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The effect of platelet transfusions on the mortality in Neonatal Intensive Care Unit

Tariq Rushdi Mohieldeen Alsafadi

Aziziah Maternity and Children Hospital, Saudi Arabia

Background: Platelet transfusions (PTs) currently are the only available treatment to thrombocytopenic neonates at risk of bleeding. There is much evidence indicates that increasing number of platelet transfusions administered to thrombocytopenic neonates increasing the mortality rate, but this association is controversial.

Aims: The main aim of this study is to reveal if PTs increase the mortality in Neonatal Intensive Care Unit (NICU). Secondary outcomes include: 1. To identify most common causes and hemorrhagic manifestations of thrombocytopenic patients who received platelets. 2. Platelets count and mean platelets volume (MPV) changes after PTs. Design: Retrospective cohort study. Setting: NICU at maternity and children hospital.

Materials and Methods: Records review of all thrombocytopenic neonates who received PTs at any time during NICU stay from January 2006 till December 2014.

Statistical Analysis: Binary logistic regression. Results: A total of 756 PTs were given to 150 thrombocytopenic patients. PTs didn't significantly increase the mortality (OR: 1.067, CI: 0.967-

1.178). Giving platelets to thrombocytopenic neonates at risk of bleeding with necrotizing enterocolitis (NEC) ≥ 2 significantly decreased the mortality (OR: 0.16 CI: 0.033-0.85). Mechanical ventilation >2 days because of respiratory failure decreased the mortality (OR: 0.117, CI: 0.02-0.65). The most common cause of thrombocytopenia that led to PT was proven sepsis. The most common hemorrhagic manifestation was intraventricular hemorrhage (IVH). The median increment of platelets count after 162 PTs was 46.5. MPV after 126 PTs tended to decrease by a median of 0.74 fL (femtolitre).

Conclusion: Giving PTs to thrombocytopenic neonates at risk of bleeding didn't increase the mortality. PT may decrease the mortality in thrombocytopenic neonates at risk of bleeding with NEC ≥ 2 .

Speaker Biography

Tariq Rushdi Mohieldeen Alsafadi has completed his neonatology fellowship at the age of 32 years from king abdulaziz university, Saudi Arabia. He is a neonatology consultant in East Jeddah hospital, KSA. He has 4 publications in international journals.

e: tasafadi@hotmail.com



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