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JAMES KERR was an adventurous Irish graduate who became imbued with the revolutionary ideas of Lister, emigrated to Nova Scotia and made a name for himself. He won the friendship of William Osler and Francis J. Shepherd, married a cousin of Alexander Graham Bell, heard Lister lecture at Philadelphia and travelled to Germany to see the application of his principles. He moved to Montreal, then to Winnipeg where at 34 he was chosen by his colleagues to head a new medical school. He moved to Washington, D.C. and became Professor of Surgery at Georgetown University and later at George Washington University. His son, Harry Hyland Kerr, was born in Winnipeg. He studied at McGill University, and the Montreal General and Royal Victoria Hospitals. He served in World War I as executive to Harvey Cushing and was appointed Professor of Clinical Surgery at George Washington University. Both father and son distinguished themselves by their contributions to surgery and by their devotion to the good of mankind.

DR. JAMES KERR

On December 14, 1848, James Kerr, son of Abraham and Isabel Gilliland Kerr, was born at Roselick, Port Stewart, County Antrim. At Coleraine Academical Institute he received a good grounding, obtained his M.A. degree at Dublin, and his M.D., M.S. from Queen's University, Belfast, in 1870. In his final year he served as “dresser” under Professor William MacCormac, one of the first surgeons in Ireland to apply Listerian principles to surgery. Possessed of a gay adventurous spirit, James Kerr practised briefly in Antrim, served as locum tenens at Biceste in Oxfordshire, England, and also in South Wales, until he joined the army, serving as medical officer on a troop ship carrying the 42nd Highlanders, “The Gallant Black Watch”, to the Gold Coast of Africa. He volunteered for active service, but when the troops arrived resistance ceased. The story is told that on the way out the ship was followed by a school of sharks. An officer remarked that a man overboard would stand no chance. Kerr replied that sharks, unless very hungry, never attacked a man who has not been wounded. The discussion became heated and to prove his point Kerr dived in and was picked up unharmed!

Life as a ship’s surgeon appealed to him and he made several trips to Canada. However, during one of these voyages on the S.S. Austrian, he made the acquaintance of Miss Laurie Jane Bell (whose father, David, was a noted Dublin elocutionist) and decided to settle down.

In 1874 Kerr was chosen as surgeon of the Londonderry Iron Mines Limited, located at Acadian Iron Mines, 16 miles north-west of Truro, Nova Scotia. (The Londonderry area had been settled in 1761 by Colonel McNutt’s retainers from Londonderry, Ireland, near Kerr’s boyhood home.) In 1874 two blast furnaces for making steel were put into operation at the mines. Applying Listerian principles to surgery, Kerr soon made a name for himself and won the friendship of William Osler and Francis J. Shepherd. He also became Coroner of Colchester County. It is interesting that the signature on death certificates was that of Adams G. Archibald, Lieutenant-Governor of Nova Scotia; in the light of later events, it is significant that Archibald had been the first Lieutenant-Governor of Manitoba, 1870 to 1871, and encountered criticism there because of his acknowledgment of aid offered by Riel and his Metis when the Fenians threatened to invade Manitoba.
Dr. Kerr and Miss Bell were married on July 26, 1876, in Brantford, Ontario, at the home of her cousin, Alexander Graham Bell; it was in this house that Bell first demonstrated the possibility of communication over several miles of wire through the medium of his new invention, the telephone.¹ Dr. Osler, then Professor of the Institutes of Medicine, was best man at the wedding. For their honeymoon the couple went to the Centennial Exposition at Philadelphia where they heard Joseph Lister speak on "Antiseptic Surgery" at an International Congress of Medicine. The young doctor noted that Lister's address was not greeted with enthusiasm. Soon after he travelled to Germany where the leading surgeons, unlike those of London, had eagerly adopted Lister's principles. On his return, he found that the supply of iron ore at Londonderry was becoming exhausted; he therefore decided to move to Montreal, although his stay in the Acadian Iron Mines from 1874 to 1880 had been pleasant and enriching.

In an address years later to a graduating class in medicine at Washington, D.C., Professor Kerr advised the young men to acquire the habit of keeping notes of their cases: "The most profitable years of my life were spent in a mining town and my success there, and whatever measure of success has attended it since, is attributed very largely to the habit there practised of making daily a record of cases."

