

عنوان مقاله:

Appearance Time of Methylene Blue in the Aorta: Intra-osseous vs Peripheral Intravenous Route

محل انتشار:

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خلاصه مقاله:

Background: The intra-osseous (IO) route serves as an appropriate venous access site if access is needed in an emergency. Objectives: In this study, we compared the appearance time of methylene blue (MB) in the aorta following IO and peripheral intravenous (IV) routes in a rabbit model to assess a novel idea and compare the speed of IV and IO route of serum delivery into the main circulation. Materials and Methods: Twenty rabbits were used in our study. They were divided into two groups (odds as G₁, n=10, evens as G₂, n=10). After laparotomy, the aorta was located and cannulated by a 16 gauge angiocatheter. For IV injection in G₂, the marginal vein of either ear was accessed. For IO injection in G₁, the medial surface of the proximal extremity of left tibia was used. Once satisfied with positioning, 10 ml of methylene blue solution at a concentration of 10 mg/ml was injected and the time was recorded. The time taken from injection to appearance of MB in the aorta was measured. Results: All rabbits survived until the end of the experiment. There was no significant difference between the groups regarding the body weight. There was no significant difference between mean time of dye entry into the aorta in either group. It was 9.66 ± 2.51 seconds in G₁ and 10.24 ± 1.95 seconds in G₂ ($P = 0.56$). Conclusions: Our study demonstrated that there was no significant difference between the time taken for MB to reach the central circulation via IO or IV routes.

کلمات کلیدی:

Methylene blue, Aorta, Infusion, Intraosseous

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