

Progressive Maternal Heart Block in Pregnancy

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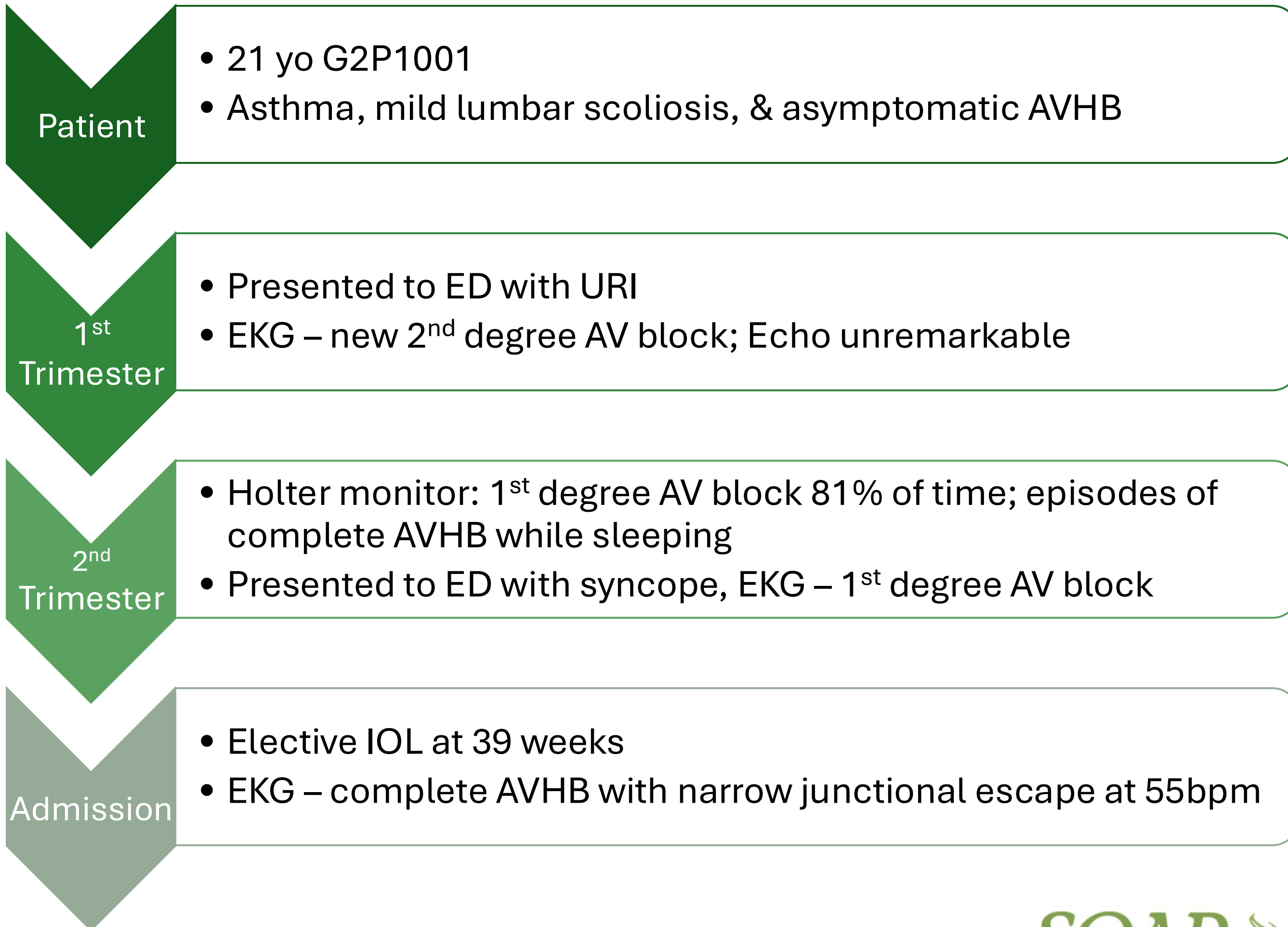
Background:

Atrioventricular heart block (AVHB) is a class of conduction disorders defined by the location and delay of electrical signal propagation in the heart. Based on the degree of dissociation, significant hemodynamic derangements can occur.

During labor, rapid vagal tone alterations and neurocardiogenic reactions can cause hemodynamic instability, requiring prompt recognition and intervention (1).

This case explores progressive AVHB of unknown etiology requiring transvenous pacing for induction of labor followed by a permanent leadless pacemaker insertion post-delivery.

