Again, the number of remedies that can be conveniently exhibited by subcutaneous injection is extremely limited, and in most cases even those so applicable fulfil their mission much more efficaciously when they act through the stomach. As for those cases in which direct injection into the circulation has been employed, or where the absorbent power of the respiratory system can be advantageously brought into requisition, they are so rare and exceptional as to warrant their dismissal without further comment; and the same remark applies, as a general rule, to cutaneous inunction.

The paramount importance, then, of subjecting all ingesta to the process of digestion being established—in other words, the immense advantage of getting food and physic *into the stomach* being fully recognised,—it now devolves upon me to show that their administration through the nostrils is not only an effectual, but an easy and not particularly disagreeable method of feeding.

In cases of insanity, where the patient obstinately refuses food, this method saves no end of struggling, and consequent injury to the teeth, gums, lips, &c.; and, where great prostration is present, it obviates the fatigue that injections and inunctions would give rise to, and the pain that would be occasioned by subcutaneous injection. Moreover, where the powers of life are very low, and where insensibility is present, sphincteric action is generally lost, and injections cannot be retained; whereas the reflex act of deglutition, which takes place when a liquid runs through the nostril into the pharynx, often continues, I believe, long after complete relaxation of the sphincters; and even where it is lost I have been enabled to satisfy myself that liquids may find their way into the stomach, by virtue of their own specific gravity, without the assistance of the vermicular undulations of the œsophagus. In cases, however, in which the involuntary action of swallowing is not produced by the irritation of a liquid in the pharynx, no good can be expected from the administration of food in any shape or form, as in such circumstances, digestion, absorption, and all the vital functions, must be well-nigh extinguished.

The circumstances under which I have resorted to feeding through the nostril are, in cases of insanity in which the patient refused food, in inflamed and ulcerated sore-throat, in glossitis, in cases of deep intoxication (dead drunk), and in infancy where nothing could be administered by the mouth nor retained by the rectum.

For the last ten years I have been in the constant habit of employing this method of feeding in every form of insanity—as mania, melancholia, dementia, general paralysis, and idiocy, where the patient has refused, or is physically incapable of taking, food by the mouth. When a lunatic obstinately refuses food, instead of forcing an iron spoon into his mouth, at the risk of breaking his teeth, contusing his gums, or lacerating his lips and cheeks, by simply controlling the movements of the patient while he lies on his back, and holding a small wedgwood funnel in one of his nostrils, from a pint to a quart of the strongest fluid, or even semi-solid nourishment, can be administered at a time. Stimulants and medicine can also be given in the same way, and without apparently irritating the nares in the slightest degree. And the administration can be conducted throughout without the violent struggling and screaming, the injury both to patient and attendants, and the sputtering and waste that accompany every attempt to force food or medicine down a lunatic's throat. Moreover, I have never witnessed the look of fierce resentment, the scowl of unconcealed hate, with which a patient glares at the attendants who have just wrenched open his mouth, and half suffocated him in their anxiety to cram food into his pharynx. Generally speaking, after one administration through the nostril, the patient feels so completely powerless to prevent the passage of food into his stomach that he makes a virtue of a necessity, and consents to take it in the ordinary way. Another advantage of this method of feeding is that the medical attendant, who ought always, if possible, to administer the food personally, can do so without running the risk of personal injury, or at least of having his clothes torn or bespattered with food or blood.

As to the method of administering food to an insane patient through the nostril, I invariably try first to induce him to take it quietly and in the ordinary way, explaining that in the event of his continuing to refuse it must be given through the nose; at the same time I take care to make him feel that such a procedure is adopted, not as a punishment,

