

Tiger Stripes

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On occasion a high amplitude band-like signal is noted on Doppler spectral recordings of valvular regurgitation (Fig. 1). However, clinically these “tiger stripes” are most often noted with porcine mitral prosthetic valves (Fig. 2), and may be indicative of an acute flail prosthetic leaflet.^{1–5}

These band-like signals appear to be associated with an intracardiac oscillating structure,⁶ with the first band (lowest frequency on the Doppler recording) representing its fundamental frequency. These structures vibrate with a single frequency (not chaotic) with several harmonic overtones.^{7,8} These tiger stripe frequencies may occur in the absence of blood flow turbulence.⁶ Also, the observed Doppler fundamental frequency (and amplitude) appears to be proportional to regurgitant flow rate across the valve.⁷

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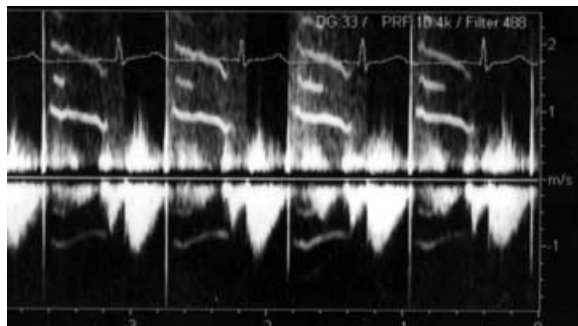


Figure 1. An unusual band-like signal noted on the pulsed-wave Doppler recording of a patient with moderate native valve aortic regurgitation.

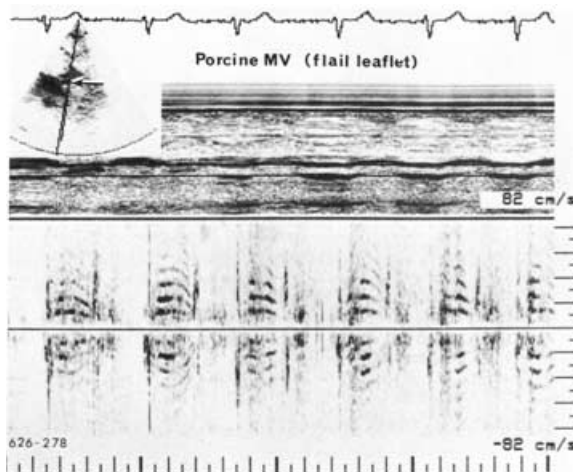


Figure 2. Tiger stripes noted in a pulsed wave Doppler recording of a flail porcine mitral leaflet (with permission from Reference 1).

In conclusion, tiger stripes are an interesting Doppler finding, usually noted with flail porcine mitral prosthetic valves, but may occur with any oscillating structure. In the proper clinical setting, tiger stripes may be indicative of an acute flail prosthetic leaflet, and thus an indication for further evaluation.

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