

Report on the management of thrombocytopenia in obstetric patients: A retrospective study

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Abstract: Thrombocytopenia occurs to approximately 8%–10% of pregnant women and this condition is a notable source of morbidity and mortality during pregnancy. In the recent years, our comprehension of thrombocytopenia has progressed on pregnancy. Nevertheless, there has not been adequate information about thrombocytopenia outcomes in obstetric patients. With regard to this topic, we reviewed published reports as an update from the managements on these cases. Nevertheless, recommendations for management of delivery in obstetric women with thrombocytopenia are based on several hypotheses requiring critical analysis. For this cause, we reviewed the management of pregnant patients with thrombocytopenia treated over a period of 37 years.

Keywords: thrombocytopenia, pregnant, management, patient, obstetric

Introduction

Thrombocytopenia, or a low blood platelet count or a common hematological disorder, is a very usual finding in pregnancy with a benign condition, occurring up to 10% of whole pregnancies and may harvest from a various number of agents or a wide range of conditions and the diagnosis of these particular disorders is often difficult, because the time of start of these disorders during pregnancy and their clinical appearances often overlap [1–14]. In the recent decade, our comprehension of thrombocytopenia has progressed on pregnancy. Nevertheless, yet there has not been adequate information about thrombocytopenia outcomes in obstetric patients, containing their hemostatic risk at transfer and the likelihood of requiring treatment during pregnancy. For this cause, we reviewed the management of pregnant patients with thrombocytopenia treated over a period of 37 years.

Management of Thrombocytopenia in Obstetric Patients

The main goal of this research was to review the thrombocytopenia management in obstetric patients. With regard to this topic, we reviewed published reports as an update from the managements on these cases. Nevertheless, recommendations for management of delivery in obstetric women with thrombocytopenia are based on several hypotheses requiring critical analysis. It should be noticed that according to articles published, the decision to treat or to manage the obstetric woman with thrombocytopenia is based on assessment of the risk of significant hemorrhage. Therefore, careful planning is required to ensure a “safe” platelet count during delivery.

The study by McLaughlin and Kerr [15] reported that there is a loss of evidence or document to guide the best management of pregnant patients with thrombocytopenia disease.

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Güth et al. [16] showed that the clinical management of pregnancy, delivery, and puerperium in patients with thrombocytopenia needs a close cooperation of experienced hematologists, obstetricians, anesthesiologists, pediatricians, and other specialists in this field. In parallel, Veneri et al. [17], Provan et al. [18], Won et al. [19], Michel et al. [20], and Sieunarine et al. [21] in their studies have suggested that optimum management of thrombocytopenia in pregnancy requires collaboration among the obstetrician, the hematologist, the obstetric anesthetist, and the neonatologist, and treatment on this disorder is largely based on the risk of maternal hemorrhage. Their labors also showed obstetric anesthetists commonly recommend a platelet count of at least $75 \times 10^9/L$ to allow administration of spinal or epidural anesthesia. Some of the researchers like hematologists believe that a platelet count of at least $50 \times 10^9/L$ is sufficient to permit for cesarean section [17–21]. Furthermore, the suggestions for management of the pregnancy in another study by Myers [22] revealed that mothers with congenital thrombocytopenia must attend a specialist center for receiving a disintegrin and metalloproteinase with thrombospondin-like repeats 13 supplementations regularly all over the course of pregnancy and post-partum, and also indicated that they must be monitored throughout pregnancy to help predict the requirement for collaborator therapy and consequence.

Moreover, Scott et al. [23] have expressed that management of pregnancy complicated by thrombocytopenic and amniotomy should be performed as soon as possible. This phenomenon may happen either at the time of induction of labor or early in the course of spontaneous work. Therefore, this approach will safely allow vaginal delivery in the majority of these patients.

Miyakawa [24] with study on the management of thrombocytopenia in pregnancy recommend that physicians maintain platelet counts above $20 \times 10^6/L$ in the first and second trimesters.

Palta and Dhiman [25] have suggested that the investigation of thrombocytopenia is principal to rule out any systemic disorders that may affect pregnancy management as thrombocytopenia can be available as an isolated finding or in combination with underlying situations.

Uğur Bilgin et al. [26] with successful management of thrombocytopenia associated with pregnancy found that the prognosis of thrombocytopenia has dramatically improved with primary diagnosis and plasma-based therapies, and they demonstrate plasma-based therapies are the current gold standard to prevent and treat.

An assessment by Obstetricians and Gynecologists' Committee of pregnant women with thrombocytopenia

have illustrated that because of the increased diagnosis of thrombocytopenia, there are multiple contentions about obstetric management. Clinicians should measure the hazards of hemorrhage complications against the charges and morbidity of diagnostic experiments and invasive interpositions. The management intentions for these cases should be individualized and are best made after consultation with obstetric and pediatric specialists familiar with the disorder as soon as the diagnosis is performed [27]. Multiple therapies have been utilized in an effort to elevate the platelet count and to avoid intracranial hemorrhage.

Ghevaert et al. [28] have shown that collaboration between centers, collection of clinical information, and development of new treatments for patients with thrombocytopenia are necessary, if we are to make progress into reducing the outbreak of intracranial hemorrhage, and altogether they concluded that post-natal transfusion management is very unstable, and fetal transfusions are associated with important morbidity and mortality.

Webert et al. [29] document that mothers with thrombocytopenia require monitoring during pregnancy and may need to have intervention with etiologies to raise the platelet count.

Myers [22] and Chosamata [30] have shown that the goal of thrombocytopenia management in pregnancy is to achieve and hold "safer" rather than ordinary platelet counts. In the first two trimesters, asymptomatic patients with platelet counts greater than $20\text{--}30 \times 10^9/L$ do not require any treatment until the third trimester. If platelet counts decline below $20\text{--}30 \times 10^9/L$, treatment is needed, when the patient is symptomatic or when there is a need to exceed the platelet count to a level considered safe for a method. A platelet count of $50 \times 10^9/L$ is commonly safe for a procedure. The mode of delivery should be based on obstetric observations [22, 30]. Wang et al. [31] have claimed that better outcomes can be achieved through proper treatment based on the agent, intensive care in prevention and management of complications, and cesarean section. In a study by Korkmaz et al. [32], therapeutic plasma exchange is an effective treatment for thrombocytopenia and it is mandatory for the diagnosis of thrombocytopenia, and this procedure therapy should be immediately performed. Furthermore, nowadays, diagnostic tools on various studies using computed tomography can evaluate the diagnosis of more diseases at initial step progressively [33–38].

Conclusions

Despite significant progress in our understanding of the management of thrombocytopenia during the past 37 years, there are also few validated risk factors regarding

outcome prediction or response to therapies. Consequently, future research on thrombocytopenia of obstetric patients must be focused carefully on designed randomized trials and treatment studies. Overall, an accurate management needs to be a series of various factors including evidence of early symptomatic, diagnosis, treatment of different therapies, such as plasma therapies, and collaboration between centers, clinical information together with specialists in this field.

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