

# **Ketamine Use for Cardiac Computed Tomography(CT) in Neonates with Congenital Heart Disease**

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## **Introduction**

Ketamine is frequently used sedative drug in neonates with congenital heart disease (CHD), because it preserves cardiac output and maintains airway reflex in children (1). Although advances in computed tomography (CT) technology dramatically reduce time for image acquisition, cardiac CT with contrast for detailed investigation before surgery still takes long time. Therefore, an appropriate level of depth for sedation in neonates who require cardiac CT is deep sedation, but concern for oversedation and hemodynamic collapse limits multiple doses of sedative drugs. The aim of this study was to evaluate the dose of ketamine and adverse events during cardiac CT in neonates with CHD.

## **Methods**

This is a retrospective review of neonates with CHD in neonatal intensive care unit. Intubated neonates and premature babies were excluded. Demographic data, scan length, dose of ketamine, number of administration, and adverse events such as desaturation event were evaluated.

## **Results**

Between June 2016 and Jan 2017, fifteen neonates were included in this study. All neonates required contrast during the cardiac CT. Median age was 14 [7-38] days, median procedure time was 10 [10-15] minutes, and median weight was 3.2 [3-4] kg. Median ketamine dose was 7 [5-12] mg and 2.36 mg/kg. 10 neonates required ketamine more than 2mg/kg for appropriate depth of sedation. No adverse events were recorded during CT scanning, and within 24 hours of return to the referring intensive care unit.

## **Conclusion**

In conclusion, we found that more than 2mg/kg of ketamine was safely used for cardiac CT in neonates with CHD.

## **Reference**

- (1) Morray et al. Hemodynamic effects of ketamine in children with congenital heart disease. [Anesth Analg](#). 1984 Oct;63(10):895-9.