Hugh Henry Bentall, a pioneer of cardiovascular surgery

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Abstract

Hugh Henry Bentall, the inventor of the surgical procedure that enabled concomitant replacement of the aortic valve and ascending aorta, died on September 2012 at the age of 92. He was the first Professor of Cardiothoracic Surgery in the United Kingdom, at the Hammersmith Hospital, and carried out the first open-heart operations with a heart-lung machine in London in 1953. Besides cardiac surgery, he paid particular attention to cardiac anatomy and embryology, which he enriched even following retirement. He leaves three sons and a daughter.

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Hugh Henry Bentall (Fig. 1) died on September 2012 at the age of 92. He was the first Professor of Cardiac Surgery in the United Kingdom and entered into the History of Medicine for having devised a surgical therapy for aneurysm of the ascending aorta with valve incompetence (‘degenerative pathology of the aortic root’), a procedure including concomitant replacement of the valve, sinusal and tubular portion of the ascending aorta and re-implantation of the coronary ostia [1]. The ‘Bentall procedure’ was an extraordinary breakthrough, especially for the treatment of patients with Marfan syndrome. He leaves three sons and a daughter.

Born in 1920, Bentall was educated at Seaford College in Sussex. He then studied at the University of Cambridge and St. Bartholomews Hospital in London, the famous hospital where, following his graduation from the University of Padua in 1602, William Harvey practiced at the beginning of his profession as physician in the early XVII century.

Hugh graduated in 1942 and embraced the career of surgeon, training in general surgery at North Middlesex Hospital. In the Second World War, he operated on wounded soldiers who were brought to London. He joined the Royal Navy in 1945, serving on the hospital ship Empire Clyde in the Pacific fleet and sailing to Singapore to treat liberated prisoners of war.

In 1947 he returned to London, working first at Charing Cross Hospital and then at Hammersmith Hospital, where he focused his surgical interests on cardio-thoracic surgery, which in 1953, thanks to the ‘heart-lung’ machine developed by Denis Melrose, culminated in the first successful open-heart operation in the United Kingdom. According to Kenneth Taylor, who succeeded Bentall as Professor of Cardiac Surgery at the Hammersmith, this technique was ‘the key that opened the door to cardiac surgery’.

In April 1959 a team of English specialists including the Chief Surgeon, William Cleland, and the young Hugh Bentall, who had exhibited particular technical skill, went to Moscow to perform five operations on adults and children using the Hammersmith heart-lung machine.

In his later career Prof. Bentall worked on the surgical anatomy and treatment of Wolff-Parkinson-White syndrome, well before the advent of interventional electrophysiology. I remember that, in Hammersmith Hospital, I assisted at an operation performed by Hugh on a beating heart, trying to cut the ‘Kent fascicle’ within the fat of the left atrioventricular sulcus through an epicardial approach which, to me, was like looking for a needle in a haystack. This experience encouraged me to investigate histologically the Wolff-Parkinson-White substrate, finding that the Kent fascicle is quite close to the endocardium, thus suggesting a more effective intracavitary approach, as it is currently accomplished.

I remember I met Hugh for the first time in London in 1977 at a seminar on cardiac anatomy, a topic which would become his passion following his retirement. He acted as mentor to Sally Allwork, Lecturer in Cardiac Anatomy and Morphology at the

Figure 1: Hugh Bentall (1920–2012).
Hammersmith, in several investigations on congenital and acquired heart disease. He became an active member of the Embryology and Teratology working group of the European Society of Cardiology (Fig. 2) and never missed a meeting up to the age of 88, when Allwork died prematurely. When he was invited to Padua as Visiting Professor to deliver a master lecture, he impressed the audience with his child-like curiosity about the anatomy and embryology of the heart.

I had several opportunities to meet them and share the fun. Hugh and Sally were in the habit of spending their summer holidays at Cap Antibes and I have wonderful memories of their hospitality. Sally, with her Italian heritage, enjoyed demonstrating her culinary skills and cooked delicious meals.

Goodbye, Hugh. You made a milestone contribution to the surgical treatment of disease of the thoracic aorta and we will remember you as an extraordinary scientist and person.

REFERENCE