

# **Nitrous Oxide: An Analgesic Option for Laboring Patients with Cardiac Defects**

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# Nitrous Oxide as Labor Analgesia

- Odorless gas
- Multiple sites of action
- Fast acting
- First used in labor in 1881
- Used in all stages of labor
- Minimal/mild cardiac effect (PVR)
- Less common in US – Nitronox



# Nitrous Oxide as Labor Analgesia

- Less effective than labor epidural - dissociative
- Similar pain scores to opioids
- Little change in VAS
- Increased satisfaction and relief
- ENIGMA II Trial

Nitrous oxide for relief of labor pain: A systematic review 

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# Congenital Heart Disease

- Most common birth defect (1%)
- Concern for hemodynamic changes in the peripartum period

# Objective

- To evaluate nitrous oxide utilization and safety as an analgesic option in women with congenital and acquired cardiac disease during labor at UCSF.

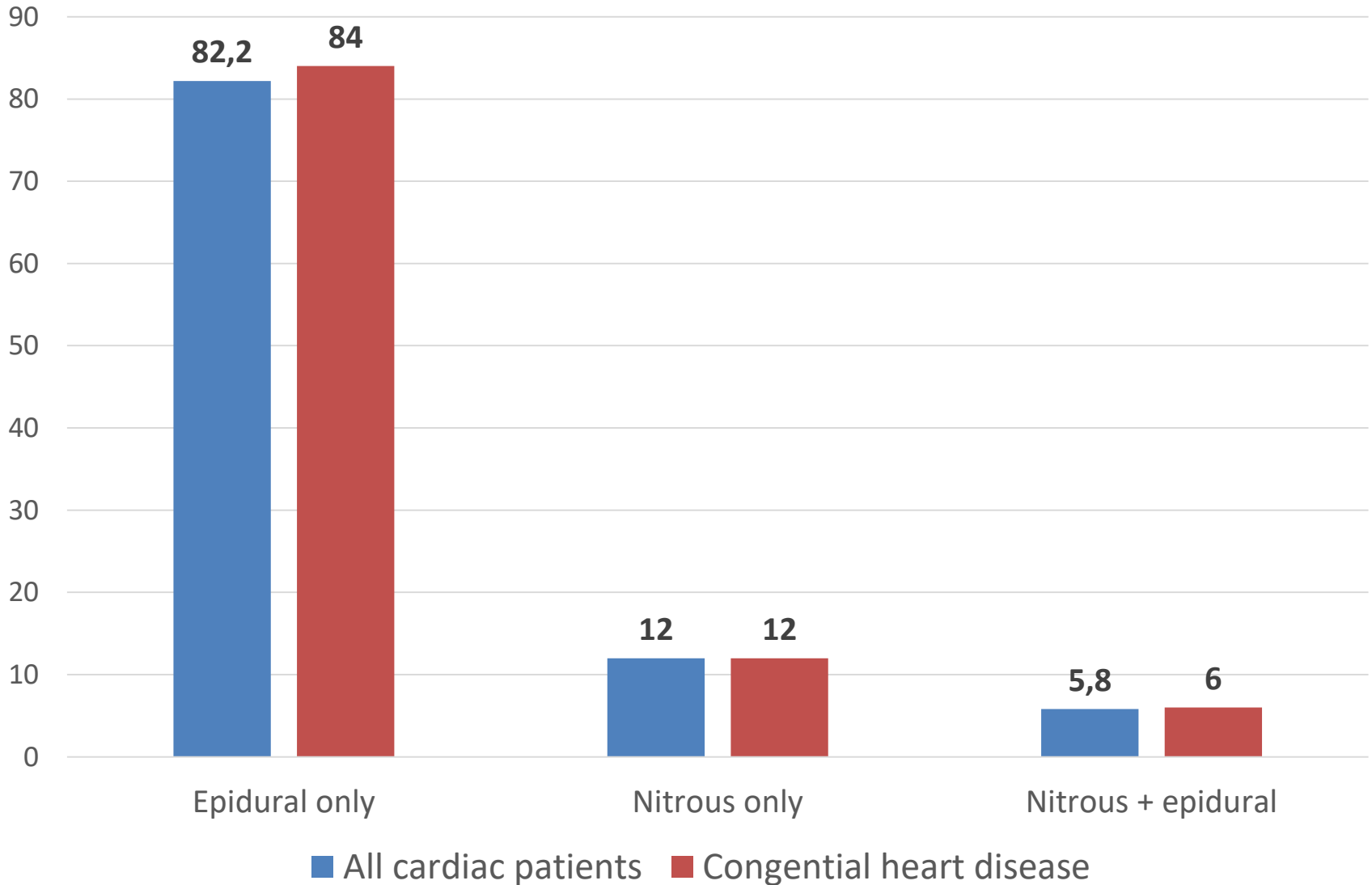
# Methods

- Descriptive study, 2008-2017
- Single institution (University California San Francisco)
- Obstetric patients with congenital and acquired cardiac disease followed in a multidisciplinary team setting

# Results

- 340 women
  - 150 with congenital heart disease
  - 190 acquired cardiac disease
- Overall
  - 41 (12%) of women utilized nitrous
  - 20 (5.8%) received both nitrous & epidural
- In patients with CHD
  - 18 (12%) utilized nitrous
  - 9 (6%) received both nitrous & epidural
- **No significant morbidity or mortality events** associated with nitrous oxide usage in either group.

# Results





# Conclusions

- Nitrous oxide was safely administered with no significant negative effects
- It may be offered as an alternative form of analgesia in laboring patients who are unable to receive/do not desire an epidural

**QUESTIONS?**

# References

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