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Title: **ITP and Pregnancy**

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Since ITP commonly occurs in young women, problems related to ITP and pregnancy are important. Three topics to discuss are:

- Diagnosis of ITP during pregnancy.
- Management of the mother with ITP during pregnancy.
- Anticipation of thrombocytopenia in the infant.

The diagnosis of ITP during pregnancy is more difficult because of the common occurrence of mild thrombocytopenia toward the end of pregnancy which recovers following delivery, termed 'gestational thrombocytopenia' or 'incidental thrombocytopenia of pregnancy'. This condition appears to be completely innocent. A prospective study of 15,000 consecutive women admitted for labor and delivery documented low platelet counts in 5% of these women. The diagnosis of gestational thrombocytopenia was considered if there was no history of preceding thrombocytopenia when the woman was not pregnant, if the platelet count was not less than 70,000, and if the thrombocytopenia occurred during the third trimester. If these conditions were met, it was predictable that the platelet count would return to normal following delivery and that the newborn infant would have a normal platelet count at birth. ITP is the more likely diagnosis if the platelet count is less than 70,000 and if thrombocytopenia occurs before the third trimester.

Management of the mother during pregnancy is not different from management of ITP in any other situation, with the goal being to maintain a safe platelet count with minimal treatment. ITP is not associated with an increased risk for complications during pregnancy, such as high blood pressure and preeclampsia. There is also no risk for the fetus. Obstetricians usually insist on a platelet count greater than 30,000-50,000 for delivery, either vaginal delivery or cesarean section This can typically be achieved with prednisone or IVIG.

The most difficult issue during pregnancy is to anticipate the risk for thrombocytopenia in the newborn infant and to prevent serious bleeding, such as intracranial bleeding, during or immediately following delivery. Fortunately, thrombocytopenia in infants born to mothers with ITP is not common: It is estimated that 10% of infants may have platelet counts less than 50,000 at birth; only about 4% of infants have platelet counts less than 20,000. In contrast to other conditions, serious bleeding in the fetus before birth has never been reported to occur. Some obstetricians have recommended procedures to detect low platelet counts in the fetus prior to delivery, with the plan that a cesarean section delivery would be performed if thrombocytopenia was detected. However, these procedures are complicated and of doubtful value. Percutaneous umbilical blood sampling (termed PUBS) is performed by directing a needle under ultrasound guidance through the abdominal wall, into the uterus, to obtain a blood sample from the umbilical vein. Although results of PUBS are accurate, complications are not rare: PUBS can precipitate labor and umbilical vein hematomas and fetal distress can occur. Fetal blood can be obtained directly from a scalp vein just as vaginal delivery begins; if the infant's platelet count is low, there is still time to perform a cesarean section and avoid the birth trauma of a vaginal delivery. However fetal scalp vein samples are technically difficult, often causing falsely low platelet counts and unnecessary cesarean sections. Many physicians now feel that neither of these procedures are necessary, that a routine vaginal delivery is safe, and that a cesarean section should only be performed for routine obstetrical indications. Although a cesarean section may be gentler for the infant than a vaginal delivery, severe bleeding of the infant at birth is probably too rare to justify procedures such as PUBS or routine cesarean section in women with ITP.

The most important precaution is to be aware that the infant's platelet count may fall further in the first several days following delivery. This is actually when most severe infant bleeding occurs, but bleeding is preventable if platelet counts are followed carefully. Although it would seem logical that women with more severe ITP would have greater risk for having an infant with a low platelet count, this is difficult to document. It has been shown that women who have required a splenectomy for their ITP, and therefore had more severe ITP, have a greater risk of a thrombocytopenic infant. However, there is no correlation between the mother's platelet count and the infant's platelet count. A correlation has been noted among siblings: if a woman has had an infant born with severe thrombocytopenia, there is a greater chance that subsequent infants will also be thrombocytopenic.

Management of the thrombocytopenic newborn infant involves the use of steroids and IVIG, the same as for patients with ITP. When the platelet count is less than 20,000, ultrasound tests to detect intracranial bleeding are routinely performed. Since the infant's thrombocytopenia is only caused by the transfer of the mother's antibodies across the placenta, the thrombocytopenia persists only for several weeks. Thereafter, the child is completely normal.