Answer to Quiz – Electrocardiography

Correct answers: D and E

A. **Isorhythmic dissociation** is due to a competition between two different rhythms which rates are very close, usually a junctional rhythm in competition with slow sinus rhythm. This is not currently the case here. An example of isorhythmic dissociation is provided below (Fig. 1).

![Figure 1. Isorhythmic dissociation](image)

B. **Complete atrioventricular block with Hissian extrasystoles** - the presence of retrograde p waves excludes the presence of underlying atrial fibrillation with complete atrioventricular block.

C. **Sinus bradycardia with atrial bigeminy** - a sinus P wave should then be visible before each QRS complex, which is not the case here. An example is provided below (Fig. 2).

![Figure 2. Sinus bradycardia with atrial bigeminy](image)

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**Address for Correspondence:** Sok-Sithikun Bun, Pasteur University Hospital, Nice, France.

**Email:** sithi.bun@gmail.com  **Phone:** +33492037733  **Fax:** +37797989732

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D. Junctional escape-capture bigeminy. This is visible in ECG strip below (Fig. 3), the sequence consisting in a group beating of a junctional beat followed by a conducted sinus beat. A normal (anterograde) sinus P wave (visible here in V1) is sandwiched between 2 QRS complexes an arrangement causing group beating with recurring couplets.

![Figure 3. Junctional escape-capture bigeminy](image)

E. Escape-echo bigeminy. This is a variant of the preceding (Fig. 4). The arrangement is different, where a junctional beat gives rise to a retrograde P wave (best seen in the inferior leads), which is then conducted back to the ventricles, producing a hitherto combination.

![Figure 4. Escape-echo bigeminy](image)

Sok-Sithikun Bun, Didier Scarlatti, Fabien Squara
Pasteur University Hospital, Cardiology Department, Nice, France

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