producing changes in the T wave alone suggests that this is a possibility. In addition, compression of the subepicardial layers due to sudden change in intrapericardial pressure may cause local ischemic changes. The situation in acute hemopericardium is in marked contrast to the gradual accumulation of fluid and corresponding electrocardiographic findings in inflammatory pericarditis with effusion or in hemorrhagic pericarditis associated with myocardial infarction. In the latter situation, slow accumulation of fluid, even though hemorrhagic, follows local inflammatory changes in the pericardial or subepicardial layers of the heart. The typical signs of acute pericarditis, gradual flattening of the T waves, and decrease in amplitude of the QRS complexes, then follow. It would appear therefore that a prerequisite for the appearance of electrocardiographic signs of acute hemopericardium is a normal pericardium. It should be noted in all of our cases of hemopericardium secondary to rupture through a myocardial infarction (figs. 6, 7, and 8) that there was no histologic evidence of pericarditis. An additional factor in production of the characteristic sign is sufficient survival time. Case 4 (fig. 4), for example, had a normal tracing on admission but electrocardiographic findings of acute hemopericardium appeared in 3 hours and death occurred 1 hour later.

Conclusions

The electrocardiographic correlations in eight autopsied cases of acute hemopericardium secondary to rupture of the heart or aorta are presented.

The characteristic electrocardiogram presents as an acute abnormality with tall and often peaked T waves in the precordial leads. This occurs despite depression of the ST segment or prior configuration of the T wave, even causing reversal of previously negative T waves.

The occurrence of this electrocardiographic finding in acutely ill patients should suggest the presence of acute hemopericardium with its therapeutic implication.

References


---

Galvani and the Electrophysiology of Muscular Contraction

Galvani called attention to the incantesimo of the heart, a momentary cessation of heart pulsations which he noted in frogs when a needle was inserted into their spinal canals. He saw for the first time, the phenomenon of inhibition, the theory of which later became so important in physiology and psychology.—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. xvi.
ATRIAL TACHYCARDIA AND DIGITALIS


Thomas Sydenham
1624-1689

Thomas Sydenham was not regarded as a great man in his own time. Born in 1624 he had as contemporaries many medical men of greater renown in their day, men who lording it over him, but whose very names posterity has not remembered. Of his medical contemporaries only William Harvey and John Locke are today held in high esteem. Sydenham was a modest man like all the truly great, and cared little for the plaudits or the scoffing of men. No one would be more amazed than he himself could he know how the scientific world today regards him or with what universal acclaim it celebrated the tercentenary of his birth.—David Riesman, M.D. Thomas Sydenham, Clinician. New York, Paul B. Hoeber, Inc., 1926, p. 11.
Acknowledgment

I wish to thank Dr. Jessica H. Lewis for reviewing this manuscript and for her helpful suggestions, and Drs. Albert Amshel, Leslie Morris, Sidney Rosenberg, Irving Stutz, and Marvin Silverblatt, for permitting me to use records of their patients for this article. Cases 1 to 4 are from the Montefiore Hospital, Pittsburgh, Pennsylvania; Case 5, Oakland V. A. Hospital, Pittsburgh, Pennsylvania.

References

What the next turning point of our understanding of disease may be is a matter for surmise and speculation. I would hazard the guess that the next interpretation of disease will in some way involve an increased emphasis on the ecological approach. Ecology is the branch of biology which deals with the mutual relations between organisms and their environment. The more we learn about living creatures, whether plant or animal, the more impressive becomes the evidence of the interrelatedness of living things. They obviously live on each other as predators or as parasites. Somewhat less obviously, they live with each other in varying degrees of mutual aid and dependence. For all its complexity, ecology provides a fascinating kind of understanding of what goes on.

Perhaps one of the first powerful results of interpreting disease as an ecologist would regard it would be a greater interest in convalescence and rehabilitation. Surely, it is no loss to medicine if the ecologist joins hands with the economist and the humanist in holding that the return to wage earning and independence forms part of the cure. Indeed, we are beginning to see rehabilitation as a growing fringe of Great Medicine.—ALAN GREGG, M.D. Challenges to Contemporary Medicine, New York, Columbia University Press, 1956, p. 38.
Acknowledgment

We are indebted to Dr. Demetrio Sodi-Pallares for his helpful criticism in the preparation of this paper. We wish also to express our appreciation to Dr. Helen B. Taussig for her observations and suggestions.

References


Care more particularly for the individual patient than for the special features of the disease.—SIR WILLIAM OSLER. Aphorisms From His Bedside Teachings and Writings. New York, Henry Schuman, Inc., 1950, p. 93.


