His pneumothorax never recurred and all of us recovered. I never tried this method again.

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REFERENCES
1 Irwin RS, Weg JG. Pleurodesis for spontaneous pneumothorax: will the procedure of choice please stand up? Chest 1994; 106:967-70

Clarifying Characteristics of Pericardial Tamponade

To the Editor:

In their otherwise useful article on tamponade in leukemia, Drs. Mani and Duffy (Chest 1994; 106:967-70) make a small but conceptually and clinically important error. They describe the “square root sign” in the ventricular pressure pulse as “characteristic of pericardial tamponade.” On the contrary, tamponade physiology rules out this sign that is characteristic of constrictive pericarditis. Indeed, their patient had obliteration of the y descent that is characteristic of tamponade and precludes a true ventricular dip, which is the source of the square root sign. One way they could have obtained a dip is by using fluid-filled catheters that were not critically damped. The resultant “catheter whip” often spuriously resembles a pressure dip. We should not, however, teach this configuration as characteristic of anything but restrictive physiology. Tamponade obliterates the y descent and any tendency to a (simultaneous) dip.

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REFERENCE

Unique Electrocardiographic Finding—Unlikely

To the Editor:

The interesting case report “A Unique Electrocardiographic Finding in a Patient After Esophagectomy”1 and the intriguing conclusion presented by the author merits further comment and discussion. Foremost, I am sure there is confusion to the reader regarding the undulations to which the author refers. There are actually two types of undulations presented on this ECG: (1) the broad, total undulation between each R-R interval, best noted in leads V2-V3 and (2) the small “flutter-like” waves noted in leads V1 through V5. As only the precordial leads are presented, the basic data apparently reveals normal sinus rhythm at a heart rate of 66/min, with a P-R interval of 0.16 s and a QT interval of about 0.38 s. Prominent U-waves may be present.

The “small” waves, mostly technically indistinct, could translate to rates of 62 to 200 beats/min. The large, singular undulation between each R-R interval would have a theoretical rate of 60 to 75/min. Even if the rate was calculated by 50%, the inherent rate would be at least 30/min—not possible for inherent gastric rhythm or tachygastria, which would be the equivalent of cardiac ventricular fibrillation, currently an unknown phenomenon in gastric electrophysiology as I understand it and according to my discussion with an expert in the field.2 Studies have shown that the normal gastric rhythm by electro gastrogram is 3 cycles per minute.3 Tachygastria occurs at cycles greater than 5/min. Not being a gastroenterologist or gastroenterologic physicist, I would have to conclude that these rates are far greater than would be produced by normal or increased gastric motility. The slow-waves of gastric electrical activity are believed to be due to cyclic depolarization of the smooth muscle cells in the absence of associated peristalsis. These would reveal themselves as “sine” waves when monitored by cutaneous electrogastrography.2

The author makes note of the fact that he excluded technical error by using various machines and cables. Unfortunately, no attempts were made to perform the following technical maneuvers that I believed were necessary electrocardiographically in this case: (1) ECG taken on deep held inspiration and expiration; (2) varying the position of the precordial electrode so that leads V2-R and V3-R are taken; and (3) V2 and V3 lead positions recorded from the second to the sixth intercostal spaces.

Since the QRS complexes in leads V1 through V3 as exhibited are basically on an even baseline and not part of the undulation as they are often seen in the left precordial leads in some patients during respiration, we can exclude “normal” respiratory variation; however, the influences of mechanical interfaces produced by the stomach, lungs, and heart combined have not been excluded as contributory to the surface electrocardiogram in this case. In addition, the above procedures should be performed during the fasting and postprandial states, and other simple external electrophysiologic procedures should be performed before allowing one to imply “uniqueness” of an electrocardiographic finding of this type. The standard ECG recorder would not possess the special filtering capacity, etc., that would be needed to record gastric electrical activity. Surface electrogastrograms are being performed at various centers using simple, but specialized equipment for this purpose. I would strongly urge Dr. Ferrari to follow the procedures outlined to clarify his position and arrive at a more definitive answer.

The author’s conclusion, “... it is... the electrical activity of gastric contractions that is being recorded” appears unlikely.

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REFERENCES