

Study of influence of platelet count, platelet mass index, and Mean platelet volume on the spontaneous closure of ductus arteriosus in the premature newborns

Abstract

Introduction: Open arterial duct is a heart problem that is commonly observed in the first few weeks to the first few months after birth. This duct causes oxygen-rich blood to flow back to the lungs instead of circulating in the body.

Objective: In this study, we investigated the effect of platelet count, platelet mass index and mean platelet volume on spontaneous closure of the market arterial canal in preterm infants.

Materials & Methods: In this study, all premature infants were divided into two groups. The first group consisted of open PDAs and the second group consisted of closed PDAs. The variables of platelet count, mean platelet volume and platelet mass index were examined. And were compared between the two groups of patients to identify the factors that affect duct closure.

Results: There was no statistically significant difference in platelet count, mean platelet volume and platelet mass index between the two groups. The mean and standard deviation of platelet count in open PDA group was 246307 ± 7403 and in closed PDA group was 262742 ± 71912 which was not statistically significant ($P < 0.05$). Mean and standard deviation of mean platelet volume in the open PDA group were 8.8 ± 1.1 and in the closed PDA was 15 ± 9.1 . The mean and standard deviation of platelet mass index in open PDA group was 2185 ± 698 and in closed PDA was 2401 ± 662 which was not statistically significant.

The mean gestational age and birth weight were 2.64 ± 3.1 weeks, 34 ± 2.36 weeks and 2691 ± 4470 g in open and closed PDA, respectively. There was no statistically significant difference in platelet count, mean platelet volume and platelet mass index between the two groups.

Conclusion: There was no statistically significant difference in platelet count, mean platelet volume and platelet mass index between the two groups.

Key words:

patent ductus arteriosus; premature newborns; platelet