Sept. 22nd.—The faeces have passed per anum some time, and the wound in perineo completely cicatrized.

There is evident loss of substance on the left side of the perinæum. The integument appears firmly agglutinated to the muscles covering the tuber ischii and sphincter muscles, stretched apparently between the two points of adhesion.

The man returned to his usual employment, that of an agricultural labourer, and continued to enjoy good health for near two years. I have since learned, though he is not now under my care, that he is suffering from some anomalous disease of the testicle. Is it probable that may arise from some obstruction to, or obliteration of, the vas deferens?

Oxon, Oct. 1849.

ON

OBSTRUCTIONS OF THE RECTUM FROM THE USE OF DISEASED POTATOES.

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AN impacted state of the lower portion of the large intestine, consequent upon the use of diseased potatoes as the chief article of food, has, since the calamitous year 1846, been familiar to us in the south of Ireland. We are indebted to Dr. Banks, of Dublin, for directing attention to this disease, which he did in the February number of the *Dublin Journal of Medicine*, for 1846. It has also been lately described by Dr. Donovan, of this county. Still, as a number of these cases have been treated at the North Infirmary of this city during the last three years by Dr. Finn and myself, the general results of our observation may not be devoid of interest.

The following are the leading symptoms of this disease:—

The patients generally, when brought for relief, exhibit all the appearance of extreme abdominal suffering. They are unable to rest in any position, but throw themselves about without seeming much to regard either personal injury or the natural restraint imposed by the presence of others. The action of the hands affords a valuable diagnostic sign, they being constantly engaged in compressing the lower regions of the abdomen, or during a strong expulsive effort transferred to the knees, the patient stooping forward, and keeping in the breath, so as to bear down with the whole force of the muscular system. Indeed, the sudden attacks of pain, the restlessness, and the natural efforts for relief, strongly resemble the throes of a severe case of labour, though so intense is the suffering, that I have been assured by females who have experienced both, that they would go through the anguish of their worst confinement ten times over, rather than undergo this ailment. The pain is described by them as piercing like a knife, and is referred to the anus and rectum, reflected thence upwards and inwards. Cramps in the extremities not unfrequently accompany the accession of pain. Fortunately, the severity of the paroxysms remits at intervals, though the remissions are too short to allow the patient to sleep. Hence, as the subjects of these cases seldom applied for relief, until the disease had existed for six or seven days, the countenance presented that haggard and sunken look which is so characteristic of acute physical suffering, unalleviated by sleep.

Another sign, which we considered almost pathognomonic of this ailment, was the peculiar fœtor emanating from the patient. It is impossible to describe this offensive smell by comparison, as it was altogether *sui generis*, presenting nothing of the natural feculent odour of the evacuations. The epithet "sour" which has been employed to describe it, seems to me misapplied, as it appeared to us more like the effluvium from a combination of vegetable and animal matters in an advanced stage of putrescence. Its insupportable nature to the stomach may be judged from the fact, that during the measures necessary for the relief of the patient, the nurses of the infirmary, though habituated to disagreeable smells, yet could not abide this putrid and disgusting odour, without being seized with retching. Its rapidity of diffusion was also remarkable, the air of the whole hospital becoming quickly saturated with it. As from the state of the patient, presently to be described, this smell is always more or less present when the senses have once taken cognizance of it, the unfortunate person can be at once detected amongst a host of applicants for relief.

On inquiry as to the state of the bowels, the description given is vague, and apt to lead a practitioner into error who had not met with the disease. Some of these patients state that their bowels are obstinately confined, while others repre-

sent them as being too free. There is some ground for this inconsistency, as the solid contents of the bowels are retained, while there is a continual oozing of liquid and gaseous matters in consequence of the loss of retentive power in the sphincter muscles. On making an ocular examination of the anus, it reveals the nature of the disease, presenting a patulous orifice not unlike the appearance of it in the last stage of parturition, when the perinæum is forcibly distended. The contractile power of the sphincters is paralyzed, and the margin of the anus is flaccid, irregular, and shallow, being completely passive under the expulsive efforts. Portions of the contents of the rectum can be seen at or near the outlet, and on introducing the finger, the bowel is found in a state of great distention from an impacted mass closely adhering to its walls, and consisting chiefly of the skin and diseased portions of potatoes. The introduction of the finger is attended with great pain from the increased sensibility of the mucous membrane of the rectum. In all the cases which I have seen, an erysipelatous ring of two or three inches in depth surrounded the anal orifice, probably from the irritation caused by the liquid discharges continually percolating through the open sphincter.

