

Opinion

Powell's Pearls: Eponyms in Medical and Surgical History of Sir James Paget (1814-1889)

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OPINION

James Paget was born in the fishing port of Great Yarmouth, Norfolk, United Kingdom, on January 11, 1814, as the 12th child of Samuel Paget and Sarah Elizabeth Tolver Paget [1]. Because infant deaths were not unusual in the 19th century, only 8 of James's siblings survived to adulthood [2]. James attended a small local private religious school until the age of 16, where he studied mathematics, geometry, navigation, and the works of Euclid, Horace, Virgil, and Homer. On March 9, 1830, documents were signed, binding James to apprentice with Mr. Charles Costerton, a general practitioner-surgeon of Great Yarmouth, to learn "the art and mystery of a Surgeon and Apothecary [3]. His duties included dispensing medicines, making appointments, keeping accounts, bandaging, and attending at surgery. Just prior to his being an apprentice James stood aside useless, very faint, at his first surgical procedure, a double ipsilateral amputation of an arm and leg for gunshot wounds [4].

Combining a skill in illustration and a long-standing interest in botany, he joined with his brother, Charles, in publishing *The Natural History of Yarmouth* in 1834 [5]. In October of 1834, at age 20 years, Paget enrolled at the Royal Hospital of St. Bartholomew in London; the institution was the oldest of its kind in England and the medical school of his mentor. He made his first significant medical contribution when he had been a student for only three months. In 1835, his name appeared for the first time as he was the first to give a detailed account of the fact that the calcified specks in muscle noted at autopsy were tiny roundworms in their capsules. He described the pathogen for trichinosis, a parasitic disease caused by *Trichina* spiral is usually acquired by eating infected pork [6]. When he found that many of the best medical reference books were written in French and German, he taught himself both languages. As a result of his hard work and studies, he won all four prizes available in his medical school (medicine, surgery, chemistry, and botany).

In May, 1836, at age 22, he passed his examination for membership in the Royal College of Surgeons and became qualified to practice. The next seven years were a time of poverty, for he made only 15 pounds a year by practice. To earn money, Paget began to guide groups of medical students preparing

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for their examinations. In the fall of 1836, he was proposed to succeed Mr. Baytin as curator of St. Bartholomew's Hospital at the salary of 100 pounds per year. During the next few years, he was associated with two medical journals, the *Medical Gazette*, of which he was subeditor from 1837 to 1842, and the *Medical Quarterly Review*, for which he wrote many outstanding review articles. He prepared catalogues of the hospital museum and of the pathology museum of the Royal College of Surgeons. In 1836, he became curator of the hospital museum and in 1838, demonstrator of morbid anatomy at St. Bartholomew's Hospital. Performing numerous postmortems had its advantages, allowing him to contribute generously to medical knowledge. It also carried some serious risks. In 1838, Paget was infected with typhus while conducting a postmortem on a woman who had died of the disease and for more than six weeks he was critically ill [1]. He joined the staff of Finsbury Dispensary, an outpatient facility drawing mainly local laborers, in April, 1841. In 1843, his fortune seemed to change, when he became a lecturer in general anatomy and physiology and the first warden of the newly formed St. Bartholomew's Hospital College. These appointments improved his financial earnings enough to marry. On May 23, 1844, James Paget married Lydia North, the daughter of a clergyman, after an engagement of eight years [2]. They had a one-day honeymoon in Oxford (it was all they could afford). They had four sons; John, Francis, Henry Luke, and Stephen, and two daughters; Catherine and Mary Maude. His wife died on January 7, 1895.

In 1843, Paget was made a Fellow of the Royal College of Surgeons. In 1846, he was named the Aris and Gale Professor of the Royal College and in 1847, was finally elected as an assistant surgeon at St. Bartholomew's. As the Aris and Gale Professor, he was required to deliver six lectures over a period of two weeks, on a subject of his own choosing. At the age of 36, he was unusually young to receive this honor, but his reelection each year for five years indicated how much he was being appreciated by his peers. His topics included nutrition (1847), the life of blood (1848), the process of repair and reproduction after injuries (1849), inflammation (1850), tumors (1851), and malignant tumors (1852). These lectures, which were published in 1853 [7], and went through four separate English and American editions, allowed him to exhibit his superior skills as a teacher and public

speaker. His reputation as a lecturer helped increase enrollment at St. Bartholomew's Hospital. He gave up this lectureship to start a private practice in 1851, which was soon the most lucrative surgical practice in London, exceeding 10,000 pounds per year at its zenith. He would occasionally see as many as 200 patients on a given day. He was the first surgeon to experiment with using water beds to help patients with bedsores.

