2. McKusick VA: Jean-Baptiste Auguste Chauveau. In *Dictionary of Scientific Biography*, vol.3, (Ed. Gillespie CC) p. 219–220. New York: Charles Scribner's Sons, 1971
3. Chauveau A: *Traité d'Anatomie Comparée des Animaux Domestiques*. Paris: J.-B. Baillière, 1857
4. McKusick VA: *Cardiovascular Sound in Health and Disease*. Baltimore: Williams & Wilkins, 1958
5. Keele KD: The application of the physics of sound to nineteenth century cardiology: With particular reference to the part played by C. J. B. Williams and James Hope. *Clio Medica* 1973;8:191–221
6. Silverman ME: Etienne-Jules Marey: Nineteenth century cardiovascular physiologist and inventor of cinematography. *Clin Cardiol* 1996;19:339–341
7. Snellen HA: E. J. Marey and Cardiology: Physiologist and Pioneer of Technology (1830–1904). Rotterdam: Kooiker Scientific Publications, 1980
8. Hoff HE, Geddes LA: A historical perspective on physiological monitoring: Chauveau's projecting kymograph and the projecting physiograph. *Cardiovasc Res Center Bulletin* 1975;14:3–35
9. Dagognet F: *Etienne-Jules Marey: A Passion for the Trace*. New York: Zone Books, 1992
10. Chauveau A, Marey EJ: *Appareils et Expériences Cardiographiques Démonstration Nouvelle du Mécanisme des Mouvements du Coeur par l'Emploi des Instruments Enregistreurs à Indications Continuéés*. Paris: J.-B. Baillière, 1863
11. Marey EJ: *Physiologie Médicale de la Circulation du Sang basée sur l'Étude Graphique des Mouvements du Coeur et du Pouls Artériel avec Application aux Maladies de L'Appareil Circulatoire*. Paris: Adrien Delahaye, 1863
12. Courmand A: Cardiac catheterization: Development of the technique, its contributions to experimental medicine, and its initial applications in man. *Acta Med Scand Suppl.* 579, 1975

Clin. Cardiol. 26, 353 (2003)

Images in Cardiology: Hiatal Hernia Masquerading as an Extracardiac Mass on Transesophageal Echocardiogram

RAJIV GUPTA, M.D., ANTONIO CHAMOUN, M.D., MASOOD AHMAD, M.D., YOCHAI BIRNBAUM, M.D.

Division of Cardiology, University of Texas Medical Branch, Galveston, Texas, USA

FIG. 1 (A) Transesophageal four-chamber view of the mass (*). Arrow indicates the mitral valve. (B) MRI image of the thorax. Arrow indicates the descending aorta. * = hiatal hernia; LA, RA = left, right atrium; LV, RV = left, right ventricle.

A 66-year-old man presented with shortness of breath and bilateral lower extremities edema. He was found to have atrial fibrillation (170 beats/min). Transesophageal echocardiogram (TEE) showed mild left ventricular hypertrophy with normal function and no thrombus in the left atrium (LA). An extracardiac mass compressing the LA was seen (Fig. 1A). Magnetic resonance imaging (MRI) of the chest showed a large hiatal hernia with fluid in the dilated esophagus above the gastroesophageal junction (Fig. 1B).

Occasionally, masses compressing the LA are identified by TEE or transthoracic echocardiography, mandating further

evaluation. If a hiatal hernia is suspected, use of oral contrast or soda during transthoracic echocardiography may be diagnostic, but during TEE it carries the risk of aspiration. MRI is a powerful noninvasive tool for evaluating such suspected cardiac or noncardiac mass lesions.

Reference

- Menegus MA, Greenberg MA, Spindola-Franco H, Fayemi A: Magnetic resonance imaging of suspected atrial tumors. *Am Heart J* 1992;123:1260–1268