctors had no suspicion that the platelet count may be low and would never have known unless the laboratory reported the platelet count with the FBC. This was when mildly decreased platelet counts were first noticed in pregnant women at the time of delivery. About 5-10% of women have lower than normal platelet counts at the time of delivery, when a routine FBC is done. The platelet count decreases only a little bit. Typically it is 100-150. There are no symptoms of bruising or excessive bleeding in either the mother or her baby. When these low platelet counts were first noticed in pregnant women, they were assumed to be caused by mild ITP. This is also what I thought for many years. The assumption of ITP seemed appropriate since other autoimmune disorders, such as lupus, can become worse during pregnancy and then resolve after delivery. Therefore I thought that these women with unexpected low platelet counts had very mild ITP and their platelet counts were low only because of the effect of pregnancy.

Several years later, in 1988, it was suggested that the platelet counts of all

women shifted to a slightly lower level during pregnancy, and therefore the lowest 5-10% were less than the lower limit of normal (which is usually 140-150). Therefore lower platelet counts seemed to be a normal, physiologic change with pregnancy, not an abnormal condition.

During the past year we have analyzed the platelet counts throughout pregnancy in women with uncomplicated pregnancies. Using the electronic medical records, we were able to analyze the platelet counts of 4000 women with uncomplicated pregnancies who delivered at our hospital, 2011-2014. We compared them to normal non-pregnant US women of the same age and race. This was important because there are small but significant differences in platelet counts among people of different races. The platelet counts of black women are slightly higher than white women who are slightly higher than Hispanic women. Among these 4000 pregnant women, platelet counts were slightly but significantly lower than normal even in the first trimester, and they continued to get lower throughout pregnancy, with the lowest values at delivery. At delivery,

10% of women had platelet counts less than 150. The lowest counts were 63. The average platelet count among women with low counts was 130. And, importantly, the racial differences were the same as among non-pregnant women: black higher than white who were higher than Hispanic women. At 4-8 weeks after delivery, platelet counts were again normal. This supports the interpretation that lower platelet counts during pregnancy are a normal response to pregnancy. Why does this happen? One reason is that women's plasma volume increases during pregnancy, and this dilutes the platelet count. Another reason may be that women's spleen size increases during pregnancy, and this can increase the number of platelets that normally accumulate, or "pool" in the spleen. A third potential cause that we are investigating is that platelets

may also accumulate in the placenta, since blood circulation in the placenta is similar to blood circulation in the spleen.

Why is this important for members of the ITP Support Association? The importance is that some obstetricians may still tell their patients that a low platelet count during pregnancy means ITP. This happened last summer to a woman (who is an obstetrician) we worked with on our study. She was 12 weeks pregnant and had a platelet count of 120. Her obstetrician told her, "I think you have ITP". She told her obstetrician, "No. We have studied platelet counts in women with uncomplicated pregnancies. This may be unusual in the first trimester, but it's a normal occurrence during pregnancy." She was right. She now has a healthy baby girl and a normal platelet count.

## Zika virus statement

Although Zika virus was first identified in 1947 the recent outbreaks spreading across South and Central America have caused the World Health Organisation (WHO) to declare it a public health emergency of international concern. If any ITP patients are concerned about the transmission of Zika virus via immunoglobulin treatment the Plasma Protein Therapeutic Association (PPTA) offered reassurance in a statement on 4th February stating that the Zika virus "relatively large size and lipid envelope makes it highly susceptible to steps with virus inactivation and removal capacity used during the manufacturing processes, such as solvent-detergent (S/D), low pH incubation, caprylate, pasteurization or dryheat treatments, nanofiltration or fractionation processes. The effectiveness of these processes has been demonstrated on other lipid-enveloped model viruses which are quite similar to Zika virus, e.g. Bovine viral diarrhea virus or Tick-borne encephalitis virus, and most importantly the West Nile Virus, another Flavivirus which is even more closely related to the Zika virus". "Based on these data, PPTA is assured that existing manufacturing methods will also be effective against the Zika virus"