

## Dublin Masters of Clinical Expression II. Robert Adams (1791-1875)

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"The active enlargement of one of the auricles or ventricles immediately contiguous to a narrowed aperture, [is] . . . in obedience to . . . a law which invariably adapts the power of the muscular fibre, to the resistance it has to overcome."

Robert Adams was born in Dublin in 1791. We know nothing of his childhood days and, unfortunately, we are at all times at a loss for personal details of his life. He entered the University of Dublin in 1810 as a student of the liberal arts and was apprenticed to William Hartigan, a leading Dublin surgeon and Professor of Anatomy and Chirurgery at Trinity College. Following the death of Hartigan in 1813, Adams apprenticed himself to George Stewart, Surgeon General to the English Army in Ireland. He graduated Bachelor of Arts in 1814 and in 1815 received the Licentiate of the Royal College of Surgeons in Ireland. As was customary for those who could afford the expense, he then departed for Europe, where he visited the famous continental hospitals and worked for a time with the best surgical teachers of the day.

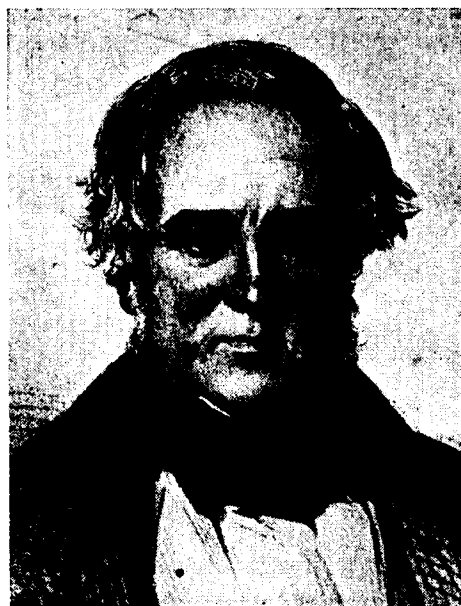
On his return to Dublin he was appointed Surgeon to Jervis Street Hospital. Shortly afterwards Ephraim McDowell (not to be confused with, but probably related to the famous American pioneer of abdominal surgery of the same name) who was surgeon to the Richmond Hospital died and Adams applied for the post. The appointment was contested by John McDonnell and such was the ability of both candidates, that the board of the hospital experienced considerable embarrassment and was unable to reach a decision as to which candi-

date to appoint. Richard Carmichael, one of the surgeons to the hospital and a famous name in Dublin medicine, in a magnanimous gesture, resigned his post so that rather than deprive the hospital of either candidate both might be appointed.

In 1827, Adams published a long article in the Dublin Hospital Reports entitled *Cases of Diseases of the Heart Accompanied with Pathological Observations*. This work has, thanks to Stokes, earned for itself a place in medical history by virtue of the description of a patient with apoplexy and a slow pulse. The paper is, in my opinion, remarkable not only for this but for the range of cardiac pathology presented and the depth of reasoning applied by Adams to explain disorders of cardiac function. As a work it has been largely ignored by medical historians or reference to it has been incorrect. Stokes fully recognised the value of Adams' contribution—"Among the contributions to our knowledge upon this subject [mitral valve disease] which have appeared since the time of Laennec, the researches of Dr. Adams are to be placed first in rank of importance . . . [and] we find many observations which subsequent observers have without acknowledgement put forward as original . . . and if aught were wanting to establish Dr. Adams' character as a philosophical observer, it is the dignified silence which he has

maintained, while subsequent writers have laid claims to the discoveries of facts which he long before had announced." The paper commences with an account of pericardial disease, in which rheumatic pericarditis and calcification of the pericardium are described. Adams clearly understands that ventricular hypertrophy is a compensatory mechanism, whereby the heart overcomes resistance but he is puzzled by two patients with "remarkably strong, full and vigorous pulses, in whom there was marked cardiac enlargement but no evidence of valvular disease at autopsy. Were these cases of what we now call hyper-trophic obstructive cardiomyopathy? Pericardial adhesions were present in one of these patients and Adams makes the novel and intriguing suggestion that the cardiac hypertrophy resulted from increased vascularity through the adhesions. There follow excellent descriptions of left ventricular aneurism, rupture of the left ventricle, ruptured chordae tendinae, aortic valve calcification and ossification of the coronary arteries. It is, however, the description of heart block and the account of mitral valve disease which makes this study truly outstanding. He points out that physicians should be aware of apoplexy in cardiac disease and he quotes Cheyne's famous paper—not because of the peculiar form of respiration mentioned therein and now known as Cheyne-Stokes respiration—but rather for the description of apoplexy associated with transient neurological disturbance. Adams suggests that "apoplexy must be considered less a disease in itself than symptomatic of one, the organic seat of which was in the heart." The patient concerned was seen by Adams "in conjunction with his ordinary medical attendant, Mr. Duggan," (an example of professional courtesy no longer evident in our journals) and "was just then recovering from the effects of an apoplectic attack," but what attracted Adams' attention was "the irregularity of his breathing, and remarkable slowness of the pulse, which generally ranged at the rate of 30 in the minute." The other remarkable point was that after an apoplectic attack (with the exception of the last), the patient recovered "without any paralysis." At post-mortem examination the only striking finding was that "the left ventricle was very thin and its whole surface was covered with a layer of fat." He gives the following explanation for the symptoms—"where the heart is slow in transmitting the blood it receives, we find . . . a means of accounting

