

JOINT EVENT

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The association between I.V. cannula size and event of thrombophlebitis at intravenous amiodarone administration**Rostislav Belobrov**

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Statement of the Problem: Patients, which arrive to the hospital with ventricular arrhythmia due to the different causes, in most cases are getting loading dose of intravenous amiodarone. The most common side effect of intravenous amiodarone is thrombophlebitis of intravenous access. Central venous line causes much less thrombophlebitis, but complications of central venous line exceed the peripheral vein access. This pilot study is aimed to find association between the use of larger size peripheral vein cannula and decreased of thrombophlebitis. Second goal of this pilot study is to define the variables which are associated with incidence of thrombophlebitis.

Methodology: Observation prospective pilot study was conducted in Intensive cardiac care unit of single medical center during one year. 53 patients were prescribed to get intravenous amiodarone due to medical indication. Eight patients were excluded from the pilot study due to comatose state or use of central vein line. For 45 patients, information about peripheral I.V. cannula was obtained, including place, size (18 gauges or 20 gauges), and time of event of thrombophlebitis, if appeared. Additional clinical information was collected from medical records. Kaplan-Meier method and Breslow test were used to find significance between time to event of thrombophlebitis for two sizes of I.V. cannulas. Cox proportional hazard model was used to find the variables, which could be associated with the event of thrombophlebitis.

Findings: According to Breslow test, 18 gauge I.V. cannula has significant longer time without thrombophlebitis ($\chi^2=4.717$ $p=0.03$ 18G median time to event 32.5 h CI 95%: 10.6-54.4, 20G median time to event 20.0 h CI 95%: 18.6-21.4). According to Cox proportional hazard model, adjusted for I.V. cannula size, each BMI unit and female gender were associated with more thrombophlebitis events.

Conclusion: In order to prevent thrombophlebitis, using large sized I.V. cannula is preferable for intravenous amiodarone administration, especially in overweighted and female patients.

Recent Publications

1. Ayat-Isfahani F, Pashang M, Davoudi B, Sadeghian S and Jalali A (2017) Effects of injection-site splinting on the incidence of phlebitis in patients taking peripherally infused amiodarone: A randomized clinical trial. Journal of vascular nursing 35(1):31-34.
2. Brady Boyce B A and Homer Yee B (2012) Incidence and severity of phlebitis in patients receiving peripherally infused amiodarone. Critical Care Nurse 32(4):27-34.
3. Lee W L, Chen H L, Tsai T Y, Lai I C, Chang W C, Huang C H and Fang C T (2009) Risk factors for peripheral intravenous catheter infection in hospitalized patients: A prospective study of 3165 patients. American Journal of Infection Control 37:683-686.
4. Morwy J L and Hartman L S (2010) Intravascular thrombophlebitis related to the peripheral infusion of amiodarone and vancomycin. Western Journal of Nursing Research 33(3):457-471.
5. Slim A M (2007) The incidence of phlebitis with intravenous amiodarone at guideline dose recommendations. Military Medicine 172:1279-1283.

Biography

Rostislav Belobrov is Senior Nurse at Cardiology Intensive Care Unit of Wolfson Medical Center and a student for Magister of Public Health at Tel -Aviv University.