Formal international recognition for his contributions to pathology and surgery began in 1854, when he was elected to the membership of the Philosophical Society of Philadelphia [1]. In 1856, he became a member of the Société de Biologie and the Société de Chirurgie, both in Paris. In 1858, he was appointed Surgeon Extraordinary to Her Majesty Queen Victoria, at age 44 years, a position he held for 41 years. In 1860, he became a member of the Senate of the University of London. He was appointed Surgeon-in-Ordinary to His Highness, the Prince of Wales in 1863 and in 1865; he was elected to the Council of the Royal College of Surgeons. In 1866, the University of Oxford awarded him the honorary degree of Doctor of Civil Laws and the University of Bonn awarded him an honorary Doctorate of Medicine. In 1867, he was granted the title of Sergeant Surgeon Extraordinary [8]. In 1870, he was elected a foreign member of the Royal Swedish Academy of Sciences. In 1871, he had an attack of blood poisoning during a post-mortem examination. This illness forced him to reduce his workload and resign from the active staff of St. Bartholomew's. Later that year Paget was bestowed a Baronetcy by Queen Victoria. In 1874, he received an honorary degree from the University of Cambridge. In 1875, he was elected President of the Royal College of Surgeons and President of the Medical and Chirurgical Society of London, and as President of the International Congress of Medicine, held in London in 1881. He was elected as an honorary member of the Massachusetts Medical Society in 1882. In 1883, he was elected vice-chancellor of the University of London, a position he would occupy with great distinction for 12 years. In 1875, he published his *Clinical Lectures and Essays* [9]. In 1877, he delivered the 49th Hunterian Oration, the greatest of his speeches [10]. In 1880, he gave, at Cambridge, a memorable address on *Elemental Pathology*, setting forth the likeness of certain diseases of plants and trees to those of the human body. In 1889, he was appointed a member of the Royal Commission on Vaccination.

Sir James Paget is remembered eponymically for eight entities: Paget's abscess, Paget's cells, Paget's disease of bone, Paget's extra mammary disease, Paget's nipple disease, Paget's sign, and Paget-Schrötter disease. Paget's abscess is one that forms about the residue of a former abscess after apparent cure and was reported in 1869 [11]. Paget's cells are large neoplastic epithelial cells with a large nucleus and light, glycogen-rich cytoplasm that is occasionally vacuolated typical of Paget's disease. They grow and spread at first only in the stratum germinativum in the epidermis and only later penetrate the basal membrane. In 1874, Paget published "On disease of the mammary areola preceding cancer of the mammary gland" in *St. Bartholomew's Hospital Reports* [12]. He described 15 women who presented with "an eruption on the nipple and areola" that appeared "florid, intensely red, raw surface, very finely granular, as in nearly the whole thickness of the epidermis." He found that within two years, in all the cases, cancer of the mammary gland followed these symptoms. This

condition was later called Paget's disease of the nipple and is related to an underlying invasive ductal adenocarcinoma. Paget-von Schrötter syndrome (axillary vein thrombosis) was first described by Paget as an example of gouty phlebitis [13]. In 1876, he wrote his most famous work, "On a form of chronic inflammation of bones (osteitis deformans)," which was read in front of the Royal Medical and Chirurgical Society of London [14]. In it he described the 20 year evolution of a disease of the bone from its early manifestation to its termination by sarcoma of the radius. His patient was a man with progressive bone deformity whom he had first seen in 1856. Paget described enlargement of the cranium, anterior curving of the spine, which produced a simian stance, and bowing of the legs. Today Paget's disease of bone is described as a localized disorder of bone remodeling characterized by an increased number of larger-than-normal osteoclasts. The signs and symptoms of Paget's disease of bone are varied, depending in part on the location of the involved sites and the degree increased bone turnover. Recent progress in Paget's disease of bone research suggests that this disorder results from both genetic and environmental factors. Although the cause of Paget's disease of the bone remains unproven, many, although not all, studies indicate that in patients with this disorder, both osteoclasts and their precursors harbor evidence of a paramyxovirus infection. In addition, recent genetic investigations have identified one candidate gene on chromosome 18q; although genetic heterogeneity is almost certainly present [15-17]. Paget's sign is a clinical test for fluctuation in a lump elicited by watching two of the examiner's fingers on a lump moving apart when a third finger is used to press on the lump. This indicates the presence of fluid in a lump. Extra mammary Paget's disease most commonly involves the vulva and anus, appearing as a patchy, reddish and whitish, velvety, and eczematous lesion. Patients with Paget's disease of the anogenital region are usually white, postmenopausal women, who report localized itching and burning. Paget's disease of the vulva is of apocrine origin and is confined to the epithelium in most cases. However, invasive disease is present in about 15% to 25% of cases [18]. The first case of Paget's disease of the vulva was described by William Auguste Dubreuilh (1857-1935), professor of dermatology at the University of Bordeaux [19]. He reported this to the British Medical Association meeting in 1903, describing the condition in a 51 year-old woman. Extramammary Paget's disease affecting the scrotum and penis was first described by Henry Radcliffe Crocker (1845-1909) in 1888 [20]. Crocker was a dermatologist at the University College Hospital and Middlesex School of Medicine in London.

