GRINDERS' ASTHMA.

By CHARLES V. FAVELL, M.D.,

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It is doubtless known to the majority of the readers of your valuable Journal that the grinders in Sheffield suffer much from a pulmonary affection known by the name of "*grinders' asthma*." This disease most frequently affects those who are employed in what is called *dry grinding*, and amongst this class of persons it occasions a fearful mortality. There has hitherto been considerable difficulty in obtaining an examination of the bodies of those who have fallen victims to this distressing malady, and to this circumstance we are to ascribe the fact of the pathology of the disease being very indifferently understood. Before any general conclusions can satisfactorily be drawn, a great number of facts, in the shape of cases accompanied by *post mortem* examinations, ought to be accumulated. Hasty generalisations from insufficient data are calculated both to mislead the profession and to prevent accurate inquiry.

For a long time past the general and physical signs and morbid appearances of grinders' asthma have occupied a considerable share of my attention, and I purpose, whenever the Provincial Association visits Sheffield, to bring the subject fully under their consideration. It appears to me to be expedient to postpone the exposition of my own views till I have the opportunity of illustrating them by an adequate number of pathological specimens, and, of course, their removal from Sheffield would be attended with difficulty and danger. In the mean time, however, I shall probably forward to you the particulars of such cases as may henceforth occur to me either in public or private practice, *but such communications will not be accompanied by any comments.*

I attended the post mortem examination of the following case on the day of my return from the anniversary meeting of the Provincial Association, at Leeds:—

H. Hugil, a stout, robust man, aged thirty-five, was apprenticed to a razor-grinder at thirteen years of age. As a boy, he always enjoyed very good health, and, in fact, never suffered from any complaint, except such as are incident to childhood, and from those he speedily recovered. During his apprenticeship he became affected with a hard, dry cough, which never entirely left him. Several years ago he had an attack of pleurisy on the left side, for which he was bled and blistered; and at a subsequent period he suffered from cholera. Except on these occasions, he was never confined by illness; for a long time past he led a very dissipated life, drank very hard, and sometimes for a week together, but was never absent from work on any account for a longer period. His mother says that, whilst he was in his usual health, he occasionally "*spit blood*," but she also says that he was very subject to epistaxis, and she cannot tell whether the spitting of blood usually happened when there was hæmorrhage from the nose or not. He never made any complaint of dyspnoea or palpitation of the heart. About ten days ago he was seized with an acute attack of pleuro-pneumonia on the right side, and died after a few days' illness. His father and mother are both living in the enjoyment of good health at an

advanced age. No member of the family ever had phthisis.

Post-mortem Examination.

The chest, as well as the rest of the body, well developed. No emaciation. On opening the chest the pleurae on the right side were partially united by adhesions which were easily broken down, and manifestly of recent origin. The right cavity of the chest contained a few ounces of sero-sanguinolent effusion, and the pleura covering the lung on the same side was partially covered with recent lymph. The middle lobe of the right lung, the two inferior thirds of the superior lobe, and nearly the whole of the inferior lobe, were in a state of red hepatisation. The upper portion of the superior lobe was slightly emphysematous, and in the centre of it was a portion, about the size of a hazel nut, which was dark colored, and offered considerable resistance to the knife.

On the left side the pleurae were very firmly adherent, and it required considerable force to separate them. The left lung was congested, but quite pervious to air, except in a circumscribed portion of the superior lobe, in the centre of which there was a space, two inches long by an inch and a half broad, where the pulmonary tissue was extremely dense, of a dark grey color, and had the hardness of recently formed cartilage. There was no gritty deposit in any part of either lung, nor the slightest appearance of tubercle. The bronchial glands were neither enlarged nor indurated. The heart large and flabby, and the pericardium contained a quantity of bloody serum.

Sheffield, August 7, 1843.

CASE OF CRIMINAL ABORTION.

TO THE EDITORS OF THE PROVINCIAL MEDICAL JOURNAL.

