and perfection of conformity, become restored, with the result that many a child which appears to be plain when it comes to the hospital becomes positively good-looking in a very short time. Any painful disease or any condition of chronic disease alters the features perhaps permanently, and so do any conditions which cause irritability of temper, in itself a common enough symptom of disease, and the handsomeness of the children which was noted simply depended upon the fact that with improved health comes grace of posture and of action and of movement; beauty of expression and of colour; brightness of the eyes and alertness of mind—all characteristics of a well-conditioned and attractive child.

As I have already said, beauty is a corollary of health, and the restoration to health with the minimum amount of crippling or deformity—whether it be of lung, heart, abdominal organ, or of the limbs—involves an economy not only respecting the future wage-earning capacity of the individual, but it also enhances his chances of obtaining, as well as of retaining work. On this account, the early recognition and treatment of disease means not only a great advantage to the patients inasmuch that they recover with less detriment to their appearances and capabilities, but also to the public, who provide the funds for maintaining the hospitals, and to the associations and institutions which undertake the care of invalid children, because, by getting the cases early the periods of treatment can often be shortened and the amount of expense in any given case is consequently lessened; last, but not least, it is an advantage to the taxpayer, who will certainly have to look after the child when it grows up if it is badly damaged. When the advanced cases present themselves, of course we have to look after them just as carefully, but they take longer to mend and the amount of deformity and of crippling which they sustain is likely to be correspondingly marked. Never, therefore, should we pass lightly over the case of a child which is showing early signs of invalidism, or because it does not appear to be seriously ill. If we could only get hold of these cases early and train such organizations as the Invalid Children's Associations to recognize them, and by bringing them under suitable treatment prevent the advance of their disorders, we might save an immense amount of suffering and of anxiety and of money, too, not to speak of the preservation of goodly appearance, which is such a valuable asset to the individual mainly concerned.

Much experience has now been gained by the treatment of diseased children in open-air wards, and there is not the slightest doubt that the processes of repair are greatly aided by the therapeutic influence of fresh air which is one of the most powerful allies of the doctor. It is remarkable that, like the processes of repair, those of growth are correspondingly stimulated by it. The cellular environment (which I have referred to in another paper) is improved, with the result that children who have been backward brighten up, and their mental activities improve *pari passu* with the restoration of their bodies. This fact indicates that it is not only the diseased child who should have this kind of treatment in the open air. There are thousands of children whose cellular environment is indifferent. The vitality of their cells is consequently lowered, and they are on the verge of disease. Advantage should be taken of these open-air methods of raising the cellular vitality and resistance for all of these. Every school should be a sanatorium, or, using the word in its proper sense, a preventorium, and with proper appliances such open-air class-rooms could be used both summer and winter with great advantage to the children both physically and mentally. At one of the industrial schools in Liverpool this system has, by my desire, been experimented with, and the teachers themselves have become convinced of the benefits which accrue from taking the children out of the closed schoolroom.

Do not let us regard the actually diseased child as the only one who is to reap the benefit of this beneficent measure. Liverpool has pioneered the method of treating diseased children in the splendid open-air hospital at Heswall, and it is earnestly to be hoped that other towns will follow her example, and that the principle of giving healthy children, and especially the indifferently healthy ones, the advantages of open-air education will become generally accepted. The results will manifest themselves not only in the improvement and maintenance of their

healths and sharpening of their wits, but it will also be found that the spread of tuberculosis and of infectious diseases will be minimized, so that as a preventive measure it is to be recommended, if for no other reason.

The idea of open-air schools comes in very timely association with the improved sanitary conditions which have been carried out by our health authorities with reference to insanitary dwellings, and in connexion with it should come a vigorous educational campaign having for its object the teaching of the people that open air is as necessary for the child at home as it is elsewhere. The child is the most valuable possession of the nation. Much money is expended upon it, which is wasted if it becomes diseased or crippled, or if it dies, as so often happens just at the period when childhood terminates. Its educational birthright is recognized and provided for; but that equal claim which it has—to be brought up decently, to be protected from disease and deformity, and taught how to protect itself in the future, also needs to be regarded; and the factors which influence the cellular environment, of which fresh air is one of prime importance, must be remembered and duly utilized.

In conclusion, let me once more direct attention to the fact that beauty is a corollary of health, and just as the wiping out of small-pox has done so much to preserve the beauty of the race, in like manner attention to the treatment of those diseases which tend to promote permanent organic changes and deformities and crippings, added to appropriate measures being taken for their prevention, will do much to further this aesthetic aspect of the work of the medical man, and of the work of those organizations which are doing such magnificent service in the way of helping suffering childhood.

HENOCH'S PURPURA WITH INTUSSUSCEPTION: LAPAROTOMY: RECOVERY.

