ELUSIVE CAUSES OF CLOSURE OF DUCTUS ARTERIOSUS

From data presently available it appears that, contrary to earlier observations in animals, the ductus arteriosus in man does not close immediately but remains patent for at least several hours after birth. Immediately after birth, a right to left or bidirectional shunt occurs, and this later replaced by a predominantly left to right shunt. Functional closure occurs several hours to several days after birth, depending upon a number of incompletely understood factors. Available evidence suggests that oxygen is probably the important factor causing closure of the ductus arteriosus. Hypoxemia, prematurity, and respiratory distress may be associated with delayed closure, but the basis for persistent patency of the ductus arteriosus has not yet been determined.


Pulsatile Pulmonary Blood Flow—Suggestion by Harvey, 1628

In the liver there is no impulsive, no strength forcing; in the lungs the blood is thrust against them by the impulsion of the right ventricle of the heart, by which impulsion there must necessarily follow a distention of the vessels and porosities of the lungs. Besides, the lungs in respiration rise and fall (Galen, De Usu Partium), by which motion it follows of necessity, that the porosities of them and their vessels are open’d and shut, as it falls out in sponges, and all things of a spongy substance when they are constricted and dilated again.—The Anatomical Exercises of Dr. William Harvey: D Motu Cordis 1628; De Circulatione Sanguinis 1649 (first English text). Edited by GEOFFREY KEYNES. London, The Nonesuch Press, 1653, p. 50.
Coronary Care Units

I am determined to scrutinize even a not too serious suggestion that such statistically acceptable answers must be sought and found before sensible decision can be made to proceed with development of intensive care units for patients with acute myocardial infarction.

...So long as development of intensive care units is without threat to survival and comfort of those for whose care they are designed, reason for their existence is self-evident. It was self-evident when, by his intervention, the physician first accomplished return of effective cardiac function in the arrested or fibrillating ventricles of a patient who was restored thereby to extended life of acceptable quality.

...An intensive care unit by its very name declares devotion to a self-evident goal. Intensified care of the ill is not inevitably equivalent to improved care but breaches in the identity are commonly achieved only by the stupid and the doctrinaire. Moreover, assiduous pursuit of a goal oftentimes reaps astonishingly unexpected gains.

References

1. **Hedinger-Basel**: Demonstration eines Lungenvarix. Verh Deutsch Path Gesellsch 8: 303, 1907.

Responsibility

Socrates: Well, look here. Suppose someone went up to your friend Eryximachus, or his father Acumenus, and said, 'I know how to apply such treatment to a patient's body as will induce warmth or coolness, as I choose; I can make him vomit, if I see fit, or go to stool, and so on and so forth. And on the strength of this knowledge I claim to be a competent physician, and to make a competent physician of anyone to whom I communicate this knowledge.' What do you imagine they would have to say to that?

Phaedrus: They would ask him, of course, whether he also knew which patients ought to be given the various treatments, and when, and for how long.

Socrates: Then what if he said, 'Oh, no, but I expect my pupils to manage what you refer to by themselves'?

Phaedrus: I expect they would say, 'The man is mad; he thinks he has made himself a doctor by picking up something out of a book, or coming across some common drug or other, without any real knowledge of medicine.'—Edith Hamilton and Huntington Cairns (Ed.): The Collected Dialogues of Plato. New York, Bollingen Foundation (Pantheon Books; Bollingen Series 71) 1961, p. 513.
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References


Critique on Critiques

The critical state of the critical review grows from our constant forgetfulness of all this. The young scientist is taught carefully and methodically to be a quarryman or a bricklayer. He learns to use his tools well but not to enlarge his perspective, develop his critical powers, or enhance his skill in communication. The older scientist is too often overwhelmed by detail, or forced by the competition of the professional game to stick to the processes of "original research" and "training." The vastness of the scientific literature makes the search for general comprehension and perception of new relationships and possibilities every day more arduous. The editor of the critical review journal finds each year a growing reluctance on the part of the best qualified scientists to devote the necessary time and energy to this task. Often it falls by default to the journeyman of modest talent, a compiler rather than critic and creator, who enriches the scientific literature with a fresh molehill in which later compilers may burrow. —Bentley Glass: Commentary: The Critical State of the Critical Review Article. Quart Rev Biol 39: 184, 1964.


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Medical Education

A less obvious cause of anxiety is a popular conception shared by beginning medical students of the physician as omnipotent. They soon discover that there are illnesses for which no treatment is available; that even an excellent physician may be poorly informed outside his own narrow specialty; that two respected specialists in the same field may disagree about the significance of specific symptoms, the efficacy of specific treatment, the prognosis in a specific illness, or the validity of conflicting theories. They are constantly confronted with perplexing situations in which they have difficulty distinguishing between personal ignorance or ineptitude and the limitations of present medical knowledge. As Fox points out, training for uncertainty is an important part of becoming a physician. The more mature students soon learn to accept these uncertainties, but for others the uncertainty creates almost unbearable anxiety. To what is perceived as the failure of their teachers, some students react with hostility and an overt or hidden wish that they had matriculated in a "better" school with a "better" faculty. Familiarity with the stressful nature of this introduction to the limitations of medicine allows the instructor to deal helpfully with the student's hostility instead of feeling merely that the student is unsuited to the practice of medicine because he cannot handle his emotions.—George E. Miller (Editor): Teaching and Learning in Medical School. Cambridge, Massachusetts, Harvard University Press, 1961, p. 27.