GENTLEMEN,—I beg to enclose the following case of criminal abortion, which, if you deem it fit for insertion in your valuable Journal, by so doing you will oblige your most obedient, humble servant,

GEORGE WEEKES.

Hurstpierpoint, Sussex, August, 1843.

About midnight on the 28th of December, 1842, I was summoned to attend Jane Hole, about four miles distant, whom the father (who came for me) thought had taken poison. She was seventeen years of age, unmarried, of a healthy disposition, short and corpulent, and about seven months advanced in pregnancy. She had ate and drank well during the day, and was cheerful; had gone to bed about ten, apparently well; was suddenly seized with vomiting; shortly after it was very severe, and violent convulsions succeeded it, and she became gradually insensible. When I arrived I found her vomiting, comatose, with stertorous breathing, with paroxysms of convulsions recurring every ten or fifteen minutes. The vomiting was very severe and incessant; the pulse very frequent. I opened the veins in both arms; she was a fat subject, and the veins were very diminutive, and did not bleed freely. I examined, *per vaginam*, the os uteri; it was not dilated; there were no labor pains. She frothed at the mouth, breathed hard through the nostrils, and with

stertor. I remained with her some time, ordered her hair to be cut off, and cold applications to the head, and returned home, sending immediately fifteen leeches, to be applied to the head, and five grains of chloride of mercury to be given every four hours, and a wineglassful of an aperient mixture every three or four hours. Saw her again on Thursday morning; bowels had not acted; still very sick; convulsions very violent, recurring at intervals of ten minutes, and lasting from ten to twenty; os uteri not dilated; no labor pains nor flooding; pulse very frequent, and, during the paroxysms, almost imperceptible; her tongue was severely wounded by the teeth. I opened a vein again, and with difficulty extracted about six ounces more of blood; seven or eight of the leeches only had fastened; the rest I applied, and they all fixed. I remained with her three or four hours, and ordered sinapisms to the feet. At the commencement of each paroxysm of convulsions, evinced by writhing of the body, I dashed cold water on the face and neck, producing a counter-shock, which somewhat disturbed and rendered less powerful the convulsions; but when the paroxysms were more advanced, I did not perceive that sudden shiver or effect produced by the sprinkling of water. The report brought to me at night was, that she had had several convulsion fits, was still insensible, very sick, the bowels had not acted, and she had lost the use of her left side. I sent two powders, six grains of chloride of mercury and half a grain of powdered opium in each, one powder to be put directly between the teeth on her tongue, the other to be given three hours after. Saw her the next morning (Friday); she had had convulsions less frequently during the night; her respiration had been calmer and freer between the convulsions. During a violent convulsion, about five in the morning, the child and placenta, with the membranes entire, had been expelled simultaneously, without flooding or action of the bowels. I saw the child floating in the liquor amnii contained in the unbroken membranes; when exposed it had a healthy appearance. The centre of the body was midway between the umbilicus and the lower part of the sternum; it measured thirteen inches; there was no opportunity of weighing it. The patient's left side was partially paralysed; pulse under 100; belly tumid and firm. She had not been sick since the calomel and opium powder, and she was slightly conscious, as evinced by her crying when the laxative mixture was given in a teaspoon (there being still great difficulty in swallowing), but apparently relishing sugar and water. Ordered half a glass of the laxative mixture to be given every two hours till the bowels acted, and to take gruel and tea. The convulsions had now ceased, and she was more composed, but the bowels had not acted. Sent her ten grains of powdered jalap, with five of chloride of mercury, in a powder, to be given directly, and repeated in four hours if no motion. Saw her the next morning (Saturday); her bowels had been very freely moved; she with difficulty recognised me, and could move very slightly her left arm and leg; pulse 90, and soft; tongue dry and brown; the lochia scanty. Gave her three grains of James's powder, with four of nitrate of potash, at night.