but simply as the only alternative which he forces on me. I then summon three attendants at least (four or five, if they can be had), and lay the patient down on his back, as quietly as possible, on a low couch in the middle of the room. I generally use a small folding iron bedstead, from which the pillows have been removed, for this purpose; and when the patient sees so many assistants he submits quietly, as a rule, to be laid down. If there are only three attendants, one must control the legs, and the other two the arms. If there is a fourth, he ought to attend only to the head, which is best held between his knees as he sits on a low stool at the top of the couch. If a fifth attendant be present, he can assist in holding down the legs, which, in the case of a powerful and obstinate lunatic, sometimes require the united strength of two assistants to control. In this way the patient is completely controlled; and finding struggling against such a force useless, he will either cease to resist, or, what is not unfrequent, he will offer of his own accord, or allow himself to be persuaded, to swallow the draught in the usual way. I always make it a point, just before proceeding to the actual administration, and when the patient has found how futile are all attempts at resistance, to represent this fact to him, and to beg him to save me the pain of forcing him to do what he could so easily do himself. If he remain obstinate, I then take care to render him absolutely motionless, seeing that the assistant who has control of the head keeps it perfectly still, with the chin slightly elevated. Then, introducing the end of the funnel gently into one of the nostrils, I pour the liquid slowly into it from a cream-jug or sauce-boat, pausing every now and then to let the patient take a full inspiration, and not allowing the fluid to accumulate in the funnel. A determined patient will generally be able, in spite of the reflex act of swallowing which ensues as the liquid trickles into the pharynx, to sputter a little of it out of his mouth. When such is the case, I pour the contents of the jug faster into the funnel, letting them accumulate in it so as to keep up a continuous series of acts of swallowing. In unusually troublesome cases I have also found it necessary to compress the other nostril so as completely to obstruct all respiration through the nose. By the adoption of either plan the patient is put out of breath, and when you pause for a moment he is glad to take a deep inspiration, and he will afterwards, as a rule, offer no interruption to the further administration of the draught, and will, perhaps, beg to sit up and drink the remainder. I need hardly insist that in these very troublesome cases a medical man ought invariably to administer the draught, as he alone can properly judge of the extent to which it is necessary to interrupt nasal respiration, and of the number of acts of deglutition it is advisable to excite continuously. At the same time if a superior education and a higher social position are calculated to foster and increase gentleness, patience, and the other humanising virtues, it may be reasonably expected that a refractory patient will be less likely to sustain an injury at the hands of a physician than of an ordinary attendant.

(To be concluded.)

CASE OF

POISONING BY IMPURE CARBOLIC ACID.

By EDWARD SWAIN, Esq.,

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ELLEN C—, aged thirty, a hawker, admitted into the County Asylum, Brookwood, Surrey, May 16th, 1868, suffering from dementia, in all probability caused by intemperance in alcoholic fluids. During the morning of the 10th October following she had an apoplectic seizure, producing hemiplegia of the left side. This gradually improved, until she became able to walk without difficulty; but the use of the arm did not return, and she was much troubled with twitching of the muscles, and severe neuralgic pains in it. It is necessary to state these particulars of her history, to account for certain post-mortem appearances.

On the night of March 4th, 1869, she was ordered to take

a dose of house medicine (salts and senna), and, asking the attendant for it when busy putting the patients to bed, the latter, in her hurry, ran to the closet containing the medicines, took up a bottle holding impure carbolic acid (which is largely used here for disinfecting purposes), and poured into a medicine glass nearly an ounce and a half, of which the patient drank rapidly, not noticing the peculiar smell and taste. Immediately her lips and tongue became white; she stood with her mouth wide open, and complained of intense burning pain down the œsophagus and stomach. She took some water to relieve the pain, and experienced no difficulty in swallowing. One of the attendants attempted to produce vomiting without effect. For four or five minutes the patient spoke rationally; there was then noticed a hesitancy of speech, and this speedily became a stammer; at the same time she was perceived to totter in her walk, and would have fallen had she not been placed upon a couch, where she at once became insensible. In this state I found her on my arrival, about eight minutes after the poison had been administered. She was unable to swallow; the stomach-tube was therefore passed, and through it the contents of six eggs were introduced into the stomach, with the idea of causing the carbolic acid to combine with the albumen rather than with the coats of the stomach. Afterwards, a quantity of water containing magnesia was injected, for the purpose of removing, if possible, all its contents, and the action of the stomach-pump was reversed: this was done several times. The fluid drawn off had the intense odour of the acid. Her breathing was noticed to become more stertorous, and, as she appeared at the point of dissolution, the stomach-pump was withdrawn, and artificial respiration performed for nearly half an hour by Dr. Silvester's method. She then seemed to breathe more easily, but again became worse, and died a little more than an hour after the exhibition of the poison.

The pupils, as far as could be ascertained, were insensible to light, equal, and neither dilated nor contracted. The pulse was very frequent, small, thready, and intermittent. Her extremities were warm up to the time of her death.

