ON
CHIMNEY SWEEPERS'
CANCER.

By H. EARLE, Esq. F.R.S.

ASSISTANT SURGEON TO ST. BARTHOLOMEW'S, AND SURGEON TO THE
FOUNDLING HOSPITAL.

Read Jan. 14, 1823.

AT the last meeting I had the honor of submitting to the consideration of the Society some observations on the effect of local irritation in the production of diseases resembling cancer.—I propose this evening to offer a few remarks on a disease of a malignant nature, which is evidently called into action by the application of a peculiar stimulus.

The disease in question has been termed the soot-wart, or chimney sweepers' cancer; a short history and description of which was published by Mr. Pott, with his usual accuracy and force of language. Having been induced some years since to investigate the nature of the complaint on rather an extensive scale; and having, in the course of my enquiry, been led to form some exceptions to the rules laid down by Mr. Pott, which are important, both with respect to the treatment and the prognosis, it

may not be uninteresting to state briefly the result of my observations.

The disease in question is invariably produced by the irritation of the soot applied to the rugæ of the skin. The characters of the complaint are peculiar, commencing in a warty excrescence, which in some cases will remain nearly stationary for several months, or even years. After a time, the excrescence discharges a thin acrimonious ichor, which excoriates the surrounding skin. Ulceration now takes place in the centre, and the edges of the wound become everted, and throw out a luxuriant growth, with schirrous hardness, which discharges a very fetid irritating matter. The most common situation for this complaint is the lower part of the scrotum; but this rule is not without exceptions; a remarkable instance of its occurrence at the wrist of a gardener, who was every spring employed to distribute soot for the destruction of slugs, is related by my late father in the last edition of Pott's works. Some instances have also occurred where the disease has taken place in the integuments of the face. As the disease advances, the parts immediately contiguous become affected, it spreads downwards to the perineum, and if not arrested will include the whole scrotum; at the same time, it not unfrequently extends itself to one or both testicles. When the testicle is first affected, it becomes firmly connected with the diseased scrotum; it enlarges, and be-

comes greatly indurated; ulceration, and sometimes sloughing, then take place, leaving a deep excavated ulcer, that penetrates into the body of the testis, which does not appear disposed to the formation of fungous growth, similar to what occurs when the scrotum is the seat of disease. The same observation applies when the complaint has extended itself to the inguinal glands; its progress in glandular structures appears to be more rapidly destructive without the slightest effort at reparation. The disease, in every instance that I have seen, except one, extended itself to the parts immediately contiguous. The inguinal glands are often enlarged, but they will generally subside on the removal of the diseased scrotum; clearly proving that the disease is not commonly communicated in the course of the absorbents. This is a very important feature in the complaint, and one which most materially influences the prognosis and treatment. I know but one exception to this rule where a bubo formed, which suppurated, and the sore assumed the same characters as the primary affection in the scrotum. Even where the testicle is affected, the disease is confined, for a time, to that gland, but it subsequently extends itself up the spermatic chord, into the cavity of the abdomen, where it proves rapidly destructive. Not only is the discharge from the sore very fetid, but the perspiration from the whole body, which is generally copious, has a very peculiar ammoniacal odour, which cannot be mistaken when once recognised. The

countenance has a peculiar leaden hue, and the general health is materially affected by the severity of the pain, the want of rest, and the constitution having to contend with a disease which it is incapable of throwing off. Such are the history and usual characters of this complaint. Fortunately it is one of comparatively rare occurrence, when it is considered how many are exposed to the application of the poison—if I may be allowed to use so strong an expression. The infrequency of its occurrence admits of being explained on two principles.—In the first place, it very rarely attacks persons under the age of thirty, who form a very small proportion of the number engaged in the business. The greater proportion of cases which I have seen, have occurred between 30 and 40: I have seen three instances between 20 and 30, and only one at the age of puberty. A solitary instance is recorded by my father where it occurred in an infant under 8, but I have never met with any similar case. This circumstance may perhaps afford some consolation to those benevolent gentlemen, who, in commiseration of the hard fate of the children engaged in this vocation, have, in vain, endeavoured to call in the powerful aid of legislative authority in their behalf. As the liability to this peculiar disease formed one principal ground for the application to Parliament, it may be satisfactory to know that the children who form the principal part of those engaged in the trade, are not liable to this affection. Unfortunately, even if it were possible to substitute machinery in every instance, although the first

stage of degradation and misery might be got rid of, yet the master sweeps, and those who were engaged in the removal of the soot, would still be liable to this destructive malady.