**Frontier Medical Health Officer**

In Montreal the Kerrs met such distinguished medical men as James Bell, G. E. Fenwick and T. G. Roddick. Mr. C. J. Brydges, Land Commissioner of the Hudson's Bay Company, called Dr. Kerr's attention to the opportunities in Winnipeg, the new city on the main line of the Canadian Pacific Railway, then under construction in the Canadian Northwest. The young surgeon came out to Winnipeg at a time when a real estate boom was imminent. He secured a site at 201 Donald Street, near the present Metropolitan Theatre, arranged for the construction of a brick residence and sent for his wife. He met her at Duluth, "a little town with one long street fronting the lake". They took the train to St. Paul, then to St. Boniface, the terminus, whence they were ferried in a scow across the Red River. Mrs. Kerr was impressed with the quantity and the quality of the mud. She also saw and heard how provisions were brought into Winnipeg by the "Red River Train", "a creaky line of carts that groaned through the town".

Kerr became surgeon to the Canadian Pacific Railway, Medical Health Officer to the City of Winnipeg at a salary of $1200 per annum, and Health Officer for the Province of Manitoba at $600. Out of the latter sum he was required to indemnify a competent person to board trains at Emerson to ascertain whether any one aboard was suffering from epidemic disease.

As C.P.R. surgeon he visited the hot springs at Banff and recommended that the railway company should build a hotel there. As Medical Health Officer for Winnipeg he was impressed by the prevalence of typhoid fever caused by drinking untreated Red River water. He urged that a well be dug to supply the Winnipeg General Hospital in the west of the city. A plentiful supply of water was found on hospital property and served the hospital for many years.

In his capacity as Medical Supervisor of the Indians, a Federal appointment, he was called to visit a band of Indians affected with smallpox. With him he took a supply of vaccine but the Indians refused to be vaccinated until their fears were allayed by a Roman Catholic priest. On examining the Chief, Dr. Kerr found that he had a stone in his bladder and suggested that he be admitted to hospital in Winnipeg for operation. The Chief, accompanied by a number of his braves, did so and Dr. Kerr, assisted by Dr. A. H. Ferguson, removed the calculus.

In association with Drs. J. S. Lynch and R. J. Blanchard, Dr. Kerr started a clinic with an office on Main Street, the first attempt at group practice in Winnipeg.

In 1881 the construction of a railroad bridge across the Red River focused attention on Winnipeg. There was a rush of settlers to the city and land values soared. A spirit of buoyancy was in the air. In order to provide accommodation for an influx of patients, the Winnipeg General Hospital moved west and the construction of modern buildings began.

**First Dean of Medical School**

With no Canadian medical schools nearer than Toronto and Montreal there was opportunity for a new school in Winnipeg, which then had a population of 25,000. The vast majority of its citizens had been in the West less than 10 years but had become imbued with its extraordinarily progressive spirit. The University of Manitoba had been established in 1877, through the union of St. John's, St. Boniface and Manitoba Colleges, thus bringing together three denominational colleges as a single examining and degree-conferring body.

A medical graduate, son of the Lieutenant-Governor of the province, after studying abroad, arrived in Winnipeg with the idea of starting a proprietary medical school. Some Winnipeg doctors joined him but the majority formed a committee to request a charter from the provincial government with the intention of preventing the formation of the proposed proprietary medical school. The charter committee appointed Dr. James Kerr chairman, although he was only 34 at the time. He stated that an acceptable basis for a new medical school involved only two principles: that the founders should be the established medical men of the province, and that the University of Manitoba must set the standards and grant the degrees.

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¹ Reference to Alexander Graham Bell's wedding at the home of James Bell is notable.
Six days later another meeting, which included rural practitioners, decided to request a charter from the Manitoba Government to establish a medical school, and the Provincial Secretary, Dr. D. H. Wilson of Nelson, promised to see the bill through the Legislative Assembly.

Even after this decision had been made, many of the doctors were averse to assuming the responsibility of teaching medicine until they were fully convinced of the necessity. However, when a petition signed by a long list of aspiring medical students was submitted, their hesitation vanished, and even though the real estate boom had burst, they determined to go on. In the words of Dr. Kerr in his first Inaugural Lecture as Dean: “What would be premature and perhaps impossible to other countries becomes here justifiable and even necessary.” This Inaugural Lecture to a Winnipeg audience on November 15, 1883, given in the Education Office at Portage and Main Streets, was surprisingly modern in its tone.