BY

SEYMOUR BARLING, M.S., F.R.C.S.,

ASSISTANT SURGEON, GENERAL HOSPITAL, BIRMINGHAM.

THE occasional complication of a case of Henoch's purpura by the occurrence of an intussusception has been recognized for some years, yet the cases are of sufficient rarity to make the following worthy of record:

The patient, a boy aged 4, was brought to the out-patient department of the General Hospital by his mother; she stated that he had always been rather a delicate child with a poor appetite, and that for the last twelve months he had suffered from stomach-ache and frequent attacks of sickness. Three weeks before admission the attacks of abdominal pain and sickness became more noticeable, and were accompanied by a rash which appeared on the buttocks, and then spread to the limbs; the rash at first was definitely urticarial, the spots being raised above the surface and about the size of a shilling; these spots soon became haemorrhagic. On one occasion the mother noticed a small amount of blood in the motion. The rash faded, but fresh crops came out of a similar nature, the spots, however, being smaller. The child gradually improved, but at the end of three weeks, on the evening before admission, he had a sudden violent attack of abdominal pain, worse than anything he had ever experienced previously; he was sick, and almost immediately dark fluid blood was passed from the bowel. These symptoms of violent pain, sickness, and haemorrhage from the bowel continued intermittently throughout the night; but abated somewhat on the morning of admission. He was seen by his doctor six hours after the attack had started; examination of the abdomen, on the suspicion of an intussusception being present, failed to reveal a tumour.

On admission, twenty hours after the onset of pain, the child was pale and quiet, pulse 128, temperature normal; the belly was soft, and an irregular trilobed tumour could be felt lying somewhat transversely in the epigastrium, and apparently somewhat movable on respiration. Per rectum nothing could be felt; dark fluid blood, however, escaped on removing the finger from the bowel. The urine contained a light cloud of albumen, but gave no reaction to guaiacum. On the knees and ankles, and on the forearms, especially in the neighbourhood of the elbows, there was a slightly raised papular rash, some of the papules showing old haemorrhage.

Operation Immediately after Admission.

A median incision above the umbilicus revealed a large dark tumour lying more or less transversely across the abdomen; owing to the force with which the invaginated bowel had been thrust into the lumen of the colon, the latter had become bent on itself, giving the trilobed appearance which had been noticed on examination. The tumour was about 10 in. in length, and

the apex of the intussusception was in the upper part of the descending colon. The distal half of the swelling reduced quite easily; the proximal 4 in., however, required some twenty minutes' manipulation before the invaginated bowel could be freed, and in effecting this reduction the peritoneal coat of the ascending colon tore. This residual part of the tumour consisted of the ascending colon, containing the caput caeci, the appendix, and some 18 in. of the lower end of the ileum—these were expressed in turn. The appendix, caecum, and the ileum that had been involved in the intussusception showed extensive interstitial haemorrhage, and some inches of small bowel were black and apparently gangrenous. The part of the ileum above the obstructed portion was distended for some distance by dark blood-stained fluid lying in its lumen. The gangrenous portion of bowel, together with some inches on the proximal and distal sides of it, was excised, about 12 in. in all being removed, the open ends of the bowel crushed and turned in, and the continuity of the gut established by a lateral anastomosis between the ileum and the lower part of the ascending colon.

The patient suffered much from shock, and was very restless for the first forty-eight hours, but after that made satisfactory progress with the exception of some superficial suppuration in the wound.

The piece of bowel removed was the lowest 12 in. of the ileum; the portion next the ileo-caecal valve was gangrenous for some 4 or 5 in.; above this were two short segments, each about 2 in. long, with thickened walls, and separated by a portion of bowel quite normal in appearance. On section through the thickened segments it is seen that the bowel wall is infiltrated with blood, and measures nearly a quarter of an inch from the peritoneal to the mucous surface. Such interstitial haemorrhages are common in Henoch's purpura, and the lowest part of the ileum is a frequent site of election; it is probable that these localized haemorrhages are the usual cause of the intussusception that sometimes arises in the course of the disease.

Henoch¹ in 1874 collected a number of cases of purpura associated with vomiting, colic, and intestinal haemorrhage, and sometimes accompanied by effusion into and around the joints. Since his description this symptom group has been generally known by his name. Osler,² however, refers these cases into a larger class under the name of "erythema exudativum multiforme," including under this name cases presenting widely different manifestations in the skin, the viscera, and occasionally the joints. The skin lesions are polymorphic, and urticaria and purpura of all degrees of severity may be found. The visceral manifestations may take the form of gastrointestinal crises, endocarditis, pericarditis, or acute nephritis; bleeding is common from the mucous surfaces of the nose, mouth, stomach, and bowel.

