

Polymorphic Ventricular Tachycardia?

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The medical team was called emergently from the telemetry station in response to the tracing shown in Figure 1. The patient was a 65-year-old woman with paroxysmal atrial fibrillation and no structural heart disease. The medical team arrived at the bedside to find the patient chatting with her family with a heart rate of 95 and blood pressure of 144/92. The patient had been awake and alert throughout the episode. Initial inspection of the rhythm strip (Figure 1) shows what appears to be nonsustained polymorphic ventricular tachycardia followed by normal QRS complexes. Upon careful inspection of the V1 (lower) tracing, the

QRS complexes can be marched backward through the wide complexes to the beginning of the strip, as shown in Figure 2 (arrows), indicating that the wide complexes are artifact.

The presence of artifact is confirmed in Figure 3, in which the arterial blood pressure (ABP) waveform follows the QRS complexes. In polymorphic ventricular tachycardia, the ABP would have fallen and the waveform would have been chaotic. Failure to differentiate between artifact and ventricular tachycardia can lead to inappropriate management.^{1,2} The artifact in this case is likely due to electrode motion and emphasizes



FIGURE 1. Telemetered leads II and V1 rhythm strips suggesting the presence of a polymorphic ventricular arrhythmia.

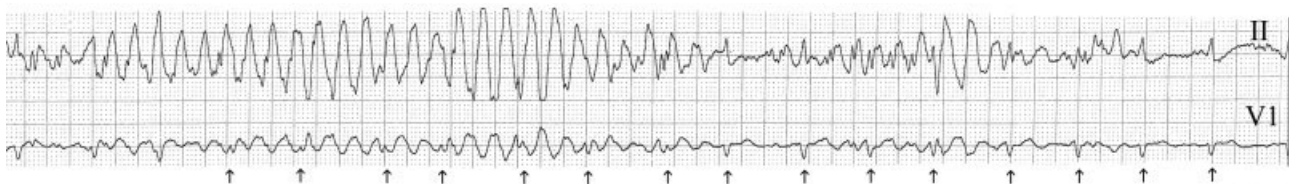


FIGURE 2. The same rhythm strip as Fig. 1 with arrows indicating the QRS complexes marching through the apparent ventricular arrhythmia.

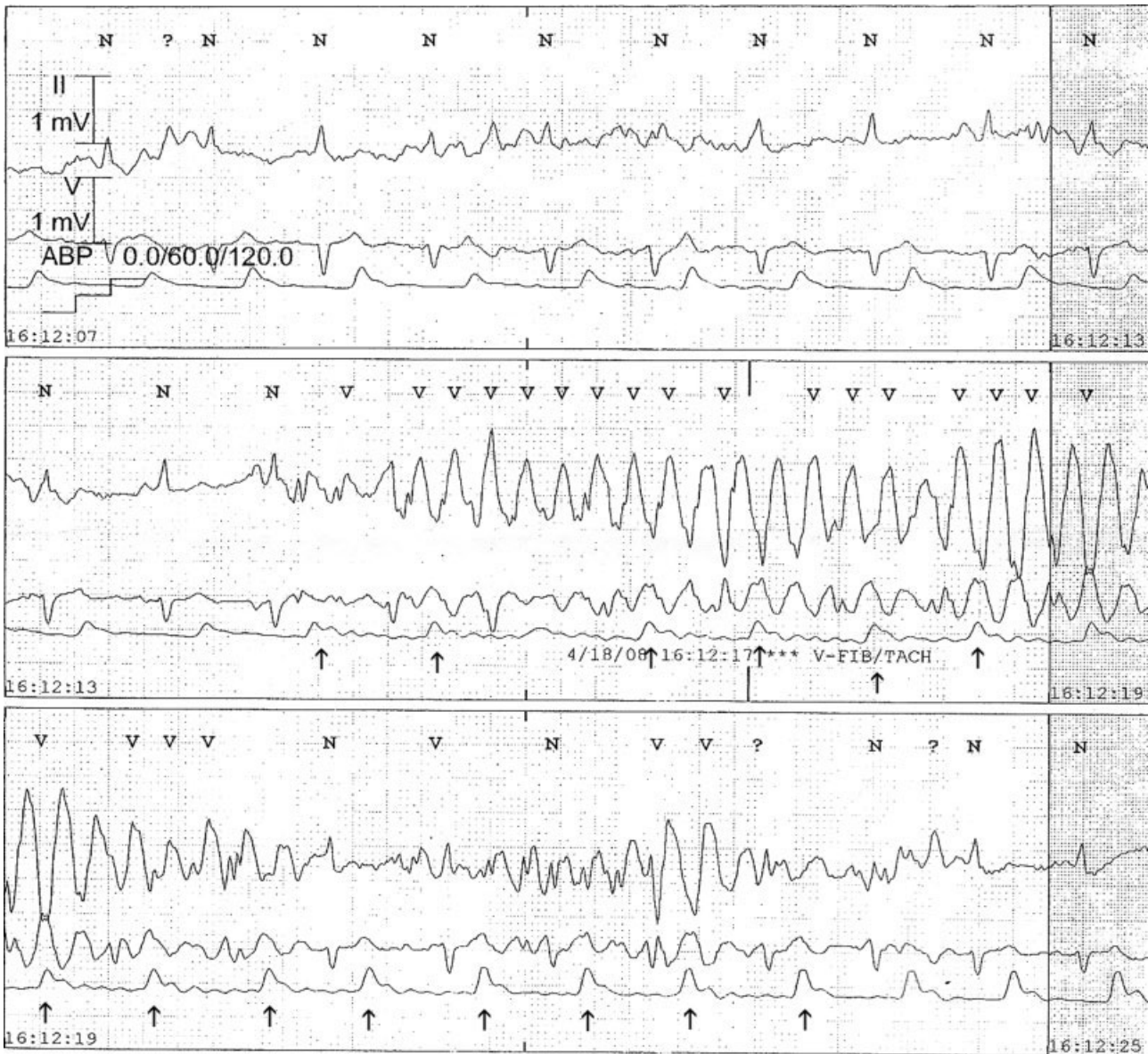


FIGURE 3. Continuously recorded telemetered leads II and VI rhythm strips with simultaneous arterial blood pressure tracings. Arrows indicate the constant, regular arterial waveform.

the importance of using all the available data when evaluating rhythm strips. Critical evaluation of multiple electrocardiographic (ECG) leads is the cornerstone of diagnosis; continuous arterial monitoring, if available, can be useful for confirmation.

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