Accommodation for teaching had been found in the Central Public School at William and Ellen, near the Winnipeg General Hospital, and for anatomy in a near-by cottage. Classes in the first Canadian medical school west of the Great Lakes started at 8 a.m. on November 16. Clinical work was carried on in the Winnipeg General and St. Boniface Hospitals. Dr. Kerr and members of the faculty canvassed successfully for subscriptions to a new building and this was ready for occupancy in the following year (Figs. 1 and 2). Although the members of the new medical faculty were young they had considerable talent. Dr. J. W. Good became the first physician in the Canadian West to specialize in diseases of the eye, ear, nose and throat (Fig. 3). Dr. J. R. Jones had studied under the renowned neurologist, Hughlings Jackson. Dr. B. G. Brett founded a sanatorium in Banff and, in 1915, became Lieutenant-Governor of Alberta. Dr. A. H. Ferguson became a master surgeon in Chicago.

In March 1885, Dr. Kerr made a two-weeks’ tour of the field of operations in an open buckboard (Fig. 4). The icy winds, rain and snow brought on an attack of acute articular rheumatism and nephritis. From the latter Dr. Kerr never fully recovered and this chronic illness was largely responsible for his decision to move to a warmer climate. He was offered a position as the first Professor of Surgery at Johns Hopkins University, where his friend, William Osler, was Professor of Medicine, but he objected to the restrictions that would be placed on him. On the advice of Alexander Graham Bell, he moved to Washington, D.C. in January 1888.

Before leaving Winnipeg Dr. Kerr was honoured at a number of banquet. Dr. J. P. Penefather, editor of the Manitoba North West and British Columbia Lancer, wrote: “A man may well be proud who can command such sincere testimony, not alone to his abilities as a professional man, but to his moral and social worth.”

**SURGICAL AND PROFESSIONAL ATTAINMENTS**

James Kerr’s training at Belfast under an eminent surgeon who adopted Lister’s principles almost as soon as they were enunciated, and his visit to German hospitals where he saw those principles put to the test, were responsible for his success as a surgeon. In addition he was daring and resourceful. He was appointed first Professor of the Principles and Practice of Surgery in the University of Manitoba’s new School of Medicine. In Winnipeg he performed many successful operations: removal of a bullet from the knee joint, removal of a bladder stone, relief of intussusception in the young son of a colleague and excision of the patella for osteomyelitis in 1885. This last patient is still living. He also advocated the use of sphagnum moss as a surgical dressing.

In 1890 James Kerr was appointed chief of the surgical clinic of the Emergency Hospital and Central Dispensary, Washington, D.C. “This is considered the highest surgical appointment in Washington.”
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Fig. 4.—March 1899. Surgeon-Major James Kerr, right rear, in uniform.

This appointment brought him wide experience in the management of trauma. He was Professor of Surgery at Georgetown for several years.

As a teacher Kerr warned against the temptation to undertake surgical procedures lightly. He never operated on two patients at the same time, as was usual in those days, but he always did consider the condition of the body. "The highest function of the surgeon is the art of knowing when to operate and when not to operate," he said. "This is the art of knowing when to ask the question of the patient: 'Shall I operate?'

Dr. Harry Hylan KAn...

Fig. 5.—Boyer's cartoon of Dr. James Kerr.

As James Kerr had rare qualities of mind and heart, so this son, Harry Hylan Kerr, descended from the line of his father, William Oder, doctor of medicine at Johns Hopkins Hospital, was born in Baltimore on April 30, 1881. After education at Baltimore's public schools, he entered Johns Hopkins Medical School in 1901, where he was a student of Dr. James Kemp.

In 1904 he became the first surgeon at the Johns Hopkins Hospital, where he spent the rest of his life. His work there was on the treatment of abdominal and pelvic cases, and he made many important contributions to the field of surgery.

As a physician Kerr was known for his kindness and compassion. He was always willing to help his patients, even if it meant working long hours. He was also a respected teacher, and many of his students went on to become successful surgeons themselves.

Fig. 6.—Dr. Harry Hylan Kerr, Washington, D.C.
Dr. Harry Hyland Kerr was the first trained neurosurgeon in the Washington area. His World War I experience stimulated a continuing study of head injury problems. He studied the clinical and pathological processes of brain abscess and urged early and adequate drainage, for which he devised an effective drainage tube. He published work on neurological methods to relieve pain and, in 1932, reviewed his own experience in surgery of the sympathetic system. He performed a number of periradicular sympathectomies for causalgia, Raynaud’s disease, and intermittent claudication, but gave up this method in favour of ganglionectomy, an operation which he also used effectively in the treatment of angina pectoris and of retinitis pigmentosa. Patients with facial nerve palsy following the surgical treatment of mastoiditis were referred to Dr. Kerr. He reported several successes following nerve grafting.

