

Profiles in Cardiology

This section edited by J. Willis Hurst, M.D.

Agustin W. Castellanos

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Presumably the reasons which Dr. J. Willis Hurst had for inviting us to write this article are related to the conspicuous circumstances which, by an accident of birth, have placed us close to the source. It has been implied that the highest requisite which must be possessed by anyone writing about the life of another person, whatever his motives—whether to justify or to defend the individual, to hold up a certain ideal of conduct, to apply a new writing approach (as done here), or to simply present facts—is the equipment or knowledge which the writer himself brings to the task (Scammell, 1984). In addition, some sympathy must be shown toward the person. “To know the poet you must love him,” wrote William Wordsworth and this holds true for teachers as well (Bond, 1968).

Also there must be sincerity which should be interpreted as being as objective as one can be. In our case, complete objectivity is, of course, not possible. As in physics, where the very act of measuring influences the measurement, in biography the writer himself influences history. This influence is usually greater in an autobiography than in a classic biography. In other words, there can be more bias in writing the former than the latter. The degree of bias of anyone writing a “filobiography” (which is what this article is) falls somewhere between. For us, sincerity means not only presenting facts as they are said to have been, but interpreting the corresponding events through our own eyes. Indeed, this article is not a panegyric which must be all praise, but the write-up is about a person’s life and the events which surrounded it, which great and good as they were, must not be supposed to have been entirely perfect.

Neither are they at first glance, clearly comprehensible, since some of these events may appear somewhat alien to most physicians born and raised in the United States (Straight, 1977). Foremost among these is the incontrovertible fact that the life of every Cuban physician, in fact of every person born in Cuba in the last half century, has been shaped or predestined by nondemocratic political events (Fernandez-Conde, 1959; Hoffmann, 1968). An entire issue, including 21 articles of the *Journal of the Florida Medical Association*, (64[8], 1977) dealt with this subject. Suffice it to say that in the 57 years which the senior author has roamed this earth, the “Pearl of the Antillas” (as Christopher Columbus called this Island) has been ruled directly or indirectly, with a brief interlude of 8 years during which democracy prevailed, by three dictators, two from the right and one from the left (Hoffmann, 1968). Many of the events described here are made more significant because they occurred while the “bullets were flying and the bombs exploding,” during

*To avoid confusion it should be stated that prior to becoming a naturalized American citizen, Agustin W. Castellanos was referred to as simply Agustin Castellanos. On the other hand, prior to 1967 this article’s first author appears in the *Index Medicus* as Agustin Castellanos, Jr. The other coauthor has always been listed as Agustin M. Castellanos.

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periods of revolutionary or counterrevolutionary activities, or of political oppression or dictatorial repression (Castellanos, 1977).

The preceding introduction, though lengthy, is necessary to understand the life of Agustin Walfredo Castellanos. This physician, best known for his work in pediatric cardiology, was born in Havana, Cuba, on September 12, 1902. In a century during which most "voluntary" immigrants went to Cuba from Spain or the other Caribbean Islands, his ancestors had emigrated from Central Asia and Mexico, respectively. Because of the limited economic resources of his Cuban-born father, he had to pay high school, college, and medical school tuitions by performing odd activities such as playing professional "lawn-tennis" and giving private violin lessons, both activities having been learned as a child.

Castellanos (Fig. 1) obtained his M.D. degree from the University of Havana School of Medicine in 1925. During his training he caught the eye of the "Father of Cuban Pediatrics," Professor Angel Arturo Aballi, who encouraged him to go into academic medicine. In 1932, Castellanos won, not by appointment but by "public competition," the position of Assistant Professor of Pediatrics at the University of Havana School of Medicine. At this early date he became interested in the study of congenital heart disease. According to him, the publications of several authors, Forsmann (1929), Moniz and co-workers (1931), Dos Santos (1931), and Ameuille (1936) led many to believe that the appropriate contrast substance could indeed be used for the *in vivo* visualization of the cardiac chambers (Castellanos AW, 1981). After considerable work in dogs and cadavers, Castellanos, Pereira, and Garcia-Lopez published the first important paper on the clinical applications of "intravenous (peripheral) angiocardiology." The article, which appeared in the *Archivos de la Sociedad de Estudios Clinicos* in 1937, dealt with the normal patterns and those in ventricular septal defect and pulmonic stenosis (Doby, 1976). A scene, showing the primitive equipment used at the time is depicted in Figure 2. An expanded version of this work was published one year later in *La Presse Medicale* (1938). Subsequently, they introduced the method of retrograde (countercurrent) injection of dye into the aorta (aortography) mainly to diagnose patent ductus arteriosus (Castellanos and Pereira, 1938). For this purpose they used an automatic apparatus for rapid injection of the dye (Perabrodil) which was constructed by a co-worker, A.V. Pausa (Castellanos *et al.*, 1938).

In 1938, Robb and Steinberg visualized the cardiac chambers of adults, also by injecting in a peripheral vein. This led to the discussion on priority in a field which, at different times, was claimed by pediatricians, internists, radiologists, and cardiologists. The controversy, once initiated, lasted for many years. It was shaped by world events in the early 1940s. During this time Cuba, though afflicted by an internal dictatorship, was less affected by World War II than was the United States. Therefore, for a



FIG. 1 Agustin W. Castellanos, M.D.

change, life in general and work on congenital heart disease in particular, was able to proceed at a more steady, relatively continuous and less interrupted pace than in the United States.

It should be remembered that today cardiac catheterization and contrast visualization of the cardiac structures are considered as a single procedure. This was not so in the late 1930s. Even when cardiac catheterization was introduced as a regular clinical method by Cournand and Ranges in 1941, cardiac catheterization and angiocardiology were considered as distinct procedures for another 8 years, until the work of Jönson *et al.* in 1949 (Snellen, 1984).