Patient History:

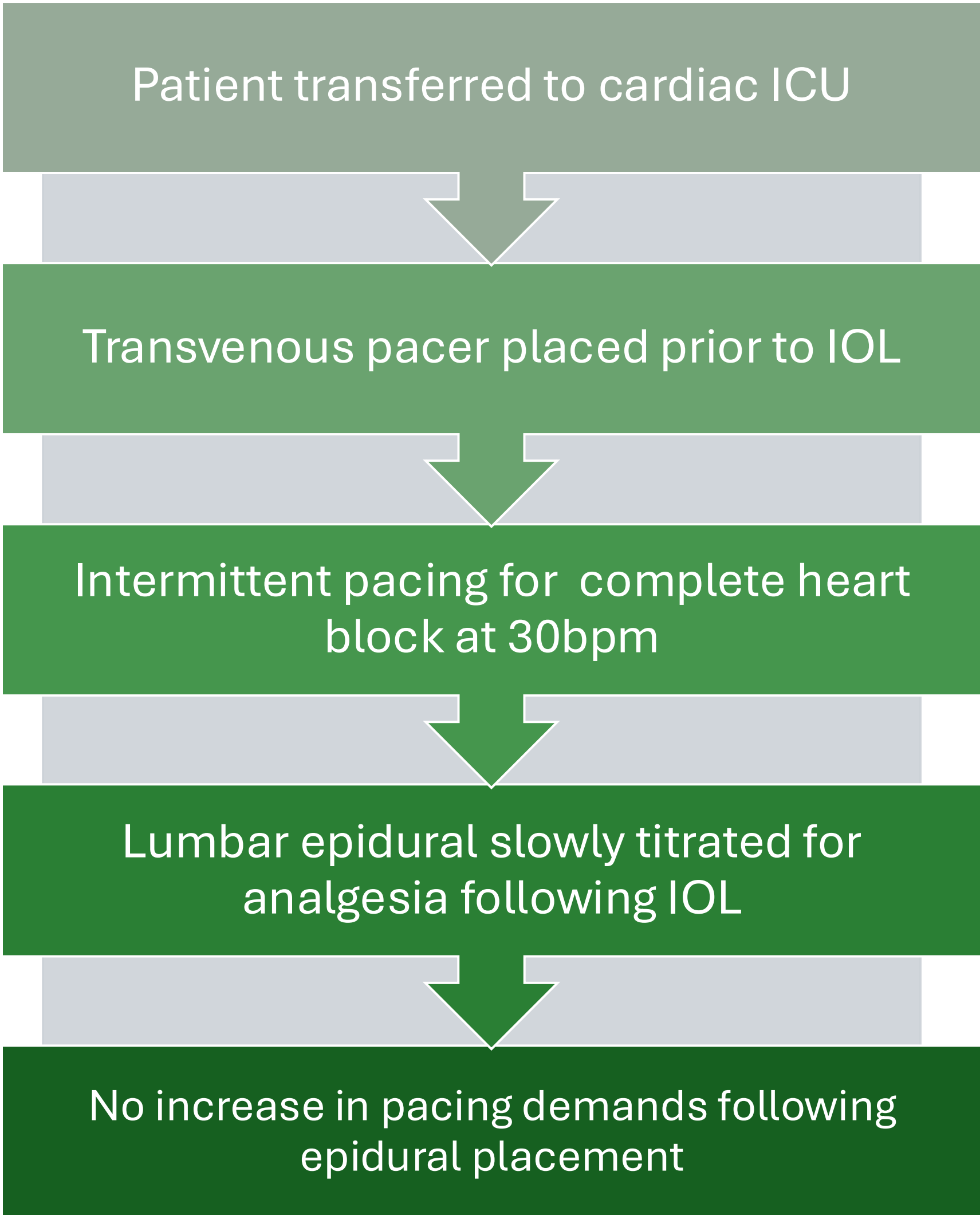


Clinical Course and Intervention:

Cardiology Consult:

- Decrease time spent in second stage of labor.
- Did not recommend temporary pacing wire due to concerns for radiation exposure.
- If hemodynamic instability → ACLS +/- placement of temporary transvenous pacing wires, transcutaneous pacing with use of sedation, or use of isoproterenol for chemical pacing.

Labor Planning:



Delivery and Post Op:

- Delivered without significant cardiac event but required consistent pacing during active delivery.
- Continued to require consistent pacing for underlying complete heart block at 30bpm for 24hrs postpartum.
- Cardiology placed permanent leadless pacemaker prior to discharge.
- Extensive workup for etiology was unremarkable.

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Discussion:



Causes of AVHB

Congenital abnormalities

Medications

Autoimmune

Infectious processes



Pregnancy Mediated Changes

Eccentric hypertrophy
from increased CO

Gene remodeling



AVHB during delivery

Valsalva maneuvers can
further slow HR

Shorten active labor

Cardiac interventions maybe
needed



Management

Transvenous pacing
via USG

Permanent
pacemaker



References