Sunday, Jan. 1. Her mind was wandering; all her illusions were black; says the devil appears to her,

tells her mother to go out of the room, her face is so black; says if she sleeps she shall never wake again; motions and urine passed involuntarily. She took saline mixture, and occasionally an anodyne at night, her bowels being regulated. She was very debilitated, and her mind rambled, with short lucid intervals for some weeks. Tonics were given with benefit, and she has gradually recovered.

Fearing I am trespassing too much on your pages, I will briefly report the case, as shown before Judge Tyndal at the Lewes Assizes just past. Nothing could be discovered at the attack of her sickness to account for it; but when she could speak she confessed having taken three or four large pills and some salts the night she was taken ill, sent to her by the father of the child, a farrier, to bring it away, as he said it would. The pills were found in a gallipot, but few were gone; there was much difference in the size of them; the pills had a strong odor of some essential oil, and were of vegetable production, very green when macerated, but were so mutilated and bruised in compounding the pills it was impossible to recognise the leaf; upon a close inspection minute white spots might be discovered on portions of the leaf; when liquor potassæ was poured on the pills they did not give out that peculiar mousey odor so characteristic of henbane; and it was not savine leaf; the pills, when tasted, produced an acrid and burning sensation at the back of the fauces. One professor of botany said he was strongly persuaded it was spurge laurel; another that it was helleborus fœtidus, "Quot homines, tot sententiæ," no one would swear to their composition. The learned counsel for the defence, in cross-examining, asked if I had not heard or read of bleeding in the foot to procure abortion. I said I had heard of it. He then asked if I had not bled the woman, which I had; on which, in his closing speech, he ingeniously attempted to lead the jury to infer, that bleeding from the arm coming more directly from the heart than bleeding from the foot, very probably had produced the abortion in this case. Medical men understand better, and know that bleeding will frequently prevent abortion, and how large a quantity of blood must be taken frequently in urgent diseases of pregnant women, without affecting the fœtus, though large bleedings, when no urgent necessity exists, might very likely cause abortion. I regretted I had not witnessed the effect of these pills on an animal; I gave three to a cat, powdered and mixed with lard, but was called away soon after, and detained many hours, and I had no opportunity of seeing the effect, as my servants had destroyed her, to put her out of her misery, as they said she was so very sick and ill. Reviewing the case, the stomach was primarily affected, and subsequently the brain and nervous system, in such a state as narcotic and acrid poisons produce. With the exception of the severe and incessant sickness, the symptoms resembled puerperal convulsions, but the generally considered causes and premonitory symptoms of that affection were absent. The child had not descended sufficiently to produce irritation; the uterus was not much distended; there were no labor pains; the system was not collapsed or exhausted; she was previously healthy; her mind was quiet; had a comfortable home; her pregnancy had been some time known, and she had no object in

concealing it. I gave it as my opinion that the pills contained some noxious and acrid quality, which caused the severe sickness and irritation of the stomach, producing a severe shock on the system (the uterus being involved), and consequently the cause of the whole train of the succeeding symptoms, and the premature expulsion of the fœtus.

The charge in the indictment was for administering, or causing to be taken, a certain noxious article, believed to be saviæ (which, on first seeing, I thought it was), to procure abortion. The judge desired the jury, if they were satisfied that the farrier had sent the pills with the intention to procure abortion, and also, as in the charge, that the pills did contain a noxious article, which produced it, they should return the verdict accordingly. Verdict, Guilty. Transportation for fifteen years.

DR. MARTIN LYNCH ON THE VAPOR-BATH.

TO THE EDITORS OF THE PROVINCIAL MEDICAL JOURNAL.

GENTLEMEN,—Since the publication of my second paper on the vapor-bath, I have devoted a considerable portion of my leisure time to experiments having for their object the further improvement of my apparatus, and have obtained the most satisfactory results, the most important of which I now communicate to the members of the Provincial Association through the medium of your valuable Journal.

