

## *Texts and Documents*

of the opening juices to it, it will be the better, then if you apply a Virginia Tobacco leaf to the place, you shall find it an incomparable Remedy'.

The two New York documents of 1677 show to a considerable degree the medicines used by practitioners of the day. There can be little doubt that apothecary's supplies were ordered, as in the case of Dr. De Hart, from London. Indeed, if satisfied, he indicated that he would order every year. How De Hart hit upon the name of Moses Rusden is not known. Could it be that he had heard of Rusden through Spencer Piggott, to whom he sent greetings?

---

### AN EARLY ACCOUNT OF AORTIC INCOMPETENCE BY THOMAS CUMING (1798–1887)

*by*

D. EVAN BEDFORD

THE HISTORY of aortic incompetence has been adequately recorded, notably by Major (1932), Bramwell (1933), Rolleston (1940), Flaxman (1939), Irvine (1957), and more recently by Mulcahy (1962). The anatomical lesion was described by Cowper (1705), Morgagni (1761), Hodgson (1815), and Bertin (1824), but the clinical features could not be generally appreciated prior to the advent of auscultation which enabled the diagnosis to be made during life. Nevertheless, Vieussens (1715) had already described the collapsing pulse very vividly, over a century before Hodgkin (1829) and Corrigan (1832) described the visible arterial pulsation and aortic murmurs. Hope (1831), in the first edition of his book, described the jerking pulse but did not correlate it with aortic incompetence until later, and after Corrigan's paper of 1832, though he claimed priority in subsequent editions of his book.

In acquiring Adams' original paper on Adams-Stokes Syndrome in Vol. 4 of the *Dublin Hospital Reports*, Vol. 3 also came into my possession, though I did not glance through it until much later when I was astonished to find a remarkable account of a case of aortic incompetence by Thomas Cuming (1822), describing the vibrating pulse, the visible arterial pulsation, anginal pain and left heart failure. He correlated these observations with the incompetent aortic valves found at post-mortem. There is no reference to this case in any of the historical papers cited, and Dr. Mulcahy, an Irish authority on Corrigan, was unaware of it. It seems therefore worthwhile to add some account of Cuming and his paper to the history of aortic incompetence.

Thomas Cuming was an Ulsterman born in Armagh in 1798, and died there in his ninetieth year in 1887. Originally intended for the church, he became more attracted to medicine which he studied in Edinburgh, graduating M.D. in 1818. He then continued his medical studies in Dublin where in due course he became Physician to the Dublin General Dispensary, the Wellesley Fever Hospital, Assistant Physician to the Institution for Diseases of Children, Pitt Street, and lecturer at the Richmond

School of Medicine. He seems to have been mainly interested in fevers and diseases of children, and in the same volume of the *Hospital Reports* as Adams' famous paper, we find his *Observations on an affection of the mouth in children* dealing with cancrum oris which, like his paper on *Peripneumonia in Children*, was translated into German. Aged thirty-one, he left Dublin and set up in practice in his native town, Armagh, where he quickly gained a great reputation in dealing with an epidemic of fever and later with cholera. Before long he became famed not only in Ulster but throughout Ireland for his treatment of phthisis, then very prevalent. In 1854, he received the degree of M.D. (Dublin), and was elected a Fellow of the King and Queen's College of Physicians of Ireland, two years before Corrigan, who had previously been black-balled for the Fellowship in 1847.

Cuming's paper on aortic incompetence, entitled *A Case of Diseased Heart, with Observations* occupied fifteen pages in the *Dublin Hospital Reports* and concerned a man aged thirty-eight, first seen in December, 1820. A month previously he had been seized while walking with a severe mid-sternal pain spreading to the left elbow, which obliged him to halt and take refuge in a public house where he refreshed himself with spirits and rested for twenty minutes. However, the pain recurred on the way home and soon he began to have severe nocturnal paroxysms attended with a sense of tightness in the chest, severe dyspnoea and pulsation of the heart and larger arteries, particularly the femoral, carotid, radial and temporals. 'During and in the intervals of the paroxysms he had constant pulsation of the heart and large arteries; and the pulsations were so strong as to be visible from a considerable distance . . . The pulse at the wrist was regular, full, hard and vibrating'.

The patient had already been bled twice, blistered on the chest four times, and been given purgatives and draughts containing digitalis, hyoscyamus, laudanum, and antimonial wine. The digitalis was increased and a seton placed in the side without benefit and nocturnal paroxysms of pain and dyspnoea continued. 'The pulsation was always strong and communicated a vibratory motion to the bedclothes'. Increasing dyspnoea and cough obliged him to spend the nights on a chair. The urine diminished, there was increasing oedema and he died on 13 February 1821.

The body was opened by Dr. Charles Johnson in the presence of Cuming and several others who had seen the patient. There was a small effusion in the right chest, pleural adhesions at the base, and the lung texture was more than usually solid, exuding a frothy mucus when cut into. The heart was fully double its natural size and the cavity of the left ventricle was so much enlarged as to admit of the hand being turned round in it with facility. The parietes of the ventricle were thinner than natural and the muscoli pectinati more projecting. The coronary arteries were large but in every respect healthy. The mitral, tricuspid and pulmonary valves were healthy, but 'the valves of the aorta presented a shrivelled appearance; their margins were irregular, thickened and of a cartilaginous consistence'. The aorta was healthy except for a single small opaque spot near the heart.

