



Use of Dexmedetomidine (DMD) for sedation in PICU

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Background: DMD is a newer sedative drug proposed to be useful in PICU and with its use increasing, we wanted to explore the indicators for, dose used and outcomes in a single mixed cardiac and general PICU.

Methods: Retrospective cohort study of electronic health records over 2 years (2019-2021)



Aims & objectives:

- 1 – To determine the indications for starting treatment
- 2 – To describe the frequency, dose, duration and any adverse effects
- 3 – To describe which patients DMD was used on
- 4 – To describe whether the intended outcome (for starting the drug) was achieved

Results:

21 children received the drug in 2 years median age 6.4 years (IQR is 1 – 10.8) with 56% being post-operative cardiac surgical children (Figure 1). Their median LOS BEFORE starting DMD was 1 hour (IQR 0 – 4.8) and the median duration of DMD use was 30 hours (IQR 19 – 71). The two main reasons DMD was started were reported as: to achieve adequate sedation (52%) and to facilitate timely extubation (48%) (Figure 2). In 70% of cases these indications for starting were achieved. In 80% of children there were no adverse effects reported, with hypotension in 14% and bradycardia in 5%. The median dose DMD was commenced at was 0.7 microgram/kg (IQR 0.5 – 0.9) and the maximum dose 1 mcg/kg (IQR 0.7 – 1.14) Figure 3.

