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A CANCER OF ENVIRONMENTAL AND OCCUPATIONAL ETIOLOGY
AND A THIGH TUMOR DESCRIBED BY SIR PERCIVALL POTT
IN THE EIGHTEENTH CENTURY

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Percivall Pott was born in London, England 26 December 1713. His father died when he was four, leaving Mrs. Pott with Percivall and a daughter by a previous marriage. Pott's education was thereafter financed by one of Mrs. Pott's cousins, Dr. Wilcox, Bishop of Rochester. Although Pott became proficient in classical literature, and although Dr. Wilcox hoped that he would choose a career in theology, he chose a career in surgery instead and was bound as an apprentice to Dr. Nourse, a surgeon at St. Bartholomew's Hospital in 1729. He spent 58 years at this hospital, resigning from the post of Surgeon in July 1787. One and one-half years later, after visiting sick patients on horseback in cold weather, he developed pneumonia and died within a few days, having almost reached his 75th birthday.

Pott was not only innovative in his surgical practice but also was an excellent writer. He published articles on many subjects, including treatment of fracture of the fibula (Pott's fracture), tumors, hernia congenita, fistula lachrymalis, head injuries, hydrocele, tubercular spine, the need for amputation of limbs in certain cases, cataract surgery, and fistulae; one of his most famous observations was the development of carcinoma of the scrotum among young chimney sweepers in London.

† † †

BIOGRAPHICAL SKETCH

Percivall Pott was born in London, England, 26 December 1713 the son of Percivall and Mrs. Pott (Lovett, 1915). His father died when he was four, leaving Mrs. Pott with Percivall and a daughter by a previous marriage. A relative, Dr. Wilcox, Bishop of Rochester, then undertook financing Percivall's education. At age seven, Percivall attended a private school in Kent where he became proficient in classical literature. Choosing a career in surgery over one in the Church, Percivall was bound as an apprentice to Dr. Nourse, a surgeon at St. Bartholomew's Hospital in 1729.

Nourse was one of only a few physicians in London who gave lectures in anatomy at that time; and Pott was asked to prepare subjects for demonstration (Lovett, 1915). This gave him a sound basis for his later career in surgery. At St. Bartholomew's Hospital he had much experience in observing the nature and progress of many different diseases and conditions of patients as well as the opportunity to observe and assist with surgery. He was an avid reader of earlier medical writers and was impressed by their "accurate descriptions of diseases" (Earle, 1790a:x).

Pott completed his apprenticeship in 1736 and set up his own practice in London, living with his mother and half-sister. In 1744 he was elected assistant surgeon and in 1750, one of the principal surgeons at St. Bartholomew's Hospital. Pott was dissatisfied with much of the current surgical practice, particularly the frequent use of cautery; he wanted a "milder system" for treating surgical problems, but Nourse would not consider changing his ways. Pott and others persevered, however, and within a few years milder treatment was instituted.

Following his mother's death, Pott married the daughter of Robert Cruttendon in 1746. Theirs was a happy marriage and they had four sons and four daughters, each of whom received the advantage of an expensive education and financial assistance in establishing their careers. A close friend and associate described Pott as "elegant, though lower than the middle size; his countenance animated and expressive; his manners and deportment were graceful; and his remarkable vigor and activity seemed unabated by age" (Earle, 1790a:xliv).

Pott was well liked by colleagues and was consulted

about surgical procedures not only by English physicians, but by those in many foreign countries. Though he did not receive special honors for his work, he was elected to membership as a Fellow in the Royal College of Surgeons in 1764, and to honorary membership in the Royal College of Surgeons in Scotland and Ireland.

Pott spent 58 years as a surgeon at St. Bartholomew's Hospital, resigning from the post of Surgeon in July 1787. One and one-half years later, after visiting sick patients on horseback in cold weather, he developed pneumonia and died within a few days.

PUBLICATIONS

Pott was not only innovative in his surgical practice, but he was also an excellent writer. His interest was aroused by many subjects, including the treatment of fracture of the fibula (Pott's fracture) following his fall from a horse in 1756 with a resulting compound fracture of the leg. "An account of tumours which rendered the bones soft" (probably sarcoma), hernia congenita, fistula lachrymalis (a disorder of the corner of the eye), the nature and consequences of wounds and contusions of the head, fractures of the skull and concussions, hydrocele, hernia of the urinary bladder, and anal fistulae (Pott, 1765) were among his other interests. He proposed a new method of stopping the progress of curvature of the spine which led to paralysis of the legs [later discovered to be tuberculosis of the spine]. He wrote of the need for amputation of the limbs in certain instances, "mortification of the toes and feet," and cataract surgery (Pott, 1765). He is most famous for his description (Pott, 1775) of carcinoma of the scrotum among young chimney sweepers in London.