Another symptom present in these cases, and one of the most urgent in constraining the person to seek relief, is retention of urine. This may be complete or partial, but I have more frequently met with it in the latter form, some urine generally dribbling away during the expulsive efforts. It was curious that in several cases "the stoppage of water" drew off the patients' attention entirely from the obstruction of the bowels, and was the symptom which was chiefly complained of. In all, it seemed greatly to aggravate their sufferings, the patient almost every minute getting on his hands and knees, or rushing from the bed to the night-chair, and after the most exhausting exertions, succeeding only in passing a few drops. Yet even this small quantity produced momentary relief, and when the introduction of the catheter was resisted, its evacuation was materially assisted by warm fomentations and moderate compression over the bladder. In none of the cases which I have seen has this symptom continued after the bowels had been completely relieved, neither has any injury accrued to the bladder from its prolonged distention, though in advanced stages of this disease such an occurrence is not improbable.

On examining the other symptoms of this disease, we find that some of them bear no adequate relation either to the degree of anguish felt by the patient, or to the severe constitutional disturbance existing in other forms of intestinal obstruction. Thus, in the cases which occurred to us, the circulation was not quickened as much as might be anticipated: the pulse in few of the patients exceeded 100; and during a remission of the symptoms, fell much below it. The appetite likewise did not seem to suffer much: the persons affected abstain from food or drink less from any dislike than from a fear of repletion, or, to use their own more forcible expression, "lest they should burst." The abdomen is considerably distended, and great pain is felt on pressure, especially over the hypogastric and iliac regions; but the sensibility of the surface is not much increased. In debilitated habits there exists great prostration of the vital powers, with chilliness of the skin; while in persons of sanguine temperament you meet with a flushed and anxious countenance, and a skin hot and copiously perspiring. It was remarkable that vomiting, a symptom so generally present in diseases of the first portions of the alimentary canal, was absent in our cases, its presence being the exception, instead of the rule. We may perhaps attempt to account for the absence of this symptom by the remoteness of the seat of the disease from the stomach, as this organ is more readily engaged in affections of the small than of the large intestine. Indeed, from the closeness of their functional relations, the small intestine might be regarded as a continuation of the stomach, participating as the complementary organ in the conditions of the latter, both in health and disease. On the other hand, the interposition of the ileo-cæcal valve seems a barrier between the large intestine and the stomach, altering completely their physiological and pathological relations. Thus, in ileus, vomiting is a very early symptom, and an antiperistaltic action of the small intestine occurs, by which, occasionally, stercoraceous matter is thrown up; while in dysentery, especially when the disease has not extended to the small intestine, vomiting is a rare symptom, the natural peristaltic action being augmented by the disease. In strangulated hernia, also, it has been observed by Scarpa, "that surgeons who have observed much of this disease can appreciate the value of vomiting, as a symptom,

by the aid of which they discriminate whether the incarcerated hernia be formed by the small or the large intestine." Of course an interruption to the freedom of passage through the large intestine cannot occur, without causing, after a time, disturbance of the small, so that the symptoms become blended; but in the present cases the obstruction was not complete, and partial relief was undoubtedly afforded by the escape of the fluid matters.

The disease for which the present affection is most liable to be mistaken, and in which the mistake would be most injurious, is dysentery. Thus the tormina and tenesmus, the dribbling discharges, the dysuria, and the offensive smell, may mislead a hasty examiner; but the history of the case, the state of the tongue, which in this disease is seldom altered, the character of the evacuations, and above all, the ocular examination of the anus and rectum, are sufficient to distinguish the two diseases.

As to the treatment of this affection, after it has passed the earlier stages, there is but one which is likely to be attended with success, and that is, the unloading the infarcted bowel by mechanical means, as all purgatives are unavailing, and even mischievous, until the rectum is cleared. This may be done by a scoop or spoon, the handle a little bent, or, better than either, the finger as far as it can reach; and after removing the portions of the mass nearest the outlet, considerable assistance may be gained by throwing up gradually an enema of soap-and-water, which seems the best solvent of the cakes of potato-skins closely matted together. This cannot be done without great pain and some hæmorrhage, as portions of the mass are almost imbedded in the rectum, and the mucous membrane is in such an irritable condition, that much forbearance is incumbent on both patient and physician. Some of the persons are very intractable, requiring to be held down by force while under treatment, and, maddened by the pain, they seem not indisposed to follow the example of Horace's patient, "*cum fit pugil, et medicum urget.*" As soon as the contents of the rectum near the anus are removed, the upper portions slowly descend, aided by the expulsive efforts, and, by degrees, the long flexible tube can be passed up into the sigmoid flexure of the colon, after which, enormous discharges are generally passed. In such repulsive cases as the above, it is some gratification to witness the almost magical relief thus afforded, and to listen to the emphatic expressions of thankfulness from the patient for the removal of intolerable pain.

In these cases, very little subsequent treatment is required if the rectum be fully cleared. There remains for some days soreness about the anus, but the sphincters quickly recover their tone. Diarrhoea is apt to come on, but it is perfectly amenable to the usual treatment.

