Abstract:

OBJECTIVES: To evaluate the efficacy of intraosseous access versus venous access in out-of-hospital cardiac arrest in terms of return of spontaneous circulation (ROSC) and survival to hospital discharge with or without favorable neurologic status.

MATERIAL AND METHODS: Systematic review and meta-analysis of articles indexed in MEDLINE (PubMed), Embase, the Web of Science, and the Cochrane Library. Other terms adapted to the language of each index were also used. We included observational studies and clinical trials published from January 1, 1950, to May 31, 2019, if the study population included adult patients in cardiac arrest outside the hospital and in whom an intraosseous or intravenous catheter was inserted. Risk of bias was evaluated with the Cochrane and GRADE (Grading of Recommendations Assessment, Development and Evaluation) tools.

RESULTS: We identified 434 papers to include in the qualitative review and 5 studies for meta-analysis. Intraosseous access was related to a lower rate of ROSC (odds ratio , 0.69; 95% CI, 0.57-0.83; P=.02; I²=65%) and worse survival to discharge (OR, 0.65; 95% CI, 0.51-0.83; P<.01, I²=30%).

CONCLUSION: Intraosseous access in out-of-hospital cardiac arrest is related to poorer outcomes in terms of ROSC and survival at hospital discharge.

Reference: