sure. This will lead to more compression of the vein, and the cycle continues.

It is suggested that the specific relationship of the anomalous vertical vein to the left pulmonary artery, whether it runs anterior or posterior to it, will play a role in governing whether or not pulmonary venous obstruction exists in this anomaly.

The foregoing, it is hoped, will throw light upon the enigma of differences concerning evidence for pulmonary venous obstruction among patients with total anomalous connection of the pulmonary veins to the left innominate vein.

Larry P. Elliott
Jesse E. Edwards

References

Galvani and the Electrophysiology of Muscular Contraction

Galvani first began his studies on animal electricity in 1780 but prudence and thoroughness delayed his decision to publish his findings. He was performing experiments on nervous excitability in frogs (prepared in the manner which physiologists soon came to call the "Galvani preparation") when he observed that under the influence of distant electrical discharges, violent muscle contractions are noted if the lumbar nerves of the animal are touched with metal instruments. It should be related, in this connection, that a few years before, in Bologna, Floriano Caldani (1756) and Giambattista Beccaria (1758) were able to demonstrate electrical excitability in the muscles of dead frogs.

The significance of the experiment of Galvani was emphasized by Maiorana in his discourse during the Galvani commemoration of 1937. The phenomenon of the colpo di ritorno, which (in Galvani's time) could be explained as a simple effect of electrostatic induction, contains the germ of modern wireless telegraphy. "Great things have small beginnings. What in Galvani's hands could move a muscle, brought Mareoni's voice across oceans."

In the beginning Galvani investigated the effects of artificial electricity on the nerves and muscles of frogs. Later he performed several experiments on warm-blooded animals with the natural electricity of atmospheric discharges, assisted by his nephew Camillo Galvani.—Giulio Pupilli. Commentary on the Effect of Electricity on Muscular Motion. By Luigi Galvani. Translated by Robert Montraville Green, M.D., Cambridge, Massachusetts, Elizabeth Licht, Publisher, 1953, p. x.
Theofilos Tsagaris helped in the cardiac catheterization studies, and Dr. Hiroshi Kuida offered valuable suggestions in the preparation of the manuscript.

References

Sydenham drew a sharp distinction between acute and chronic diseases. He saw in disease, particularly in the acute forms, a sort of battle between the forces of Nature resident in the patient's body and the noxious agents. These agents arise within the body in consequence of faulty digestion or faulty mixture of the bodily juices. Diseases are chronic because the reaction of the body against the harmful agent is slow in developing, or because the agent continues to act over a long period of time. He lays much stress on bodily disposition and age and sex and season and climate, and their influence upon the course of disease. In these various respects Sydenham saw much more deeply than his contemporaries. Sydenham's definition of disease shows a truly remarkable insight. It is as follows: "An effort of Nature, striving with all her might to restore the patient by elimination of the morbid matter."—David Riesman, M.D. Thomas Sydenham, Clinician. New York, Paul B. Hoeber, Inc., 1926, p. 24.

The ancient emblem representing life as a closed circle, formed by a serpent biting its own tail, gives a fairly accurate picture of things. In complex organisms the organism of life actually forms a closed circle, but a circle which has a head and a tail in this sense, that vital phenomena are not all of equal importance, though each in succession completes the vital circle. Thus the muscular and nervous organs sustain the activity of the organs preparing the blood; but the blood in its turn nourishes the organs which produce it. Here is an organic or social interdependence which sustains a sort of perpetual motion, until some disorder or stoppage of a necessary vital unit upsets the equilibrium, or leads to disturbance or stoppage in the play of the animal machine. The problem for experimenting physicians consists, therefore, in finding the simple determinism of an organic disorder, that is to say, in grasping the initial phenomenon which brings all the others in its train through a complex determinism as necessary in character as the initial determinism. This initial determinism is like Ariadne's thread guiding the experimenter in the dark labyrinth of physiological and pathological phenomena, and enabling him to understand how their varied mechanisms are still bound together by absolute determinisms. By examples cited further on, we shall see how a dislocation of the organism or an apparently highly complex disorder may be traced back to an initial simple determinism which later produces more complex determinisms. A case in point is poisoning by carbon monoxide. I am devoting my whole course at the Collège de France this year to the study of curare, not for the sake of the substance itself, but because this study shows us how the simplest single determinism, such as the lesion of a terminal motor nerve, re-echoing successively from all the other vital units, leads to secondary determinisms which grow more and more complicated till death ensues.—CLAUDE BERNARD. An Introduction to the Study of Experimental Medicine. New York, The Macmillan Company, 1927, p. 88.