Castellanos' work on the subject was expanded to the study of the various congenital malformations of the heart. He also was involved in the procedure known as *pneumomediastinum* (used to differentiate between hypertrophy of the thymus gland and cardiac hypertrophy) and in multiple investigations involving parasitology, hematology, and infectious diseases (Castellanos AW, 1981).

From the beginning, Castellanos was not only a researcher, but a practitioner and a teacher as well. These activities really began in 1935 when he was appointed Medical Director of the newly created Children's Hospital of Havana. Interestingly, his appointment was not based on scientific merit. As a revolutionary leader opposed to the current ruler of Cuba, he was given the option of living as a scientist or going to jail. That time he made the decision pragmatically.

In one of the short interludes where democracy, though frail, nevertheless existed in Cuba, a substantial donation from one of his patients, a duly elected senator, made possible the creation of the Agustin W. Castellanos Foundation for Cardiovascular Research which occupied a floor at the Children's Hospital. This allowed for a greater recognition of his work especially by physicians from



FIG. 2 Unpublished photograph of Castellanos (fifth from right), at the Hospital Municipal de Infancia, Havana, Cuba (1937) a few minutes before obtaining one of the first peripheral angiocardiograms ever performed. (Courtesy of Dr. R. Montero, fourth from right.)

Spanish-speaking countries. Mexico honored Castellanos by including him in Diego Rivera's mural on "Great Men of Cardiology" which still stands in the Instituto Nacional de Cardiología de Mexico. Ecuador and Colombia nominated him for the Nobel Prize in Medicine and Physiology in 1959 and 1960, respectively.

In 1960, when marxist leninism was becoming entrenched in Cuba, Castellanos was given another important lifetime choice: Either give up his ideals or keep them and accept exile. This time he made the decision philosophically. Therefore, in the grand tradition of his compatriots (Juan Carlos Finlay the "patron saint" of Cuban doctors had immigrated to Trinidad around a century before, also for political reasons) he settled in the second largest Cuban city in the world, Miami.

Following his arrival in Miami, he held different academic and institutional positions: Visiting (and later

Clinical) Professor of Pediatrics at the University of Miami School of Medicine, Senior Scientist at the National Children's Cardiac Hospital, Acting Chief of Pediatric Cardiology at Variety Children's Hospital, and Professor of Pediatrics at the federally sponsored International School of Medicine's Postgraduate Courses for Foreign Medical Graduates (ECFMG).

Castellanos is an Honorary Member of more than 25 national and international societies of pediatrics, pediatric cardiology, radiology, and adult cardiology. He has authored or coauthored 327 articles, the two most recent published in 1984. Foremost among the multiple awards received and unique for its strangeness is the "Pedro Cossio Award" given by the VII International Congress of Cardiology in Buenos Aires, Argentina, in 1974. Similarly to what Bean did when describing Finlay as a "Scottish-French physician in Havana" (Bean, 1983),

Castellanos received this award as a "Cuban physician in Miami" in spite of the fact that he had become a naturalized American citizen 7 years before.

In 1967, after having passed the examination given by the Florida Board of Medical Examiners, Castellanos restarted private practice of pediatrics and pediatric cardiology in Coral Gables, Florida. He was then 65 years old, an age when most physicians tend to retire.

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References

- Bean WB: Walter Reed and yellow fever. *JAMA* 250, 659 (1983)
- Bond DF: Biography. *Encyclopedia Britannica*. William Benton Publisher, Chicago (1968), 636-640
- Castellanos A, Pereira R: Counter-current aortography. *Rev Cub Cardiol* 2, 187 (1939)
- Castellanos A, Pereira R, Garcia L: L'Angiocardiographie chez l'enfant. *Presse Med* 46, 1474 (1938)
- Castellanos A, Pereira R, Garcia-Lopez A: La angiocardiografia radio-opaca. *Arch Soc Est Clin (Havana)* 31, 523 (1937)
- Castellanos A, Pereira R, Pausa AV: On a special automatic device for angiocardiology. *Bol Soc Cub Pediatr* 10, 209 (1938)
- Castellanos AW: Personal memories of angiography of cardiac malformations. In *History and Perspectives of Cardiology. Catheterization, Angiography, Surgery and Concepts of Circular Control*. (Eds. Snellen HA, Dunning AJ and Arntzenius AC). Leiden University Press, The Hague (1981), 59-63
- Castellanos AW: Resume of the history of cuban medical research. *J Fl Med Assoc* 64, 558 (1977)
- Cournand AF, Ranges HS: Catheterization of the right auricle in man. *Proc Soc Exper Biol Med* 46, 462 (1941)
- Doby T: *Development of Angiography and Cardiovascular Catheterization*. Publishing Sciences Group, Inc. Littleton (1976), 150-158
- Fernandez-Conde A: Los Medicos y la revolucion. *Rev Soc Cub Hist Med* 11, 32 (1959)
- Hoffmann HL: Cuba. *Encyclopedia Britannica*. William Benton, Publisher, Chicago (1968), 877-879
- Robb GP, Steinberg I: A practical method of visualizing the heart, the pulmonary circulation and the great blood vessels in man. *J Clin Invest* 17, 507 (1938)
- Scammel M: Preface, *Solzhenitsyn: A Biography*. W.W. Norton & Company, New York (1984), 11-19.
- Snellen HA: *History of Cardiology*. Donker Academic Publications, Rotterdam (1984), 126
- Straight WM: Medicine and the cuban physician. Introduction. *J Fl Med Assoc* 64, 533 (1977)