Giovanni Maria Lancisi, 1654-1720

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Giovanni Maria Lancisi, perhaps the greatest Italian clinician of his generation, made numerous important contributions to cardiology. He was born in Rome on 26 October 1654.1,2 Following preliminary training he entered the Collegio Romano where he studied philosophy and liberal arts. He also briefly studied theology, but became progressively interested in natural history. Finally, he turned his attention to medicine and enrolled in the senior college of the Sapienza at Rome. There, Lancisi studied chemistry, botany, and astronomy in addition to medicine.3 He gained practical experience in the hospitals of Rome where he saw patients and participated in numerous autopsies. In 1672, at the age of 18, he was awarded the degree of Doctor of Philosophy and Medicine from the Sapienza. Four years later Lancisi was elected assistant physician in the San Spirito Hospital in Sassia under Giovanni Tiracoda, former physician to Pope Innocent X.

It was at the San Spirito that Lancisi's powers of observation and clinical acumen matured. In the words of his contemporary, Assalto, Lancisi "showed the greatest industry and constantly attended at the bedsides of the patients, carefully noted their signs and symptoms, used his skill to try to explore the causes of their diseases, and was present to observe the issue."4 After two years, Lancisi left San Spirito Hospital to obtain additional medical training at the Picentine College of our Saviour in Lauro. He spent five years there reading the works of classical and contemporary medical authors.

In 1684, Lancisi was appointed Public Professor of Anatomy in the Senior College of the University of Sapienza in Rome. During the thirteen years he held that position, his reputation as a teacher and lecturer grew steadily. He was interested in anatomical research and collaborated with Marcello Malpighi in studies on the embryology of the heart. Lancisi's popularity and influence within the institution led the Rector to refurbish and expand the anatomical theater where Lancisi lectured and dissected.

At the age of 34, Lancisi was selected by Pope Innocent XI to be the Pontiff's personal physician. When the Pope died in 1689, Lancisi returned to private practice and teaching. A decade later, Lancisi was again called to serve the Vatican. This time he was consulted in the case of Innocent XI11 for whom he cared until the Pontiff's death. His successor, Clement XI, appointed Lancisi to the prestigious position of Physician to the Pontiff. An erudite man, Pope Clement sought Lancisi's assistance in improving the health of the Rome's inhabitants. Among the reforms Lancisi urged were measures designed to reduce air pollution.

Lancisi's interest in sudden death can be traced to an epidemic of unexpected deaths that occurred in Rome in 1705. At the request of Clement XI, Lancisi made a thorough study of the matter and conducted autopsies on many of the victims. His observations and conclusions were published in a monograph De subitaneiis mortibus in 1707.5,6 Lancisi explained that various theories had been put forth by laymen to explain the deaths: "They blamed in their ignorance no less than in their rashness, at one moment the rotten quality of the tobacco, and at another the fetid exhalations from past earthquakes, then again the abuse of chocolate, and finally an unknown virus within their surroundings."7 Lancisi sought to explain the deaths in terms of contemporary medical theory and noted there were three "major fluids" and three "major solids" necessary for life. The fluids were air, blood, and nervous "fluid," while the solids were the respiratory system, the cardiovascular system, and the nervous system. Sudden death could result from a major disorder of any of these.8
In order to support his belief that these solids and liquids were vital for life Lancisi presented examples including asphyxiation due to coal gas inhalation and exsanguination due to hemorrhage. He argued that sudden death occurred most frequently when a combination of disorders affecting the liquids and solids was present.

Lancisi emphasized that sudden death could result from structural abnormalities of the heart or great vessels. Reflecting his sophisticated understanding of cardiac physiology, he claimed that sudden death could result from disorders that impaired either systolic or diastolic function of the heart. The former might be due to disturbances that "weaken the structure of the heart" while the latter might result "from causes that compress it most violently, such as contraction or swelling of the heart, of the pericardium, or of adjacent parts." 10

Although a clear description of angina pectoris would not appear for more than half a century, when William Heberden published his classic description of this distressing symptom, Lancisi described complaints which surely represented this entity. He wrote, "internal pains of the chest, accompanied at one moment by difficulty of breathing, especially when ascending hills, and at another by a strangling sensation of the heart and frequently by an uneven pulse... are apt to kill out of time, particularly if the patients subject themselves to violent exertions and glut themselves with unwholesome food." 10 Although not specific for heart disease, some patients with these symptoms undoubtedly had angina pectoris, and Lancisi felt they were at risk for sudden death. He also identified recurrent syncope as a predictor of sudden death in some patients. Some of Lancisi's case reports include descriptions of pathological findings that suggest cardiac disease was responsible for some, but not all, of the sudden deaths he described.

Another subject that interested Lancisi throughout his life was cardiac enlargement and aneurysms of the great vessels. His classic work, *De Motu Cordis et Aneurysmatibus*, in which Lancisi summarized his views on diseases of the cardiovascular system was published posthumously in 1728. 11,12 In this important work he discussed the various conditions that might lead to enlargement of the heart and the symptoms that resulted from disorders of cardiac structure and function. Lancisi also demonstrated the relationship of syphilis to the development of aortic aneurysms. He emphasized the significance of cardiac dilatation and showed that neck vein distension was a useful sign in predicting the presence of right heart enlargement.

Lancisi died in 1720 after a brief illness. Physician and historian Saul Jarcho claimed recently Lancisi deserves to be considered "the true founder of cardiovascular pathology and one of the founding fathers of clinical cardiology." 13

References

4. Ref. 1, xiii
5. Lancisi GM: *De subitaneis mortibus.* Francisci Buagni, Rome (1707)
7. Ref. 6, xix
9. Ref. 6, 24
10. Ibid., 52
11. Lancisi GM: *De Motu Cordis et Aneurysmatibus.* J.M. Salvioni, Rome (1728)
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