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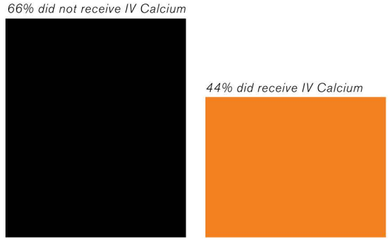
Calcium Administration During Cardiopulmonary Resuscitation for In-Hospital Cardiac Arrest in Children With Heart Disease Is Associated With Worse Survival

A Report From the American Heart Association's Get With The Guidelines-Resuscitation (GTWG-R) Registry

Study Question:

How does IV calcium administration during cardiopulmonary resuscitation (CPR) for pediatric in-hospital cardiac arrest (IHCA) affect survival to hospital discharge in children with heart disease?



Patients Receiving Intravenous Calcium during CPR

44% (n = 1986) children received IV calcium

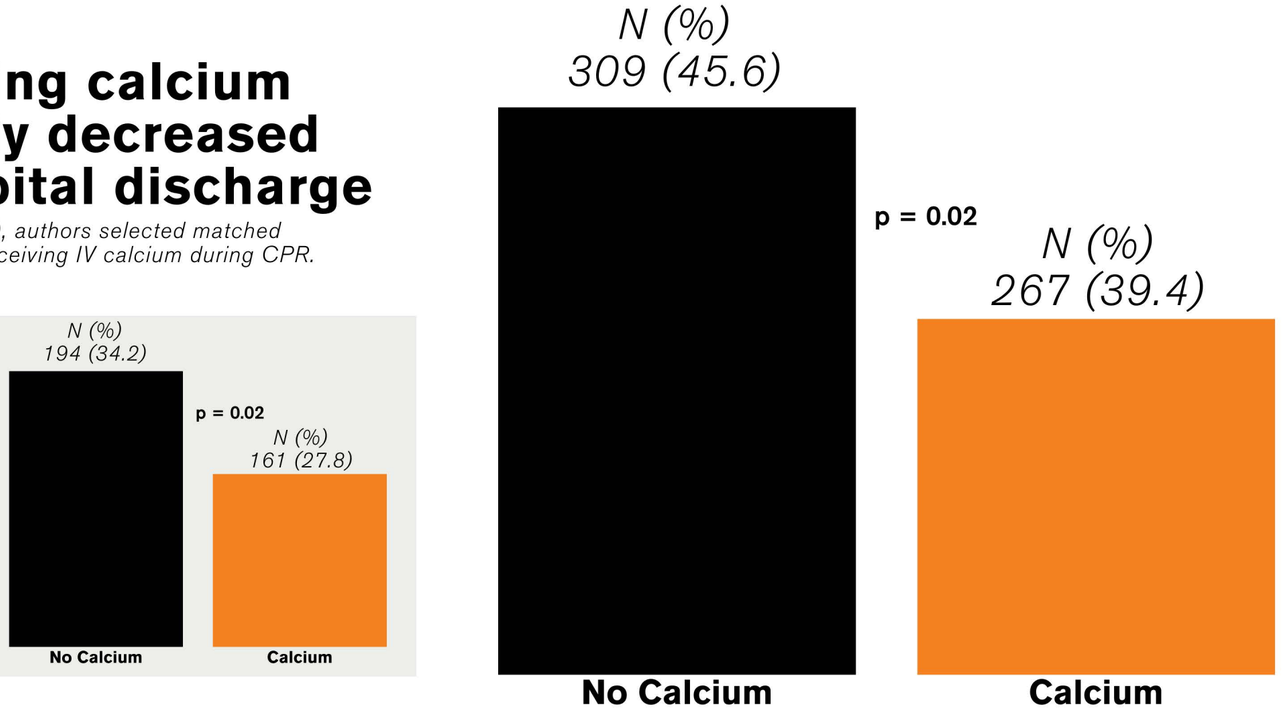
Patients who received IV calcium were more likely to be:

Younger children (<1y) (vs older children & teenagers)
65% vs 35%; p < 0.001

Surgical cardiac patients (vs medical cardiac patients)
51% vs 36%; p < 0.001

Patients receiving calcium had significantly decreased survival to hospital discharge

Using propensity score matching (PSM), authors selected matched cohorts of children receiving and not receiving IV calcium during CPR.



Patients receiving calcium had decreased discharge with favorable neurologic outcome

As determined by PCPC (Pediatric Cerebral Performance Category). Note: there was a high degree of missingness of PCPC scores, which limited the reliability of this secondary outcome.

Conclusion and Authors' Next Steps

Calcium administration during CPR for children with HD experiencing IHCA is common and is associated with worse survival.

Administration of calcium during CPR in children with HD should be restricted to indications as recommended by the AHA CPR guidelines.

Data from Dhillon GS, et al: *Pediatr Crit Care Med* 2022.