The rare occurrence of this complaint, may be referred to another cause, namely; there are strong reasons for presuming that a constitutional predisposition is required, which renders the individual susceptible of the action of the soot. If this was not the case, and if there was any thing of a very acrimonious nature in soot, would it not more frequently affect the children, whose skins are far more delicate, and who are much more exposed to its constant application? Among those who have been affected, and who have fallen under my observation, several had been employed in the trade for above twenty years before they became affected, and it is more reasonable to conclude that some alteration had taken place in their constitutions which rendered them susceptible of the irritation, than that it was the immediate result of any peculiar quality in the soot. This opinion is much confirmed by instances in which different branches of the same family, have been subject to the disease at a particular period of their lives. In some instances, two or three generations have fallen victims to the ravages of this disease; for the business is so lucrative that they are unwilling to abandon it.

Admitting, then, that a certain state of constitu-

tion is necessary for the developement of this disease, the important question arises, how far is it remediable by the aid of medicine or surgery? As far as my observation goes, no topical applications or internal remedies, have the slightest influence over the disease. The scalpel is the only resource, and that may be resorted to with the most confident expectation of success, provided the whole of the diseased mass can be removed. Even where the inguinal glands are enlarged, this ought to be attempted; as I have before stated, that the disease commonly spreads to parts immediately contiguous, and the enlarged glands will often subside. Where the testicle is affected, provided the spermatic chord, has not participated, it will be right to give the patient the chance of recovery rather than abandon him to a miserable and painful death. It is true that the experience of Mr. Pott, induced him to believe, that when the testicle was affected it was too late to attempt any operation: yet in two instances I have known it succeed, and have traced the individuals for several years, subsequent to the operations.

It may appear rather an anomaly to affirm that a certain state of constitution is required, for the production of this disease, and at the same time to advocate its locality; yet such are the conclusions which numerous facts appear to warrant, and I feel quite confident of being able to eradicate the complaint, by a complete removal of the diseased portion, and the subsequent abandonment of the

occupation of a sweep. As the disease is sometimes rapid in its progress, no time should be lost in making useless trials of remedies, but the operation should be at once, and extensively performed. I shall conclude with the narrative of two interesting cases, which powerfully illustrate the positions which have been advanced.

CASE I.

Edward Kelly, aged 30, had been a chimney sweep fourteen years, when he first perceived a wart on his scrotum which remained nearly stationary for seven years, when it became troublesome, and he picked it off. Ulceration soon took place, and it began to discharge a thin irritating sanies. A fungus shot up which increased to the size of a shilling, when he applied for surgical assistance, and was admitted into an hospital, where various escarotics, cicuta, and different remedies were tried in vain, and he was discharged in a worse state than when he was admitted. He continued to get progressively worse for seven months, when he was admitted into St. Bartholomew's Hospital in March, 1808, at which time there was a large fungous excrescence, with hard thickened edges, which nearly covered the whole scrotum, and extended the entire length of the perineum to the verge of the anus, this discharged a profuse bloody sanies, which excoriated the surrounding skin. As far as could be ascertained, the testicles were not

included in the disease, and the spermatic chords were healthy. The glands in the right groin were considerably enlarged and painful. The patient was neither able to walk or sit, and the pain was so severe that he could procure no rest. He had a very ghastly countenance, and his perspiration had a very strong ammoniacal odour. Although, at this advanced stage of the disease, no very confident hopes of success could be entertained, yet an operation was proposed, and readily assented to by the patient. The severity of the operation, and probability of failure were stated to him, but he willingly embraced the hope of temporary relief. On the 28th of March, the operation was performed by my father, in the following manner. The patient was secured as in the operation for lithotomy, an incision was carried round the diseased skin in the perinæum, quite to the verge of the anus, the whole was then dissected off the urethra. The patient's legs were now loosed and the entire scrotum was removed, leaving both testicles perfectly bare. The patient sustained the operation with great fortitude; for a few days he experienced some difficulty in passing his urine, which was drawn off for about a week. Some degree of hernia humoralis took place from the exposure of the testes. The tunica vaginalis became coated with coagulable lymph, and subsequently granulated and cicatrized without any sinister occurrence during the whole treatment. He was discharged perfectly well on the 20th of May, and continued