for the lethargy, loss of memory, and vertigo, which attends these cases". Adams was not the first to describe the condition which in 1881 was to be named 'heart-block' by Gaskell and 'Adams-Stokes' attacks by Huchard in 1889. Marcus Gerbezius in 1719 described a patient with dizziness and epilepsy "whose pulse was so slow that the pulse of another healthy person easily beat three pulsations before that of this subject had beat two." In 1769 Giovanni Battista Morgagni in *De Sedibus et Causis Morborum* presented a patient "seized with epilepsy, which left behind it the greatest slowness of pulse and coldness of the body". Thomas Spens in 1793 remarked that a patient with recurrent epilepsy had a pulse which "beat only twenty-three strokes in the minute" and



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Sir William Burnett in 1827, (the same year as Adams' publication) commented on a patient with epilepsy and a pulse "which beat about thirty to the minute." Adams was, however, the first to attribute the cerebral symptoms directly to cardiac disease and many writers have wrongly credited Stokes with this important association.

Adams' observations on mitral valve disease and in particular mitral stenosis, although not original, were without rival at the time of publication. He describes early mitral stenosis as follows—"The heart was of a peculiar form

owing to the greater capacity of the right side than the left. The pulmonary artery was unusually dilated; the aorta contracted; the left ventricle was diminished in size; the auricle a little dilated; the mitral valve was not half its ordinary depth; its borders were shrivelled and puckered up as if a thread were drawn through them . . ." He was not yet familiar with the use of the stethoscope but "when the ear is attentively applied to the side of the thorax, a very complex kind of movement, hard to describe, is heard—a hissing purring noise . . . caused by the transmission of blood through a narrow orifice . . . The more decided symptoms of this affection are to be found in peculiar irregularity and want of correspondence in the pulse, as felt at the wrist and examined simultaneously at the heart." He disputes the then popular interpretation of this irregular pulse—"I am at variance with opinion which refers the double pulse to the contraction, first of the auricle, and next to the ventricle . . . it has always appeared to me difficult to conceive how the pulsations of the left auricle could be felt by the hand placed on the breast, as that cavity is situated so close to the spine and so far from the surface"—an excellent example of logical deduction. He sees tricuspid regurgitation as a complication of mitral stenosis—"I have never seen the pulsations in the jugular veins more evident . . . to me it appears most probably that it results from the regurgitation of blood from the right ventricle into the auricle." To complete the picture thrombus formation in the left auricle is described—"A ball as large as a pigeon's egg . . . formed of the fibrine of the blood."

Adams versatility is apparent in his second great work, a book entitled *Rheumatic Gout or Chronic Rheumatic Arthritis*, which was published in 1857. This consists of case reports and pathological descriptions of chronic joint disease, and although he recognised differences between osteoarthritis, rheumatoid arthritis and gout, the diseases are frequently confused with each other. He advocates rest in the early stages of rheumatoid arthritis "with the expectation of arresting the

progress," but warns that "it is important to have present in our minds the evils that result from the system of articulations being kept for a great length of time in a state of perfect quietude." He drew attention to joint creptus, a phenomenon particularly manifest in his friend and colleague Dr. Percival who would not fail to draw attention to himself by a "succession of loud crackling sounds, to be heard by everyone present in the room whenever he arose slowly from his chair." Adams published a number of papers dealing with many surgical problems of the time; these included fracture of the femur, femoral hernia, oedema of the glottis, popliteal aneurism and scrotal cancer.

Apart from his publications he was busily engaged in practice and in teaching. In conjunction with Kirby and Read, he founded the Peter Street School of Medicine and later, with McDowell and Carmichael, he was one of the co-founders of the famous Carmichael School of Medicine and Surgery. In addition to his appointment to the Richmond Hospital, he was consulting surgeon to the Rotunda and Sir Patrick Duns Hospitals. He received the degree of Master of Arts in 1832 and was awarded the degree of Doctor of Medicine in 1842. In 1861 he was appointed surgeon in ordinary to Her Majesty Queen Victoria, a post to which considerable prestige was attached, and in the same year became Regius Professor of Surgery in Trinity College, Dublin. He was President of the Royal College of Surgeons in Ireland on three occasions and he also served as President of the Dublin Pathological Society. He was a member of the Senate of the Queens University.

He suffered from gout for many years—a condition to which he devoted much study—but this does not appear to have affected longevity and he died at the mature age of 84 years. He is buried in Mount Jerome Cemetery.

#### References

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