In 1878, at age 64, Paget decided to retire from surgery, but he continued consulting, publishing articles, and serving on distinguished councils and committees. He retired fully from practice in 1893. His last published paper, an advice to students to combine science and practice was published in 1894. By 1898, old age had taken its toll and he required constant nursing care. He died quietly at his home in Regent's Park in London on December 30, 1899 at the age of 85. His burial service was conducted by his son, the Right Reverend Francis Paget, Bishop of Oxford, at Westminster Abbey. He was buried beside his wife at Finchley Cemetery [4].

REFERENCES

1. Roberts S. Sir James Paget. The rise of clinical surgery. In: L'Etang H, ed. *Eponymist in Medicine*. London: Royal Society of Medicine Services Limited; 1989.
2. Coppes-Zantinga AR and Coppes MJ. Sir James Paget (1814-1889): A great academic Victorian. *J Am Coll Surg*. 2000; 224: 70-74.
3. Shaw AB. Paget's diseases. *Practitioner*. 1980; 224: 1323-1327.
4. Shenoy BV, Scheithauer BW. Sir James Paget, F RS Mayo Clin Proc. 1983; 58: 51-55.
5. Paget CF, Paget J. A sketch of the natural history of Yarmouth and its neighbourhood, containing catalogues of the species of animals, birds, reptiles, fish, insects, and plants, at present known. Yarmouth, F. Skill; 1834.
6. Paget J. On the discovery of Trichina (Letter to the Editor). *Lancet*. 1866; 1: 269.
7. Paget J. *Lectures on surgical pathology*. Philadelphia, Longmans, 1875.
8. Reed K, Grage TB. The Paget tradition revisited. *Am J Surg*. 1982; 144: 498-503.
9. Paget J. *Clinical lectures and essays*. London, Longmans, 1875.
10. Paget J. *The Hunterian oration of 1877*. London, Longmans, 1877.
11. Paget J. On residual abscesses. *St. Barth Hosp Rep*. 1869; 5: 73-79.
12. Paget J. On disease of the mammary areola preceding cancer of the mammary gland. *St Barth Hosp Rep*. 1874; 10: 87-89.
13. Paget J. *Clinical lectures and essays*. Edited by H. Marsh. London, Longmans, Green and Company, 1875.
14. Paget J. On a form of chronic inflammation of bones (osteitis deformans). *Med Chir Tran*. 1877; 60: 64-69.
15. Nellissery MJ1, Padalecki SS, Brkanac Z, Singer FR, Roodman GD, Unni KK, et al. Evidence for a novel osteosarcoma tumor-suppressor gene in the chromosome 18 region genetically linked to Paget disease of bone. *Am J Hum Genet*. 1998; 63: 817-824.
16. Haslam SI, Van Hul W, Morales-Piga A, et al. Paget's disease of bone: Evidence for a novel osteosarcoma tumor-suppressor gene in the chromosome 18 region genetically linked to Paget disease of bone. *J Bone Miner Res* 1998; 13: 911-917.
17. Cody JD, Singer FR, Roodman GD, Otterund B, Lewis TB, Leppert M, et al. Genetic linkage of Paget disease of the bone to chromosome 18q. *Am J Hum Genet*. 1997; 61: 1117-1122.
18. Hoffman MS. Malignancies of the vulva. In Rock JA and Jones Jr HW, ed. *Telinde's Operative Gynecology*, 10th edn, Philadelphia, Wolters Kluwer/Lippincott Williams & Wilkins, 2008, 1193-1194.
19. Dubreuilh W. Paget's disease of the Vulva. *Br J Dermatol*. 1901; 13:407-413.
20. Crocker HR. Paget's disease affecting the scrotum and penis. *Trans Pathol Soc*. 1889; 40: 187-191.

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