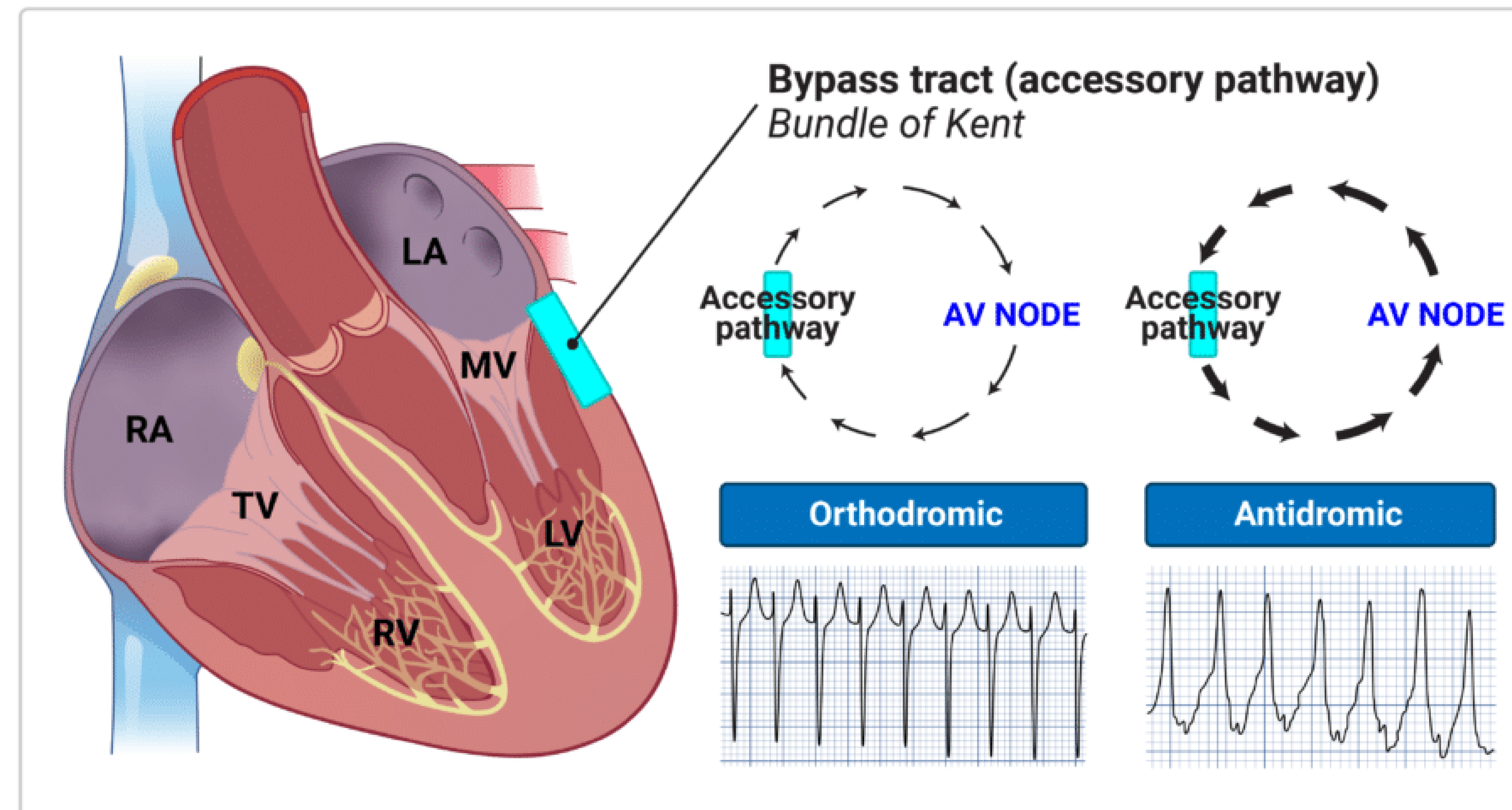
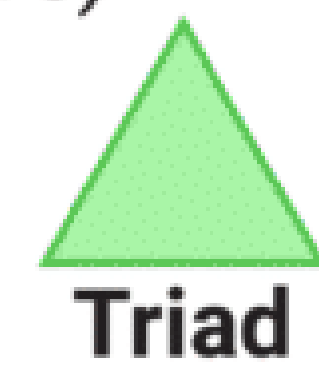