Autopsy, forty hours after death.—The body was tolerably well nourished. Rigor mortis well marked. The *lips and nares* were blistered; but there was no other external abnormal appearance.—*Head*: The scalp was congested; the sinuses of the dura mater were gorged with blood of the colour and consistence of tar. The bloodvessels on the surface of the brain were very full. Over the right cerebral middle lobe there was a decolorised clot, of the size of a flattened walnut, binding together the whole of the membranes, and encroaching upon the brain-substance. This was tolerably healthy, but paler than is generally seen. The weight of the cerebrum and cerebellum was 44 oz.—*Lungs and heart*: These organs were healthy, the chambers of the heart being quite empty.—*Liver*: This was much enlarged, weighing 95½ oz. When incised, there was a strong odour of carbolic acid perceptible in its substance.—*Spleen*: On incision, this organ smelt strongly of the acid.—*Kidneys*: The left was much congested, quite purple in appearance, and weighing 7¼ oz. The right was also congested, its weight being 7 oz. On incision, they both smelt very strongly of the poison.—*Mouth*: Mucous membrane and mouth were whitened.—*Œsophagus*: This was congested, and the mucous membrane peeled off at the slightest touch.—*Stomach*: Contained a quantity of brownish-red, grumous fluid, smelling very powerfully of carbolic acid. This fluid was detected down to the middle of the ileum. When washed, the mucous membrane of the stomach was found congested; this was intensified towards the cardiac end. About two inches from the opening of the œsophagus, there were two groups of spots: one on the anterior, the other on the posterior, surface. The spots varied from a line to a quarter of an inch in diameter; and each one was characterised by a central black portion, and a surrounding areola of greenish hue. About some of the spots the mucous membrane appeared abraded. On the lower part of the posterior surface, behind the attachment of the great omentum, there was a tract of green discoloration, about 6 in. long and from ½ in. to 1 in. in width. The mucous membrane of the intestinal canal did not appear to be changed.

Remarks.—There are several points of interest in connexion with this case:—

First, the rapid manner in which death was produced—viz., in about an hour. This I attribute to the injury to her

system produced by her previous habits of intoxication, and by the extensive brain-lesion found, rendering her unable to resist the shock produced by so powerful an irritant.

Second, the detection by the smell of the carbolic acid in almost all the internal organs, especially the liver, spleen, and kidneys. And in this way I think a poisonous dose might at any time be detected when administered feloniously.

Third, the rapid manner in which it had made its way through the small intestines. Probably it had caused paralysis, and therefore dilatation of the pylorus, as the intestine was full of the brownish-red fluid.

Fourth, it was very noteworthy that no decomposition had occurred where the carbolic acid was; but below the point of contact cadaveric decomposition had commenced, and was distinctly visible, contrasting strongly with the parts penetrated by the acid.

Fifth. The green stain in the stomach gave me at first the impression that it was produced by bile; but, by its peculiar form, I became convinced it was caused by carbolic acid, together with the chemical reasons stated below. In the British Pharmacopœia, 1867, it states: "A slip of deal dipped into it, and afterwards into hydrochloric acid, and then allowed to dry in the air, acquires a greenish-blue colour." Thus, after death, the carbolic acid having by its greater specific gravity (1.065) fallen through the other liquid, it came in contact with the stomach and its secretions, of which hydrochloric acid probably forms a portion, and so the green stain may have been formed. (?)

Brookwood Asylum, March, 1869.

CASE OF DIABETES TREATED WITH THE PEROXIDE OF HYDROGEN.

By W. H. DAY, M.D.,

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I VENTURE to hope that the following case will not be without interest to the profession, and I trust that those who have frequent opportunities of seeing diabetic patients will record their experience of the real value of this new remedy. One or two successful cases are not enough to warrant judgment of the merits of any drug; we must have case after case yield which has obstinately resisted other therapeutic measures before we can pronounce on its worth. If a remedy can be found to control the excessive loss of fluid which is going on in diabetes, and to improve the general condition of the system, we may hope, with a careful diet and regimen, to prolong life for many years in comfort, if not to cure the disease itself. The case of the late Dr. Camplin is a very remarkable one of what may be done with care and judicious management. The specific gravity of his urine, which at one time was as high as 1040, fell to 1016, and without a trace of sugar; but the improvement was more from diet than from any medicine. The good that has been achieved in the present case must be due to the medicine employed rather than to the diet, which has not been carefully observed. The patient has throughout eaten moderately of ordinary bread, and violated the rules laid down by drinking porter frequently. In other respects his diet has consisted chiefly of eggs, fish, and meat.

J. H.—, aged 57, by occupation a messenger, experienced good health till April, 1868, when he became very weak and languid, lost flesh, and had no appetite. He was told by a medical man that his kidneys were sound, although at this period he passed an excessive quantity of urine. For many years he was addicted to drinking a great deal of beer, but lately he has reformed. In November, 1868, when I saw him for the first time, he was too feeble to walk across the room, and was very worn and emaciated; indeed he could not support himself in an upright posture. He was afraid to eat, from the extreme flatulence and inability to digest food. The action of the heart was very feeble. The liver much exceeded its natural limits, and there was considerable fluid in the peritoneal cavity. The superficial veins of the abdomen were enlarged. The legs were very anasar-