The state of the aortic valves seems sufficient to account for the dilatation of the ventricle . . . they were consequently when applied to one another incapable of closing up entirely the ventriculo-aortic aperture. During each diastole of the ventricle, therefore, a quantity of blood flowed back through this aperture from the artery which meeting the stream of blood flowing at the

## Texts and Documents

same time from the auricle, occasioned a violent and supernatural effort in the ventricle to empty itself of its contents . . . Dilatation of the right cavities of the heart is to be attributed to the obstructed circulation through the lungs which was occasioned by the regurgitation of the blood from the aorta preventing the blood of the pulmonary veins from flowing readily into the left side of the heart . . . there was no diminution of the aortic aperture itself and therefore a full stream of blood was thrown into the artery at each stroke of the ventricle, whence arose the full, hard and vibrating pulse . . . Had there been actual diminution of the aortic aperture, the smallness of the stream of blood which would have passed from the ventricle into the artery must have given rise to a small feeble and thready pulse.

Cuming's paper is remarkable in several respects. He was probably the first to describe visible arterial pulsation as a feature of aortic incompetence and to explain its mechanism, seven years before Hodgkin's account and ten years before Corrigan's. His description of the pulse is more accurate than Corrigan's and his distinction between the small pulse of aortic stenosis and that of pure incompetence at this early date is noteworthy. His account of left heart failure due to back pressure is quite as clear as Hope's much quoted description ten years later. The coronary arteries were often overlooked in post-mortems at this time as happened in John Hunter's post-mortem on Heberden's famous unknown patient who died from angina pectoris. This case is probably the first instance of angina pectoris associated with aortic incompetence in which coronary disease was specifically excluded. Corrigan, in his paper of 1837, is generally regarded as the first to explain angina in terms of aortic valve disease. Cuming was evidently a coronarian in regard to angina pectoris, in contrast to Stokes, for he remarks that he was not aware of any case of diseased heart uncomplicated with ossification of the coronary arteries in which paroxysms of such severity had been observed.

Obviously Cuming did not use the stethoscope when he saw this patient in 1820. Forbes who translated Laënnec's *Mediate Auscultation* in 1821, and who practised in Chichester, wrote in 1824 that he did not know of any physician who used the stethoscope or of any hospital where it was in use. Hope, Corrigan and Stokes were fellow students at Edinburgh when Stokes published the first independent work on auscultation in English (1825), so that it is unlikely that the stethoscope was used in Dublin before 1825.

It is interesting to note that Cuming gave digitalis at this time when depletive therapy for heart disease was the fashion, and of course Corrigan advised against digitalis in aortic incompetence because by slowing the heart it prolonged diastole, and this teaching persisted even to my student days.

Little was known about the aetiology of aortic valvular disease in 1820, and Cuming suggested that his patient's habit of playing on the flute and singing had contributed to his heart disease, citing Morgagni as recording the frequent occurrence of ossification of the aorta and valves in players on wind instruments. Corrigan mentioned rheumatism, aneurysm, and trauma as causes of aortic incompetence, but the syphilitic variety was not recognized until much later.

Once a new disease entity is established by some authoritative description it is usually possible to identify earlier accounts of random cases, and there is no doubt that it was Corrigan's paper which first put aortic incompetence on the clinical map and enabled it to be diagnosed during life. Hodgkin's paper attracted little attention

### *Texts and Documents*

at the time, when he was lecturer on morbid anatomy at Guy's and, according to Rolleston, it was not until 1856 that Sir Samuel Wilks rescued it from absolute oblivion. Cuming's paper which antedated Hodgkin's, seems well worthy of similar belated recognition.

### ACKNOWLEDGEMENT

I wish to thank Mr. L. M. Payne, librarian to the Royal College of Physicians, for his help in tracing the biography of Cuming.

### REFERENCES

- BRAMWELL, E., 'Corrigan's original description of aortic regurgitation: a reference to some matters of historical interest', *Edin. med. J.*, 1933, **40**, 13-19.
- CORRIGAN, D. J., 'On permanent patency of the mouth of the aorta, or inadequacy of the aortic valves', *Edin. med. surg. J.*, 1832, **37**, 225-45.
- CUMING, T., 'A case of diseased heart, with observations', *Dublin Hosp. Rep.*, 1822, **3**, 319-34. Obituary notices of Cuming: *Lancet*, 1887, **2**, 548. *Brit. med. J.*, 1887, **2**, 653.
- FLAXMAN, N., 'History of aortic insufficiency', *Bull. Hist. Med.*, 1939, **7**, 192-209.
- FORBES, J., *Original Cases with Dissections and Observations*, London, Underwood, 1824.
- HODGKIN, T., 'Retroversion of the valves of the aorta', *London med. Gaz.*, 1828-29, **3**, 433-43.
- HOPE, J., *Treatise on the Diseases of the Heart and Great Vessels*, London, Kidd, 1831.
- IRVINE, R. E., 'James Hope and the history of aortic regurgitation', *Guy's Hosp. Rep.*, 1957, **106**, 1-10.
- MAJOR, R. H., 'Raymond Vieussens and his treatise on the heart', *Ann. med. Hist.*, 1932, **4**, 147-54.
- MULCAHY, R., 'The early descriptions of aortic incompetence', *Brit. Heart J.*, 1962, **24**, 633-36.
- ROLLESTON, SIR H. D., 'History of aortic regurgitation', *Ann. med. Hist.*, 1940, 3rd ser., **2**, 271-79.
- STOKES, W., *An Introduction to the Use of the Stethoscope*, Edinburgh, Maclachlan & Stewart, 1825.
- VIEUSSENS, R., *Traité nouveau de la Structure et des Causes du Mouvement naturel du Coeur*, Toulouse, J. Guillemette, 1715.