Having procured bath-gowns made of various kinds of stuff, and having tested each, I am able to say that no material is so suitable as a particular kind of sail-cloth; no bath-cloak can be had cheaper, but leaving cheapness out of the question, the sail-cloth cloak is superior to all others for retaining the vapor and hot air, and has the advantage of drying very rapidly. After a bath of one hour and ten minutes in duration, I have repeatedly found it slightly moist on the inner side only, whilst the outer surface has been quite free from moisture; in this state it has been hung up in a lobby, and has been found perfectly dry in less than three hours; in the open air, or before a fire, a much shorter time would be sufficient for drying it. The sail-cloth gown also looks well, washes well, and is more durable than any other.

It may appear to some that the sail-cloth cloak is not warm enough, but a moment's consideration will remove this impression; for it must be remembered that vapor and hot air, at the highest temperature that can be borne, issue forth beneath and around the feet, rapidly rising along the legs and thighs (owing to their specific gravity), and almost *immediately* bringing the upper part of the space within the gown to a temperature varying from 112° to 120° Fah. It is evidently absurd to fear cold under such circumstances. Moreover, the hoop prevents the cloak from touching the body except at the collar, which is lined with flannel, and at the acromion, where, as I have shown, the temperature is instantly brought up to 112° or 120°.

The only kinds of woollen cloth, fit for the gown, are Irish frieze (recommended by the late Professor Macartney) and kersey or fear-nought of a very superior description, selling at 3s. 6d. or 4s. per yard.

As to the frieze, I cannot say anything new, not

having been able to procure any for my experiments, but I can state confidently that kersey and fear-nought are much inferior to sail-cloth, as gowns made of these are very bulky and heavy, and absorb a great quantity of moisture, thus becoming still heavier during the bath, and requiring twenty-four hours or more to dry. Finally, a gown of kersey or fear-nought would cost at least £1 15s., while the sail-cloth gown can be had for £1.

The other kinds of woollen cloth did not answer at all. The thickest and best absorbed moisture to such a degree that they became quite soaked before the person taking the bath had been seated twenty minutes, and, as a necessary consequence, rapid evaporation took place, covering the *whole outer* surface with a cloud of steam, cooling the space within, and rendering the bath comparatively inefficient.

But although the sail-cloth cloak is an improvement, the diffuser, contrived by me, is, notwithstanding its cheapness and simplicity, one of vastly greater importance.

As the bath was originally administered, the vapor escaped from the conveying tube at the central point of the space included by the legs of the chair, and, rising upwards, first filled the upper part of the cloak, gradually extending downwards towards the legs and ancles, and the person taking the bath perspired in the same order: first at the neck, arms, and chest, then at the abdomen, and ultimately at the thighs and legs.

To obviate this most serious inconvenience, I recommended the feet to be placed in hot water; but the end desired—namely, the maintenance of a sensation of warmth in the feet equal to that felt in the neck and chest—was but imperfectly attained by this measure, inasmuch as the temperature of the water was only 98° or 100°, whilst at the neck and chest it ranged from 112° to 120°. The diffuser, however, quite overcomes this difficulty, for the *whole supply* of vapor and hot air issues forth copiously beneath and around the feet, rising up along the legs and thighs *during the entire sitting*, and the feet and legs perspire as copiously as the neck, chest, and arms, and *feel much warmer*. This makes my apparatus, in every respect, the most perfect that has been invented. Duval's comes nearest to it; but, to omit at present the points of inferiority alluded to in my former papers, it has the following most serious inconveniences:—1. A very small proportion only of the vapor and hot air escape beneath and around the feet. 2. *Vapor alone cannot, by means of it, be applied to inflamed joints, ulcers, &c.*—a great fault for indolent ulcers. Parts affected with chronic inflammation, &c., should have the vapor applied at a high temperature, and mixed with hot air; but irritable ulcers, and parts affected with acute inflammation, require steam alone, at a low temperature, and perhaps medicated with narcotics, antiphlogistic treatment being previously pursued with more or less activity, according to the nature of the case.

There is a good deal of valuable information I would be glad to communicate concerning the physiological effects of the general vapor-bath in health and disease, and also concerning the use of my apparatus for the local application of steam to wounds