Religio Medici

And if we should allow of the old Tradition that the World should last six thousand years, it could scarce have the name of old, since the first Man lived near a sixth part thereof, and seven Methusela's would exceed its whole duration. However to palliate the shortness of our Lives, and somewhat to compensate our brief term in this World, it's good to know as much as we can of it, and also so far as possibly in us lieth to hold such a Theory of times past, as through we had seen the same. He who hath thus considered the World, as also how therein things long past have been answered by things present, how matters in one Age have been acted over in another, and how there is nothing new under the Sun, may conceive himself in some manner to have lived from the beginning, and to be as old as the World; and if he should still live on, 'twould be but the same thing.—Sir Thomas Browne. Religio Medici. Edited by W. A. Greenhill, M.D. London, MacMillan and Co., Ltd., 1950, p. 230.
indicated in figure 3b. Compression of the chest wall produced a femoral arterial systolic blood pressure of 75 to 80 mm. of mercury. The right atrial pressure rose to 30/10 and returned to 14/8 after restoration of normal sinus rhythm and cessation of massage (fig. 3c).

The angiocardiograms in figure 4 show cardiac dilatation, aortic collapse, and cessation of cardiac output during ventricular fibrillation. Contrast medium fills both ventricles and enters both atria, probably owing to temporary incompetence of all valves.

Summary
Closed-chest massage and defibrillation were used successfully in the management of six acute cardiac emergencies occurring in a cardiac catheterization laboratory. A modification of the Kouwenhoven method of closed-chest massage was used in infants and small children. It is concluded that open-chest resuscitation is usually unnecessary during cardiac catheterization.

References

Heredity and Environment
An account of formative influences which have affected a career should quite properly start with inheritance. It may not be possible to trace the appearance of many traits from generation to generation through a considerable past—the combinations of determinative factors become too complicated as the numbers in the ancestry multiply. Sometimes, however, the transmission of the infinitesimal hereditary packets in germ cells is demonstrated by peculiar features clearly distinguishable in a long family line. The famous Hapsburg lip is an eminent example. Such evidence justifies looking backward for the appearance of characteristics in some of the forebears, especially in recent history. Besides biological inheritance there is tradition to be recognized as a potent agency in affecting behavior.—Walter B. Cannon, M.D. The Way of An Investigator. New York, W. W. Norton & Company, Inc., 1945, p. 11.
As seen in table 2, all 17 patients with atrial fibrillation who had been submitted to left heart catheterization had coarse f waves in V1. The ages ranged between 27 and 46 years, the average age being 38 years. Fourteen patients had mitral stenosis and insufficiency, one had mitral stenosis, one mitral insufficiency, and one had myocarditis of unknown origin. Fifteen patients had left atrial enlargement on roentgenologic examination, and two patients did not have adequate roentgenologic studies. The intra-atrial pressure was found elevated in all patients, the average being 28/11 mm. Hg.

Conclusions
Analysis of a group of 194 patients with atrial fibrillation showed that 87 per cent of the patients whose electrocardiograms revealed atrial fibrillation with coarse f waves in V1 had rheumatic heart disease and that 88 per cent of the patients showing electrocardiograms with atrial fibrillation and fine f waves in V1 had arteriosclerotic heart disease.

All patients who showed coarse f waves in V1, and who had adequate roentgenologic studies, had left atrial enlargement. Coarse f waves in V1 were found in all patients who had atrial fibrillation with postmortem evidence of left atrial enlargement, as well as in those with elevated left atrial pressures on left heart catheterization.

References

The University and The Hospital
The type of school I have always felt the Hospital should be: a place of refuge for the sick poor of the city—a place where the best that is known is taught to a group of the best students—a place where new thought is materialized in research—a school where men are encouraged to base the art upon the science of medicine—a fountain to which teachers in every subject would come for inspiration—a place with a hearty welcome to every practitioner who seeks help—a consulting center for the whole country in cases of obscurity.—Sir William Osler. Aphorisms From His Bedside Tackings and Writings. Edited by William Bennett Bean, M.D. New York, Henry Schuman, Inc., 1950, p. 47.

Circulation, Volume XXV, June 1962
We have recalled ... that science is the most powerful agency of change not only in the material world but also in the spiritual one; so powerful indeed, that it is revolutionary. Our Weltanschauung changes as our knowledge of the the world and of ourselves deepens. The horizon is vaster as we go higher. This is undoubtedly the most significant kind of change occurring in the experience of mankind; the history of civilization should be focussed upon it.—GEORGE SARTON. *Horus: A Guide to the History of Science.* Waltham, Massachusetts, 1952, p. 10.