Dr. Kerr’s writings manifest his great interest in gastrointestinal surgery. He reported his clinical experience with spontaneous ruptured esophagus, volvulus of the stomach (the first description in the English literature), sphincteric gastric ulcer, and hemangioendothelioma of the stomach, tuberculosis of the cecum, and Hirschsprung’s disease of the colon. A personal case of a patient with gastrointestinal hemorrhage from the biliary tract aroused his curiosity and led him to report this case with a review of the literature.

Vascular lesions he treated included aortic embolus and pulsating exophthalmos. A successful removal of a cervical cyst led him into a detailed study of the embryology of this region and a careful dissection of the larynx of a gibbon. He reviewed a 25-year experience in the treatment of breast carcinoma and reported four personal cases of Meigs’ syndrome. Thoracic surgery was included in his scope and, in 1928, 11 years before Blalock’s first trans-sternal removal of the thymus for myasthenia gravis, Kerr extripated a mediastinal tumour through a “trap-door” sternal approach that he had devised.

The George Washington University in Washington, D.C. recognized his talents by appointing him Clinical Professor of Surgery, 1915, Professor of Neurosurgery, 1919 to 1930, Clinical Professor of Surgery, 1930 to 1946. He was associated with the Providence, Children’s Emergency and Garfield Hospitals. At the latter hospital he served as Chief of Surgery from 1932 to 1945. He was the principal organizer of the group of hospitals which later developed into the great Washington Hospital Center. Also he was largely instrumental in founding the Warwick Memorial Cancer Clinic at the Garfield Memorial Hospital. He was a founder and first President of the District Chapter of the American Cancer Society and Fellow of the American Surgical Association.

He died peacefully at his summer home at Nantucket, Mass., on August 3, 1983, and on September 19, memorial exercises were held in the Washington Center where Mr. John Lord O’Brian* delivered a moving oration. His wife and son Peter (Headmaster of Cranbrook School for Boys, Bloomfield Hills, Michigan) survive him.

To both James Kerr and to his son Harry Hyland Kerr, these words spoken by Mr. John Lord O’Brien in his Memorial Oration apply:

“We can hold fast to the thought that in the broad stream of birth, life and death there has always been the line of the elect—a thin line but never broken—the chosen few whose lives, characters and deeds make the Great Tradition of human excellence which carries men forward.”

The therapeutic problem presented by patients with symptomatic and disabling coronary atheroma is the greatest single challenge facing the medical profession today. According to the American Heart Association, 25 million people in the United States have symptomatic coronary atheroma. Moreover, on the basis of present techniques, five million of these could benefit from some form of revascularization procedure. Although the ultimate solution of this problem will probably not be surgical, some form of operation is worth while in selected individuals disabled by this disease. Revascularization procedures advocated by Vineberg and others1 have undoubtedly rehabilitated many patients, and we would agree with the principles upon which these operations are based. At the same time a consideration of established surgical procedures employed in the treatment of localized arterial obstructions elsewhere in the body, suggests that a more direct approach is feasible in selected instances.

We believe that in some patients direct arterial surgery can improve coronary flow and provide complete relief of symptoms. Such operations are still very new and the long-term results of them are unknown although they have been the subject of many reports over the past eight years.1-11 Selective coronary cineangiography is indispensable in the evaluation of a patient with coronary disease, upon which depends preoperative selection, operative planning and postoperative evaluation of surgical results. In the light of the capricious nature of coronary symptoms, evaluation of results without objective angiographic follow-up studies is probably meaningless.

**MATERIAL AND METHODS**

This communication describes four patients in whom direct coronary surgery was undertaken. These patients were selected from among 40 individuals who underwent selective coronary angiographic studies for a variety of reasons. Our criteria of selection will be discussed later.

The operative technique employed in these patients is essentially that described by Effler et al.11 The heart is exposed through a midline sternotomy incision and cardiopulmonary bypass with mild, generalized body cooling (30-32°C) instituted. The heart itself is further cooled by aortic cross-clamping and irrigation of the pericardial sac with iced Ringer’s solution. By careful study of the preoperative coronary angiograms and palpation of the diseased segments, the sites of atheromas involvement are identified and dissected free from the pericardial fat.

A longitudinal arteriotomy incision is made beginning above or below the narrowed segment and carried through it to an area where the vessel is relatively normal. An elliptical patch of autogenous vein (long saphenous) or pericardium is then sutured into the arteriotomy circumferentially, using 7-0 silk. This acts as a gusset to widen the artery (Fig. 1). Meticulous care is taken to include all layers of the involved vessel in the suture to prevent separation of the diseased plaque by dissection, which might otherwise occur when circulation is restored. The insertion of a short length of...