

In Memoriam

Dr. Calderón Montero, One of the Precursors of Diagnostic Cardiac Catheterization

Dr. Calderón Montero, uno de los precursores de la hemodinámica diagnóstica



The career of Dr. José Calderón Montero (1920–2011), a pioneer in cardiac catheterization, was based on 2 pillars: his strong personality and his qualities as a teacher. He first exercised his teaching abilities when he devoted himself to teaching of physiology to future doctors. At the same time, during his period in the department of physiology, these qualities helped him to train himself in the “catheterization” of laboratory animals.

Starting in 1948, he applied all the experience he had gained in the “catheterization of laboratory animals” to the cardiology patients in the *Escuela Nacional de Enfermedades del Tórax* (Spanish School of Chest Diseases, ENET).

The first study involving the technique of catheterization carried out by Dr. Calderón Montero in the ENET was undertaken in January of 1960, and was registered as number 201. This was because the first 200 catheterizations had been performed in a hospital (Buen Suceso, Madrid). Although there is no documentary proof, one can calculate that he undertook his first catheterization sometime between 1950 and 1960. The first documented cardiac catheterization was performed by Werner Forsmann in 1929. In 1942, André Cournand and Dickinson Richards were the first to develop right heart catheterization, a method Pierre Maurice described in the defense of his doctoral thesis in 1946. The time coincidence between the first procedures performed in other countries and that carried out by Dr. Calderón Montero confirm the strong drive of this cardiologist. The initial catheter-based hemodynamic studies in the ENET were performed in patients with two types of diseases of the cardiovascular system: congenital heart diseases and valve diseases. These studies were simply conducted according to each day’s schedule of patients. When the specialty of pediatric cardiology was created, studies involving children were reassigned to that setting but those

corresponding to congenital heart disease in adults were maintained in the ENET.

Coronary angiographic studies in the ENET began in the 1970 s, and before the end of that decade already constituted the main focus of the activity of the catheterization laboratory in that health care institution; that is, approximately 10 years after Mason Sones had been the first to perform selective angiography in the coronary arteries. This activity continued uninterrupted for the following 16 years, during which Dr. Calderón Montero worked actively until his retirement in September 1986. In all, while Dr. Calderón Montero was head of the Catheterization Laboratory, 5370 catheterizations were carried out. Perhaps tired at that point, he either did not wish to or did not find it feasible to continue with the advances in this cardiology technique, which evolved from a diagnostic approach to a very important tool in the treatment of coronary heart disease. The first percutaneous transluminal angioplasty in an awake patient was performed in September 1977. The fact that he was 10 years away from retirement and that great effort was required to perform angioplasties in those days impeded Dr. Calderón Montero from undertaking this new venture in cardiac catheterization.

As indicated above, Dr. Calderón Montero had to pursue his vocation for teaching, as it was inherent to his personality. From the very outset of the activity of the Catheterization Laboratory, he had a special devotion to the training of future specialists in cardiology. For many years, the ENET was the first choice among students whose desire was to specialize in cardiology. Moreover, his activity motivated other cardiologists to wish to offer their services in the ENET. His students will remember the classes Dr. Calderón Montero gave at 8 o’clock in the morning. The odd thing about them was that his interest in the comprehensive training of the cardiologist was so strong that he might just as well give a class on ventriculography as on statistics.

However, all his best intentions in the attempt to make the ENET a referral hospital were cut short when his “political decision-making capacity” was terminated after only 1 year due to internal problems. He received political recognition of his work when he was just about to retire, and he was named acting Medical Director of the ENET on January 7, 1986.

In addition to his qualities as a teacher, Dr. Calderón Montero was highly interested in the promulgation of science, as was made evident in some 50 scientific publications, the majority in *Revista Española de Cardiología*, and in his participation in congresses and meetings of scientific societies (Spain, Portugal, and Argentina). Moreover, his intention to expand his scope led him to establish a relationship with a hospital in Houston, Texas, United States.

In conclusion, the strong personality of Dr. Calderón Montero and his capabilities made him, if not the father, then one of the fathers of diagnostic cardiac catheterization. His clinical activity is reflected in more than 5000 catheterizations

performed with very limited human and material resources, especially at the beginning. His teaching ability is reflected in all the classes he gave during his professional lifetime, and we sincerely feel that his disciples will always hold them in their minds and in their hearts.

Francisco Javier Calderón Montero
*Facultad de Ciencias de la Actividad Física
y del Deporte (INEF), Universidad Politécnica de Madrid,
Madrid, Spain*