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applied to the eight complicated cases of patent ductus arteriosus.

When a ventricular septal defect, however, was complicated by slight pulmonic stenosis, the stenosis apparently still provided some protection to the lung vessels since the media was moderately hypertrophied in only two of the eight cases. Other complications, however, tended to increase the incidence of medial hypertrophy and intimal fibrosis of the pulmonary arteries and that of hemosiderosis.

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References


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On the Double Duty of a Critic

My ancient friend Francis Grierson remarked in one of his essays, “Many writers are slow to praise, fearing that frank enthusiasm will be taken as a mark of critical incapacity.” Yet few demur at wholesale condemnation. For most readers destructive critics are naturally impressive and they somehow feel it is more perspicacious to detect imperfections and weaknesses than it has to point out merits. Actually, “star-finding,” as Frank Harris called it, requires a far greater acumen and skill. This is a point to remember at a time when appreciation is virtually a forgotten word in critical circles.—VAN WYCK BROOKS: From a Writer’s Notebook. New York, E. P. Dutton & Co., Inc., 1958, p. 113.
dioxide in plasma, and bicarbonate content in "separated" plasma at a fixed carbon dioxide tension (40 mm Hg). Scand J Clin Lab Invest 8: 33, 1956.


On Learning in Medicine

To the experimenter immersed in his research, and to the clinician struggling with the load of experience and the needs of his patients, it may seem unpractical to concern ourselves with the theory of medical knowledge. On the other hand, it is perhaps the lack of rational doctrine and a general interest in the problems of method that has made medicine the scene of so much disunited and contradictory effort, and helped to put it down from its historical position as the mother and the nurse of science.—WILFRED TROTTER: The Collected Papers of Wilfred Trotter. London, Oxford University Press, 1941, p. 127.
Elementary Approaches to Thrombosis

Various medical scientists look at thrombosis from different points of view. Only one, the clinician, studies the whole patient in whom a symptomatic clot resides. . . .

The pathologist notes that when a vessel is injured, a clumping of platelets quickly develops at the site of injury. Under the electron microscope, he can see that the clumped platelets tend to lose their "dense granules," perhaps releasing their clot-promoting contents.

The biochemist is interested in the chemical attraction between platelets and injured intima and the subjacent collagen; he tends to implicate the chemical, adenosine diphosphate. The biochemist has made significant advances in the chemistry of prothrombin and its active enzyme, thrombin, as well as in the biochemistry of the fibrinogen-fibrin reaction.

The physiologist is interested in clots that form in living vessels. He notes that undamaged vascular intima is electrically negatively charged, repelling platelets that are similarly charged. When a vessel is damaged, its electronegativity disappears or may be replaced by an electropositivity, which tends to attract platelets to the injured site.

The biophysicist is concerned with two rheologic principles as they may relate to vascular thrombi. First, fluid moving through a tube generates a negative "streaming" potential at the surface of the tube. This exaggerates the normal negative charge of the intima and is dependent upon the flow rate of the blood. Further, the flow rate in very small tubes, such as capillaries, varies with the fourth power of the caliber of the tube. If the diameter of a tube is reduced by one half, the flow rate diminishes to one sixteenth.—Charles A. Owen, Jr.: Hypercoagulability and Thrombosis. In Proc Mayo Clin 40: 830, 1965.


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**The Fruit and the Seed**

Everyone who enjoys thinks that the principal thing to the tree is the fruit, but in point of fact the principal thing to it is the seed. Herein lies the difference between them that create and them that enjoy.—FRIEDRICH WILHELM NIETZSCHE, Maxims.
MECHANICAL ENTRY INTO ARTERIES


Divers men may walk by the seaside, and the same beam of the sun giving light to them all. One gathereth by the benefit of that light pebbles, or speckled shells for curious vanity, and another gathers precious pearl or medicinal amber, by the same light. So the common light of Reason illumines us all.—John Donne: From a sermon, St. Paul's Cathedral in 1621. In D. H. Woollam: Donne, Disease and Doctors. Med Hist 5: 153, 1961.
Cor Triatriatum or Supravalvar Mitral Stenosis

The second case occurred in the year 1802. It was that of Elizabeth Brown, aged 19 years, who from birth had been extremely delicate, subject to pectoral complaints, syncope and darkness of the surface, and who during the last two years of her life, had been much troubled with irregular action of the heart, and dropsical symptoms. At last, fluid was accumulated in the abdomen, in such quantity as to threaten rupture of its sides. At this stage of her illness, she complained frequently, but more especially after using exertion, of a disagreeable throbbing sensation in the epigastric region. By examining this part, while the abdomen was tense, a slight undulating motion could only be felt, but after the fluid had been removed by the operation of paracentesis, the throbbing in the epigastrium was very remarkable.

When the heart was fairly exposed, by slitting open the pericardium, we found it very unequally dilated. The right side was immensely enlarged, while the left was rather smaller than usual. The right auricle was fully as large as a child's head of a year old, and filled with clots of blood. The corresponding ventricle seemed rather less; the venae cavae were much dilated; the inferior admitted with ease four fingers; the foramen ventriculare equalled in size the inferior cava, and the tricuspidal valve was rigid, and in some places ossified.

The left auricle was extremely small, but its structure was apparently healthy, the ventricle was also small, but proportionally thicker and stronger than usual. From the annulus ventricularis a tendinous septum was stretched over the opening leading from the auricle into the ventricle. This septum was rigid, and in some spots ossified; it was perforated at the centre by a puckered aperture, of a size just sufficient to admit the tip of the little finger. It might aptly be compared to the iris perforated by the pupil. Nearer the cavity of the ventricle than the curtain, the mitral valves arose as usual from the annulus ventricularis.

The aorta at its origin and through its whole course, was exceedingly small.—ALLAN BURNS: Observations on Some of the Most Frequent and Important Diseases of the Heart (1809). New York Academy of Medicine, History of Medicine Series. New York, Hafner Publishing Co., 1964, p. 30.


32. Walsmsley, R.: Quoted by Abrahams and associates.2

Atrial Fibrillation—Eighteen Centuries Ago

"Everybody knows what happened to Antipater who practiced medicine with great renown in Rome. As a man less than 60, but more than 50 years of age, Antipater suffered from a short fever of supposedly known cause. It happened that he felt his pulse after the fever's decline in order to know what to do about himself. Antipater was at first shocked when he found a complete irregularity of his arterial pulse. But since he was sure that he no longer had any fever he went to the bath because he felt fatigued from suffering and sleeplessness. He then submitted himself to a very light diet for three days. Since he had no more fever he devoted himself, as before, to his usual everyday duties. But he always checked his arterial pulse at the wrist and was astonished because of the persistence of the anomaly of the pulse.

"Antipater met me one day and stretched his arm out and, laughing, asked me to feel his pulse. Smiling in my turn I said: 'What is the riddle you want to solve?' Feeling his pulse I found a complete irregularity, not only in the order of the pulses which we call an irregularity of the sequence, but also one in the filling of the arteries. I was surprised that anyone could live with a pulse like that and asked him if he had any difficulties in breathing. He answered that he did not feel any difficulties. I observed him very frequently for six months to see if any change occurred, by feeling his radial pulse. When he asked me what the condition of his body ("diathesis" in Greek) was and how it could bring about such a pulse without fever I answered him that I had described in my 'Book on Pulses' a similar anomaly.


*The last sentence of this quotation can be better understood when we remember that the ancients considered the right atrium and auricle as a part of the vena cava, but the left atrium and auricle as part of the pulmonary vein.—Personal communication from R. E. Siegel.