so for several years, during which I was occasionally in the habit of seeing him. Had he ever experienced the slightest return, there is no doubt that he would have applied to me for assistance. The necessity for quitting his employment was strongly urged, which he immediately complied with. I was anxious to learn if he experienced any diminution in his venereal powers, in consequence of the adhesions which the testicles had formed, as perfect freedom of motion has been supposed to be essential to the function of these organs; and further, it has been stated, that when the testes have not descended, impotence is the consequence. He was a married man, and assured me, that he found no difference whatever, in the intercourse with his wife.

CASE II.

John Ashmore, aged 35, had been a sweep above twenty years, when he first perceived a wart on his scrotum, which he repeatedly picked off; this remained nearly stationary for above a twelvemonth, when ulceration took place, which speedily affected the right testicle. He was admitted into St. Bartholomew's Hospital, April 8th, 1808. At that time there was a large deep ulcer, extending into the body of the right testis, round which there was considerable hard fungous growth from the edges of the skin, occupying about one half of the scrotum.

The spermatic chord felt of a natural texture, but the glands in the groin were much enlarged. The character of the discharge and perspiration were the same as in Kelly's case. The diseased integument was very freely removed, and the testicle extirpated close to the abdominal ring. Nothing particular occurred during the after-treatment, and he was discharged well in six weeks. On questioning this man respecting his complaint, and asking him if many of his trade had been affected in a similar way, he told me that his grandfather, father, and one brother, had all perished from the effects of the disease. I urged him in the strongest language to quit his employment, but he paid no attention to my advice. In about 15 months from this time, I was going round the hospital, and found my old patient under the care of Sir C. Blicke. He was very penitent for having neglected to follow my instructions, in consequence of which he was then suffering from a similar complaint on the left side of the scrotum, which extended to the root of the penis, part of which was included in the disease. As the former operation had been perfectly successful, and there were no symptoms of any return on that side, either in the glands, or spermatic chord, it was determined to attempt the removal of the disease a second time. The operation was performed by Sir C. B., and it was found necessary to remove a portion of the urethra. At the time of the operation, it was apparent that a small portion of skin was left, which firmly adhered to the left corpus caver-

nosum penis, a part of which was considerably indurated. The wound healed rapidly, and he left the hospital in a month. But in about four months from this time, he returned with the same affection, which had commenced, very shortly after he quitted the hospital, at the root of the penis, and this time it was not preceded by any warty excrescence, but by inflammation and vesication, which broke, and rapidly ulcerated. He had not been exposed to any fresh infection during the interval; and this circumstance, coupled with the suspicion of the diseased portion not having been completely removed, its recurrence at the suspected part, and its commencing in a totally different manner, confirmed me in the opinion, that the latter affection was a relapse, and not any fresh complaint. The disease at the time had made most rapid progress; and had extended itself to the groin, where it committed dreadful ravages, eating its way into the cavity of the abdomen, and destroying the patient after most excruciating agonies. I consider this case as particularly instructive in illustrating the nature of this disease. In the first place, the patient had for many years been exposed to soot-with perfect impunity, and began to suffer about the same period of life that his relations had fallen victims to the same complaint. Had he abandoned his trade after the first operation, there is every reason to suppose that he would have remained well, notwithstanding the disease had invaded the testicle. By exposing himself again to the same

irritating cause, the disease recurred, and, unfortunately, from an over anxiety to preserve the penis, the whole mass of disease was not completely eradicated, and when he applied a third time for assistance, it was too late to attempt any operation.

*28, George Street,
Hanover Square.*