It is impossible to devise an experiment without a preconceived idea; devising an experiment, we said, is putting a question; we never conceive a question without an idea which invites an inswer. I consider it, therefore, an absolute principle that experiments must always be devised in view of a preconceived idea, no matter if the idea be not very clear nor very well defined. As for noting the results of the experiment, which is itself only an induced observation, I posit it similarly as a principle that we must here, as always, observe without a preconceived idea.

In the experimenter, we might also differentiate and separate the man who preconceives and devises an experiment from the man who carries it out or notes its results. In the former, it is the scientific investigator's mind that acts; in the latter, it is the senses that observe and note.—CLAUDE BERNARD. An Introduction to the Study of Experimental Medicine. New York, The Macmillan Company, 1927, p. 23.
could be found in our hospital in the last years.

**Summary and Conclusions**

Fifty patients with congenital heart disease in the fifth to eighth decades of life have been reviewed. Atrial septal defects were the most common lesions and were compatible with long life. Symptoms may occur late but are often rapidly progressive. Despite large left-to-right shunts, pulmonary artery pressures are often normal or only moderately increased. Misdiagnoses are common. Atrial septal defects are confused most frequently with rheumatic heart disease. A diagnosis of mitral stenosis or mitral insufficiency was made in over 50 per cent of this group before admission to our hospital. Some patients with a patent ductus arteriosus may survive to old age. The pulmonary artery pressure tends to be higher in this group than in those with atrial defects with a similar magnitude of left-to-right shunt. Patients with moderately severe pulmonic stenosis may be asymptomatic. Patients with ventricular septal defects show a high attrition rate before 40 years of age, and those surviving past 40 seem to have small and dynamically insignificant lesions. Cyanotic congenital heart disease is very rare after 40 years of age.

Age alone should not be a deterrent to surgical correction of congenital heart defects.

Moderate pulmonary artery hypertension is not a contraindication either, and was reversible in a number of our patients. In view of these findings, it would seem important to consider congenital heart disease in the differential diagnosis of all patients with suspected cardiac disease, even in individuals of middle age and beyond. An accurate diagnosis should be sought, since surgical correction may be possible with considerable benefit to the patient.

**References**


---

The greater the ignorance the greater the dogmatism.—**Sir William Osler.** *Aphorisms From His Bedside Teachings and Writings.* New York, Henry Schuman, Inc., 1950. p. 88.
Science—Pure and Applied

Another reward, sometimes bestowed on the worker in science, is that of seeing during his lifetime the value of his services in the relief of human need. When Davy made discoveries in combustion which enabled him to invent the safety lamp for miners, he knew that toilers in the darkness of the mines would thereby be protected in future times from dangers of violent death. When Faraday, near the end of his life, saw the tower of a lighthouse illuminated by means of a huge dynamo, one of the results of his fundamental discovery of electrical induction, he experienced a deep satisfaction in the thought that it might be the means of saving many human lives. And in the realm of medical science, how great must have been the joy of Koch and of Pasteur when, after age-long strivings to solve the mystery of disease, they saw the consequences of their research and could realize that in time humanity might no longer be scourged with plague and pestilence and driven hopelessly to death because of unknown agents of infection. Similar satisfactions have doubtless been experienced by the discoverers of means of overcoming diabetes, pernicious anemia, general paresis, and many another disorder.

The reward of beholding useful consequences of my own scientific studies cannot be regarded as great, because only in the common use of a heavy powder mixed with food—the bismuth meal—to reveal disorders of the digestive tract when it is examined with the X-rays, have there been clear and definite consequences. In addition there was, to be sure, some gratification in finding that the co-operative work on wound shock during World War I and later in the Harvard Physiological Laboratory had values for the wounded in World War II. And it is said that our researches on the bodily effects of emotions have been helpful because they give the doctor pertinent information in explaining to his nervous patients the reasons for their functional disorders. All I can testify is that in as far as the investigations with which I have been concerned have had any practical utility, I am much pleased.—WALTER B. CANNON, M.D. The Way of An Investigator. New York, W. W. Norton & Company, Inc., 1945, p. 213.
a loud apical systolic murmur. The differential diagnosis and the possibility of corrective surgery in a patient who survives the acute event are discussed.

Acknowledgment

We are grateful to Dr. L. Paul Ralph, Grand Rapids, Michigan, who kindly supplied many of the details in case 1.

References


Many think that the expectation of effecting an improvement in the treatment of diseases of the heart, is chimerical.—J. Hope, M.D. Diseases of the Heart and Great Vessels. London, William Kidd, 1832, p. 19.