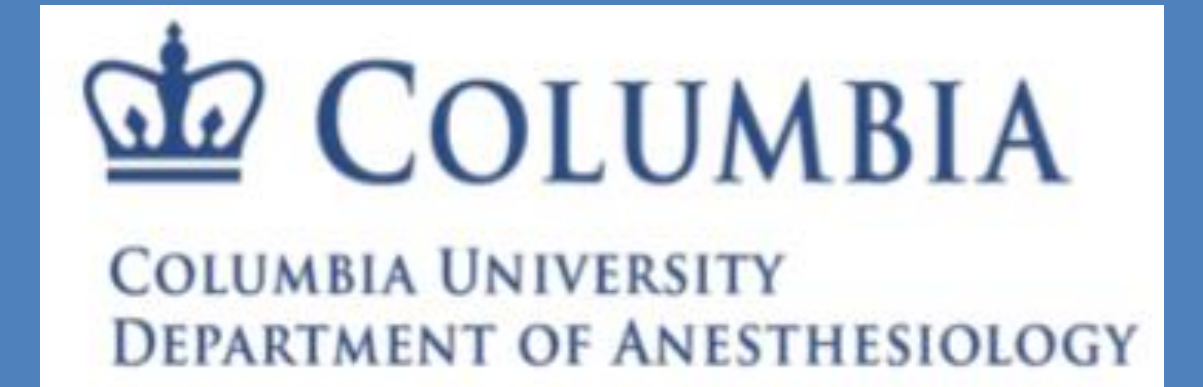


Remifentanil-induced fetal heart rate changes during labor in a patient with active malaria and thrombocytopenia: a case report

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Thrombocytopenia in malaria

- Common complication of *P. falciparum* malaria¹
 - Platelet count <70,000/ μ L increases risk of spinal epidural hematoma with neuraxial instrumentation
- Non-neuraxial alternatives
 - Parenteral opioids (IV PCA, IV bolus, IM)
 - **Remifentanil IV PCA**
 - Parenteral non-opioids (oral, IV, IM)
 - Nitrous oxide (N₂O)

Remifentanil: safety considerations

- Effective labor analgesic with ultra-short action
- Rapid placental transfer → neonatal exposure
- Documented maternal and neonatal respiratory arrests²
- Effect on fetal heart rate (FHR) less characterized

1. *N Engl J Med.* Apr 3 2025;392(13):1320-1333

2. *Anesth Analg.* Apr 2017;124(4):1208-1210.

The Case

31yo G1P0, 76kg, 36w5d with PPROM + contractions + category I FHR, sickle cell trait + *P. falciparum* malaria, platelets 64,000/ μ L

Analgesia initiation

- Neuraxial deferred
- Remifentanyl IV PCA started per protocol
- Initial bolus: 0.10 μ g/kg q2min
- Titrated to comfort

Intrapartum course

- Cat III FHR tracings occurred twice, ~5 hours apart
- Each episode $\rightarrow$ urgent CD discussed
- PCA stopped $\rightarrow$ FHR normalized

Delivery and outcome

- CD avoided
- Apgars 8 & 9
- No maternal respiratory depression
- Treatment completed, thrombocytopenia resolved



Remifentanyl can cause adverse FHR changes

- Boluses were temporally associated with Category III FHR. Active dose titration and continuous fetal monitoring are essential.

Dose escalation must be balanced with fetal tolerance

- Analgesia was limited by fetal – not maternal – side effects.

FHR improvement is rapid upon discontinuation

- FHR tracings improved within 10 minutes, avoiding cesarean delivery.

Multidisciplinary planning in high-risk parturients

- Early involvement of MFM, hematology, ID, and anesthesia was instrumental.