SYNDROME AND WOLF-PARKINSON-WHITEA SCHEDULED CESAREAN DELIVERY

Wolff-Parkinson-White Syndrome



- 1 Slurred upstroke of QRS complex (delta wave)
- 2 Wide QRS complex (QRS > 120 msec)
- 3 Short PR interval (PR < 120 msec)



Wolff Parkinson White (WPW) syndrome is a congenital abnormality consisting of accessory conduction pathways that bypass AV node and can result in symptomatic and life threatening arrhythmias. General prevalence is estimated between 1 to 3 per 1000. ECG shows a short PR interval and prolonged QRS with an initial slurring upstroke (delta wave) and sinus rhythm. Symptoms can vary from tachycardia with palpitations, pre-syncope, syncope, lightheadedness or in severe cases even cardiac arrest. Pregnancy can exacerbate the symptoms due to increased catecholamines and blood volume. Additional factors like pain, stress and anxiety further activate the sympathetic system triggering arrhythmias.

- **Patient profile**
 - **Age / Sex:** 35-year-old female
 - **Diagnosis:** Wolff-Parkinson-White (WPW) syndrome
 - **Presentation:** Scheduled cesarean section (CS) at 39 weeks gestation
- **Past cardiac history**
 - As a child she experienced frequent tachyarrhythmias, which led to the diagnosis of WPW.
 - No prior medical therapy or hospitalizations for arrhythmia.
 - Last tachycardic episode occurred 4 months ago and resolved spontaneously.
- **Pregnancy-related symptoms**
 - Mild exertional dyspnea and fatigue with moderate-to-severe activity.
- **Imaging**
 - **Echocardiogram:**
 - Ejection fraction 55 %
 - Stage 1 diastolic dysfunction
 - Mild left-ventricular hypertrophy
 - Mild mitral regurgitation
- **Outpatient cardiology follow-up**
 - The patient reported poor compliance with scheduled follow-up visits.
 - She was advised to follow a low-salt diet.

- **Day of surgery**
 - Inpatient cardiology team present.
 - Pre-operative preparation: 18-gauge IV placed and patient pre-hydrated.
 - In the operating room: standard ASA monitors applied.
 - **Vital signs:** BP 117/86 mm Hg, HR 86 bpm, SpO₂ 99 %.
 - **Anesthesia:** Spinal block with hyperbaric bupivacaine 1.1 mL, fentanyl 15 µg, and preservative-free morphine 0.1 mg.
 - Phenylephrine infusion started at 0.2 µg·kg⁻¹·min⁻¹.
 - All anti-arrhythmic agents and a defibrillator were kept immediately available.
- **Intra- and postoperative course**
 - Cesarean section proceeded uneventfully.
 - Post-operative recovery was smooth, with no arrhythmic events.
 - Cardiology plan: discharge with outpatient electrophysiology (EP) follow-up.
- **Arrhythmia-management**
 - **Narrow-Complex SVT**
 - First line: Adenosine 6 mg IV push → if no response, repeat with 12 mg IV push
 - Backup: Verapamil 2.5-5 mg IV push **or** Labetalol 5 mg IV push (repeat as needed)
 - Hemodynamic compromise: synchronized cardioversion under sedation
 - **Wide-Complex Tachycardia**
 - First line: Procainamide loading 20-50 mg/min, maximum 1.5 g
 - Backup: None (procainamide is the primary agent)
 - Hemodynamic compromise: synchronized cardioversion under sedation

Key Takeaways:

- **Safe Medications:** Lidocaine, adenosine, procainamide, and amiodarone are safe for managing acute tachyarrhythmias.
- **Hemodynamic Focus:** Maintain stable sympathetic tone; avoid hypotension, hypovolemia, and pain, which can precipitate arrhythmia.
- **Pre-emptive Planning:** Always have a defibrillator immediately available.
- **Neuraxial Anesthesia:** Preferred for hemodynamic stability and post-op analgesia.
- **Drug Choices:** Maintain caution with drugs that speed conduction through the accessory pathway, such as digoxin, verapamil, and diltiazem.