THE CHIMNEY SWEEPERS' CANCER

In prefacing his description of cancer of the scrotum among chimney sweepers, Pott (1775) wrote, "All who have the care of hospitals in this town know that the chimney sweepers' cancer is as real, and as peculiar a distemper as any of the morbi artificum; and a very melancholy consideration it is to those who are necessarily in the way of being liable to it." In describing the youngsters who performed this task, Pott wrote, "The fate of these people seems singularly hard; in their early infancy they are most frequently treated with great brutality, and almost starved with cold and hunger; they are thrust up narrow and sometimes hot chimnies, where they are bruised, burned, and almost suffocated; and when they get to puberty, become peculiarly liable to a most noisome, painful, and fatal disease" (Green, 1910). This was cancer of the scrotum, producing a superficial, painful, and ragged sore with rough edges. The chimney sweepers called it "the foot-wart." Since it appeared about the time of puberty, many physicians considered it a venereal disease and treated

it with mercurials, which only made it worse. If left untreated, the cancer spread to the testes, enlarging and hardening them. From there it would spread to the abdomen, inguinal glands, and other visceral organs and lead to a painful death.

Pott's treatment was surgical removal of the cancer before it began to spread; "for if it be suffered to remain until the virus had seized the testicle, it is generally too late, even for castration" (Lawson, 1868). Concerning etiology of the cancer, Pott wrote, "The disease in these people seems to derive its origin from a lodgment of soot in the rugae of the scrotum . . . ; but here the subjects are young, in general in good health, at least at first; the disease brought on them by their occupation and in all probability local; which last circumstance may, I think, be fairly presumed from its always seizing the same part . . . but be that as it may, the scrotum is no vital organ, nor can the loss of a part of it ever be attended with any, the smallest degree of inconvenience" (Lawson, 1868).

Pott might be termed the first occupational oncologist. Since that time scrotal cancer has been linked to work with pitch, tar, and shale oil. It is also associated with mule spinning and a variety of jobs involving exposure to mineral oil.

TUMOURS WHICH RENDERED THE BONES SOFT

Pott described the progression of cancer, presumably of the bone, in a 27-yr-old man from November 1736 until his death on 2 May 1740 (Earle, 1790b:499-507). His illness started as a tumor of the right thigh which Pott removed at surgery. Except for occasional hip pain, the patient remained well for almost a year. He then began to feel tired and was unable to keep awake for more than a few hours. When the pain in his hip grew worse, he tried first one remedy then another, and sought the advice of many different persons, including physicians. Some of the remedies were, a cold bath, fleshbrush, and riding horseback. One doctor put him on "a course of aethiops mineral, cinnabar of antimony, gumguaiacum, and purging with calomel," but these did not help. Then a friend advised "salt of hartshorn, night and morning in a glass of warm whey," but this did not help either. He then began to complain of periodical heat and thirst and an increase in pulse rate. In September 1739 he went with friends to try the Bath in another part of the country. This seemed to help for a short while until the heat began to make the symptoms worse. His physicians then advised him to bathe only the affected leg, which immediately became more painful. One eye then began to bulge, and he lost the sight of that eye. Constipation followed and an enema "produced a discharge of serum for several hours." During this time, small tumors appeared on his head, back, and neck, and increased in size. After returning to London in December 1739, he became excessively tired and the pain in his leg increased. More medications were prescribed by two new physicians, but to no avail. The

inguinal glands increased in size and hardness. Mercurial ointment was applied each night. Another physician tried the "burnt sponge" treatment, but this did not help. He then visited another doctor who prescribed sweating and purging medicines, with no effect. The patient finally stopped all medicines except opiates, which he continued to take until he died.

An autopsy revealed that some of the ribs, the sternum, lumbar vertebrae, ilium, ischium, and pubic bones were dissolved and could not be distinguished from the masses of tumor which surrounded them. A large tumor had also caused protrusion and blindness in one eye.

This case illustrates unsuccessful removal of the first tumor and its metastasis to other parts of the body. It also illustrates the same kind of futile search for a cure for cancer which goes on today, even leading to seeking a cure from "quacks," about whom Pott (1765:45) wrote as follows:

Why is it that we hear so much of miracles performed by the paste of one quack? and by the injections, oils, and balsams of others? When we all know that there is nothing specific for the cure of this disease in their compositions; and when we also know that the vendors of these remedies are people whose ignorance in matters of physic and surgery is below all notice.

SEEKING A CURE FOR CANCER

Finally, Pott (1765:114) expressed his own hope, but pessimism as well, concerning a cure for cancer, as follows:

Cancers and cancerous sores are sometimes formed in the cavity, or in the neighbourhood of the rectum and fundament; in which they make most terrible havock, and afford most melancholy spectacles.

As I do not know what will cure a cancer, I leave the discussion of this to those who say that they do, most sincerely wishing that it was in my power to say that I had once in my life known them to have fulfilled their promise.

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