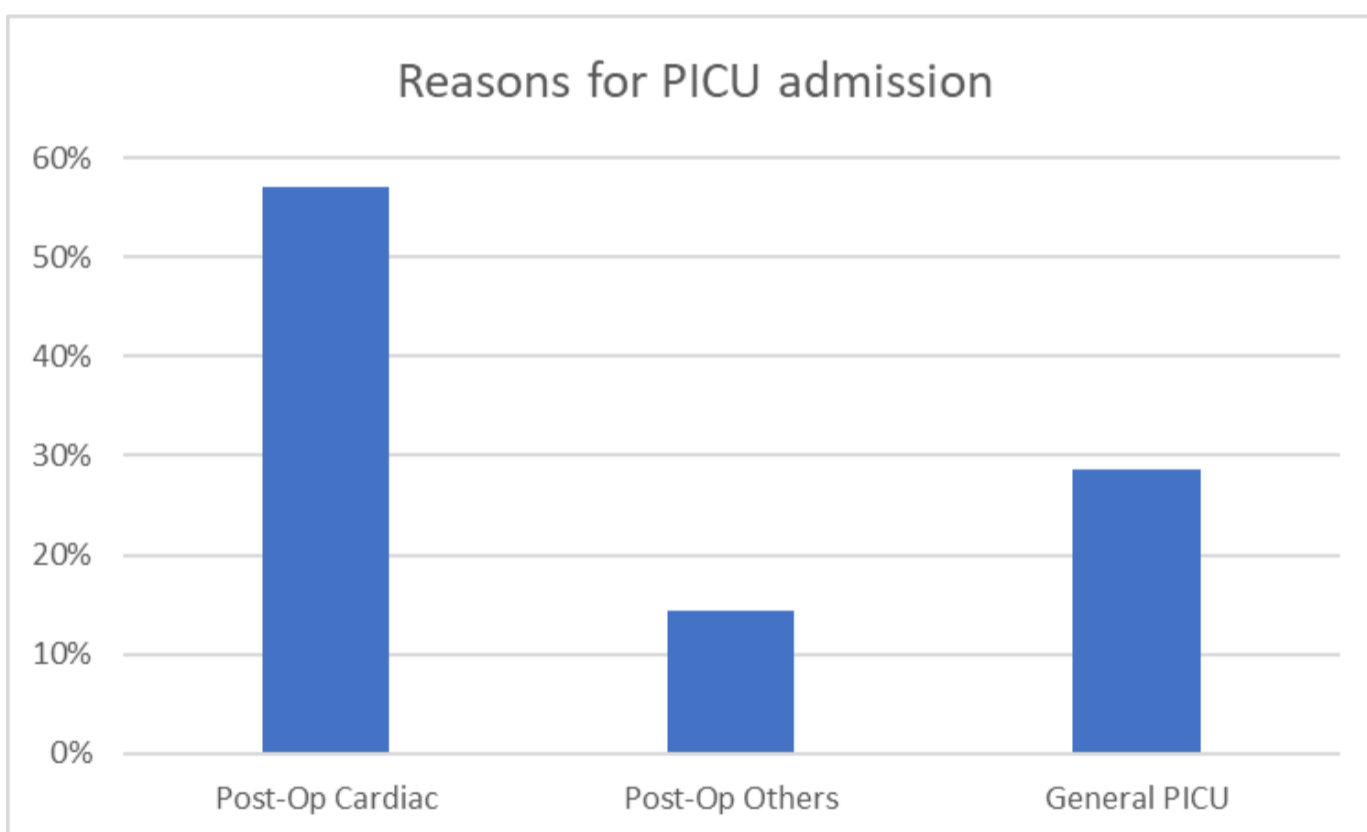


Figure 1

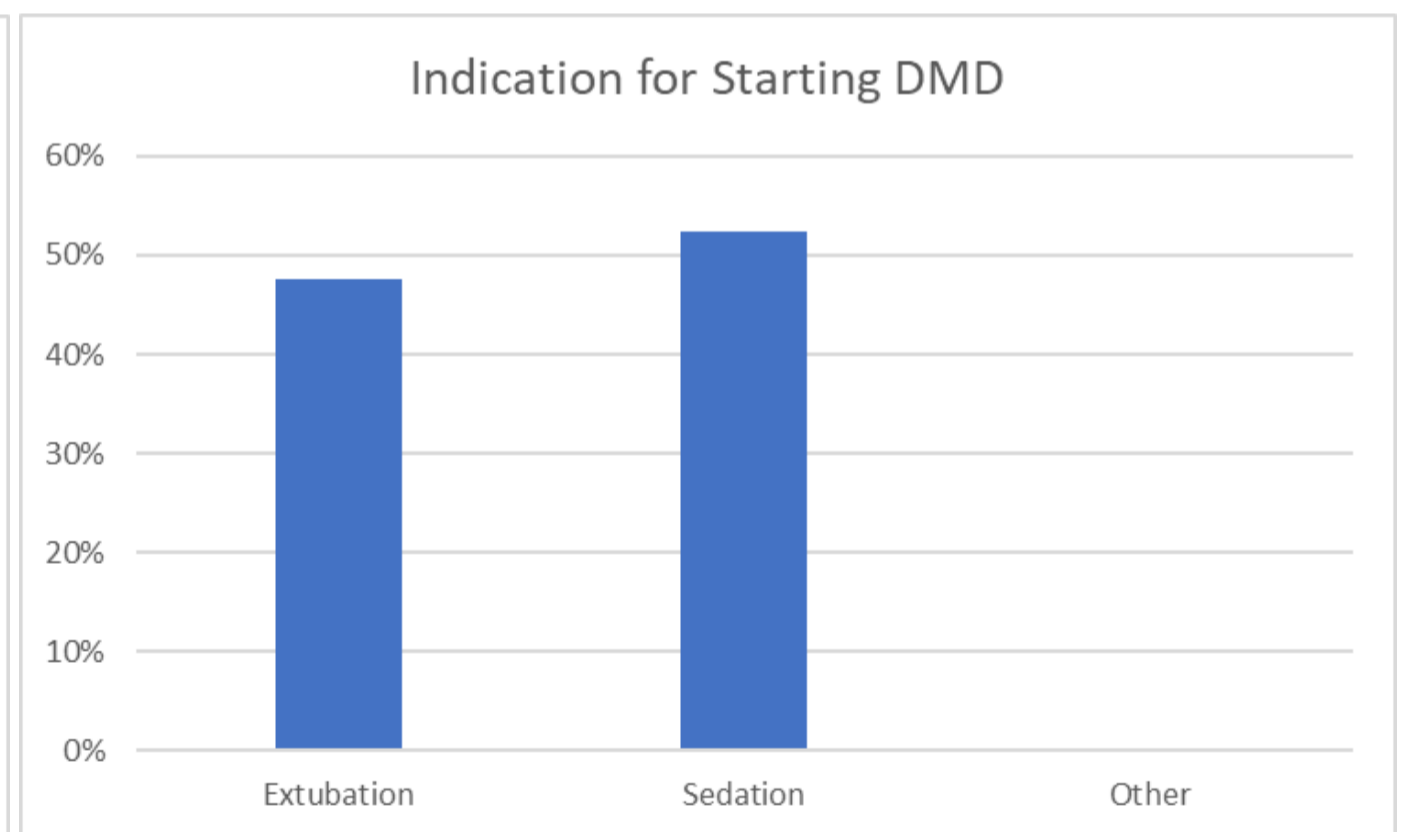


Figure 2

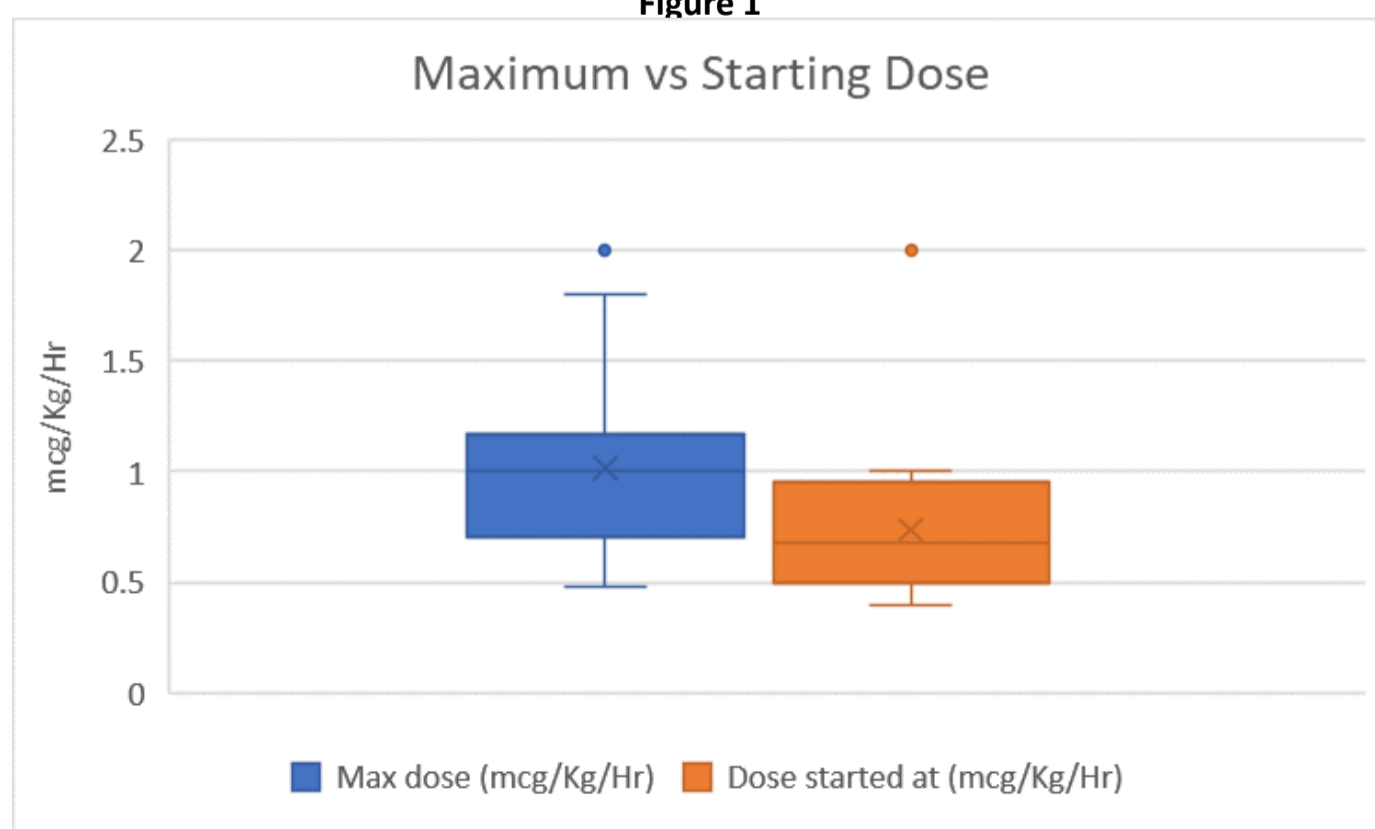


Figure 3

Conclusions: Our small study shows there is value in using of DMD in selected cases, with few adverse events.

DMD has a role to play in the PICU, but it's expensive and probably should be reserved for specific indications (timely extubation, management of sedation/delirium)