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First degree pacemaker exit block

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Usually atrial and ventricular depolarizations follow soon after the pacemaker stimulus (spike on the ECG). But there can be an exit block due to fibrosis at the electrode - tissue interface at the lead tip. This can increase the delay between the spike and atrial or ventricular depolarization. The ECG (**Figure 1**) illustrates a first degree pacemaker exit block in the atrial lead. The interval between the atrial spike and the P wave is about 120 ms. The interval between the ventricular spike and the QRS complex is just above 40 ms.

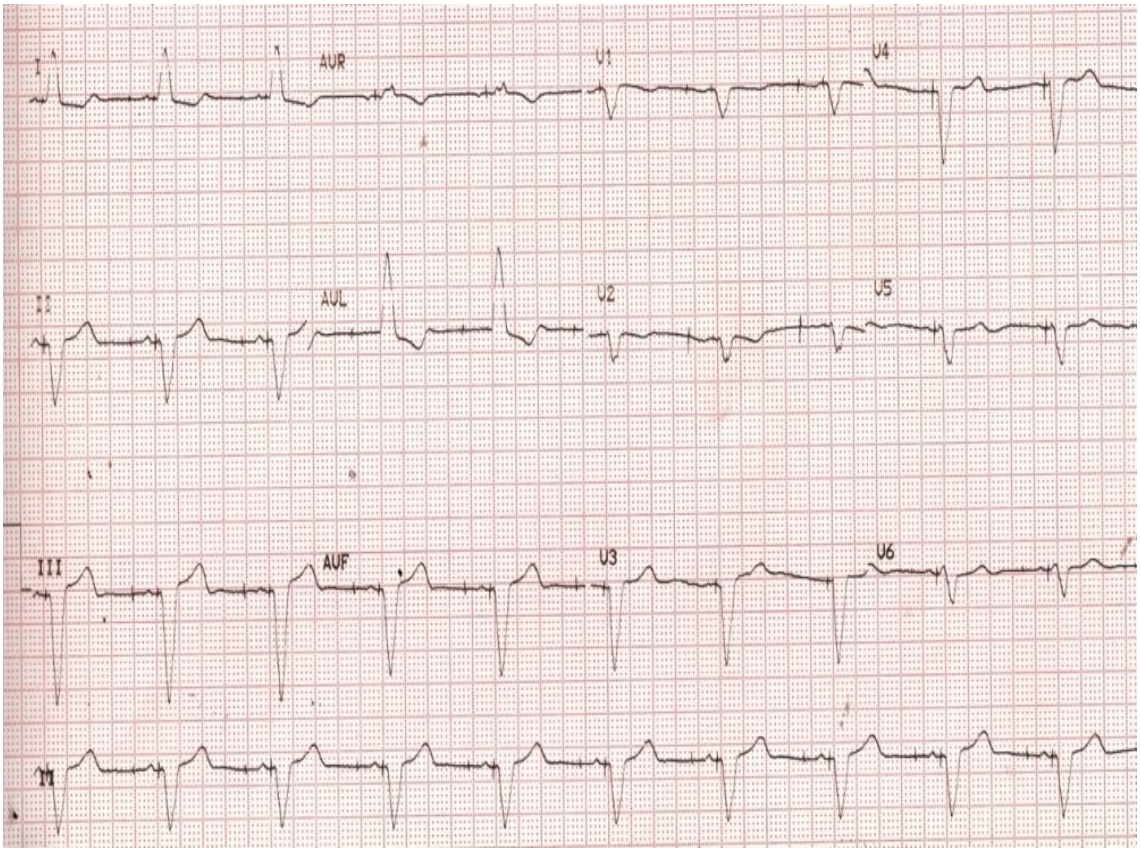

Figure 1 (See text for details)

First degree pacemaker exit block will manifest as a increase in the delay between the pacing spike and the P wave or the QRS complex (also known as latency). Normal latency for right ventricular endocardial pacing is less than 40 ms. Wenckebach and Mobitz type II pacemaker exit blocks have been described in literature [1]. Third degree pacemaker exit block will manifest as loss of capture.

Pacemaker exit block need not always be due to fibrosis at the electrode - tissue interface. It could be due to reversible causes for increase in the latency as in hyperkalemia [2,3]. Varriale P and Manolis A reported a case of Pacemaker Wenckebach due to hyperkalemia [4]. Other causes of pacemaker exit block are severe myocardial disease, myocardial infarction (e.g. right ventricular infarction in case of right ventricular pacing), toxicity of antiarrhythmic agents, and coronary vasospasm (Prinzmetal's angina) [5]. An interesting case of hemosiderosis induced ventricular pacing exit block has also been described [6].

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