The substances removed from the rectum are found to consist nearly altogether of the epidermis and diseased portions of potatoes, though we have occasionally met with grains of Indian corn and turnip-peels, swallowed in an unboiled state by persons suffering from extreme famine. There is little or nothing of the usual excrementitious discharges, the mass, when broken up, being merely the residue of the potato tinged with blood, and mixed with a brownish liquid of an insupportable odour. Dr. Banks has detailed the results of the examinations of these matters by chemical tests and the microscope, but they do not seem to throw so much light as might be expected on the disease. He has noticed in the *egista* a complete absence of amylaceous matters, which is the more remarkable, as Liebig has found that "the excrements of persons who live almost exclusively on potatoes, contain a large quantity of unchanged granules of starch, of which no trace can be detected when gluten or flesh is taken in proper proportions, because the starch has been rendered capable of assimilation." In the greater number of our patients, the diseased or "black potato" was the sole article of food procurable; and it is found, on examining the diseased tubers with the microscope, that though the walls of the starch cells are largely destroyed, the granules themselves exist in great numbers. Another matter of much importance is the pathology of the disease. Hitherto the potato has been known as an esculent, so invariably wholesome, that in works on toxicology allusion is only made to the poisonous nature of the berries. Hence the curious effects which have been lately noticed as resulting from the tuber when diseased, become of importance in any future description of the natural history and properties of the plant. It becomes an interesting subject of inquiry whether disease develops in the tuber any properties of an acro-narcotic nature, analogous to those possessed by other groups in the same natural family. The re-

searches of Otto, as noticed by Liebig, have discovered in the potato, under peculiar circumstances, a small portion of an alkali, named by him Solanine, whose salts are possessed of very poisonous properties; and Sir Robert Kane, in his valuable work on chemistry, is disposed to attribute the injurious effects of unripe potatoes to this principle. It is, then, deserving of further inquiry whether this may be developed in more abundance by the existing disease. The local effects which the use of the diseased potato seems to exert on the rectum, would admit of explanation in this way, the state of *erethismus* produced in the mucous membrane being attributable to the acrid nature of the accumulation, while the paralysis of the muscular fibres of rectum and sphincters may arise from its sedative influence. The dysuria may be explained on the excito-motory theory, the source of irritation being within the rectum; the excitor nerves of this excretory organ convey the impression to the spinal cord, from whence it is reflected to the sphincter of the bladder. Examples are given by Dr. Marshall Hall, of retention of urine being caused by the irritation in the rectum, produced by tying an hæmorrhoidal tumour. It would favour this explanation, if, as in one of Dr. Banks's cases, the symptom of retention of urine continued for some days after the rectum was cleared. It must be confessed, however, that most of the symptoms may be explained by the mechanical effect produced by the accumulated matters. The rectum is over-distended by an incompressible substance, and the pressure of this, when accumulated in sufficient quantity, being exerted in every direction, tends to draw the orbicular muscles from their natural state of contact. The retention of urine, in like manner, may arise from the pressure of the impacted mass on the neck of the bladder. In all our cases, as soon as the rectum was fully evacuated, all the symptoms subsided. Still the question arises, why it accumulates in the lower bowel? If the poisonous properties of the diseased tubers be not borne out by further examination, it would seem only explicable in this way. The arrest of development which takes place in the plant from the blight, and its increased liability to decomposition, impair very materially its nutritive properties. As the persons who use these black potatoes are generally in extreme destitution, they are obliged to use them in very large quantities, and without any other food. Hence a vast surplus of foreign innutritive matter takes place, which should be thrown off from the system. It is highly probable, that from the deficiency of nutrition there occurs a minus and altered state of the secretions which supply the natural stimulus to the process of defæcation. Hence, with a greater demand for these secretions, there is a diminished supply, and the retention of foreign matters in the bowels, where the tendency to decomposition is assisted by heat and moisture, must produce noxious effects. Though, with respect to the persons affected by this disease, there seems no exemption for either age or sex,—young and old, male and female having applied for relief,—yet there appears a greater liability to the disease in some persons than in others. Thus, one of the last cases brought to the infirmary was a boy, eight years old, whose father, mother, and six brothers, had eaten of the same food, without any visible injury; this boy, however, had been previously out of health.

As to the period required for the development of the disease, it varies with the cases; some having, for a week, others for a fortnight or month, used the diseased potatoes as food. I have not seen any fatal case, though I have heard of several having occurred in particular districts, remote from medical aid. Most of our cases were from Carrignavar electoral district, where the prejudices of the people were strongly opposed to medical interference.

It is a curious fact, that domestic animals, though partaking of the diseased potato with less relish, do not appear to suffer from it in the same way as the human subject. I have made inquiry of persons likely to be best informed, and could not learn that cows, horses, or swine, thus fed, suffered in any way. It is probable that, in these animals, the mixture with other kinds of food facilitated the transit through the bowels, and that in the human subject, if used in less quantity, and with a due admixture of more nutritious food, the expulsive power of the rectum may be able to remove it from the system. Still I am not aware of the use of any other esculent, whether injurious or salutary, being attended with like effects.

Cork, 1850.

THE FACULTY OF MEDICINE OF BOLOGNA.—All the professors of the faculty of Bologna have just been suspended, for political reasons.