A feature of the disease is recurrence, and successive attacks may occur at intervals for many years. In these attacks one or other type of symptoms may predominate; thus, skin symptoms may be very slight or absent, with the presence of severe visceral manifestations. Such cases often present great diagnostic difficulties, until the onset of some skin or joint lesion or the history of their presence in previous attacks throws light on the deeper trouble.

Henoch's purpura presents a double problem to the surgeon. In the first place the attack often simulates an intussusception closely, and secondly, an intussusception may arise in the course of an attack of purpura.

The numerous operations that have been performed in cases of Henoch's purpura in the belief that an intussusception was present amply testify to the difficulties of a differential diagnosis. Such cases, for instance, are recorded by Burrows,³ Sutherland,⁴ and Fitzwilliams.⁵

The difficulty is especially likely to occur in those cases presenting little or no external manifestation of the purpuric condition. Such cases are by no means uncommon. In some a few purpuric spots may be found after careful search; in other cases, such as the one recorded by Theodore Fisher,⁶ no skin lesion appeared from the beginning to the end of the case, which ended fatally.

Arthritis is frequently but not invariably found; it takes the form of an intra- or peri-articular effusion, and especially affects the tendon sheaths around the joints; the affected joint is swollen and tender, but may be but little painful on movement.

The symptoms of intermittent colicky pain—vomiting and blood per anum—are met with in both intussusception and Henoch's purpura, and there is really nothing distinctive about them which will help to differentiate the

two conditions. The presence, however, of blood in the vomit is very suggestive, being very commonly present in Henoch's purpura, and never in my experience in intussusception.

The age of the patient may help to distinguish between the two conditions. Henoch's purpura may occur at all ages, but seems commonest in childhood; I can find no case recorded under the age of 3. Intussusception, on the other hand, in something like 70 per cent. of cases occurs in infants of under 12 months. In suspicious cases careful inquiry may elicit a past history of joint pains or swellings, of slight outbreaks of purpuric or urticarial eruption, the tendency to recurrence in one or other of its manifold forms being a most marked characteristic of Henoch's purpura.

An examination of the urine should not be omitted, and may show the presence of casts or a few red blood corpuscles in the purpuric cases. Out of eleven cases recorded by Osler, five showed evidence of nephritis of greater or less extent.

The local signs in the abdomen are of great importance in making a differential diagnosis. In intussusception during the first twenty-four hours the belly wall is commonly flaccid, mobile, and not tender in the intervals between the attacks of pain, becoming hard and fixed when the child writhes under an attack of colic. In Henoch's purpura the condition of the abdominal wall often presents exactly similar features; not infrequently, however, the belly is distended, tender, or rigid from the onset of the illness, a condition almost unknown in intussusception. Amongst the local signs of intussusception the presence of the characteristic sausage-shaped tumour, lying usually on the arc of a circle with its centre at the umbilicus, can generally be found. Cases in which an intussusception is suspected, but in which no tumour is felt, should always be examined with anaesthesia; under these circumstances, in my own experience, not more than one in twenty will fail to exhibit the typical tumour. A tumour may be present in Henoch's purpura, being caused by haemorrhage into the mesentery (Lett⁷), a coagulum lying in the lumen of the bowel (Fitzwilliams⁵), or a massive interstitial haemorrhage into the bowel wall (Grieg⁸); and though such tumours will usually lack the characteristic shape and feel of an intussusception tumour, yet it is evident that occasionally the similarity may be so great as to lead to laparotomy being performed, as in Grieg's case. To sum up: When purpuric manifestations in the skin or joints are absent, the most important points in making a differential diagnosis between the two conditions are a reliable history, a careful examination of the urine, and the presence or absence of the characteristic lump in the abdomen when examined, if necessary, under anaesthesia.

With regard to the second point, the onset of an intussusception in the course of an attack of Henoch's purpura such as occurred in the above case, several instances have been recorded, of which Lett's⁷ is one of the most interesting. Here, after the successful reduction of one intussusception by operation, a second occurred four days later, leading to death of the patient. In numbers of cases haemorrhage has been demonstrated as present in the bowel wall in Henoch's purpura, usually in the lower end of the ileum. Whether this is always the cause of the intense colic is uncertain, but it seems probable. That it is the exciting cause of the intussusception in these cases there is little doubt—the tumour thus formed and the nodal interruption of the peristaltic wave that must be produced by the local paresis of the bowel wall would form just the conditions likely to produce an intussusception.

In the case I record above it is probable that the intussusception occurred with the onset of the violent pain twenty hours before operation; it is not likely that the bowel would have become so badly damaged in a shorter space of time, and although no lump was felt six hours after the onset of the pain I think it probable that invagination had already commenced, but the tumour could not be detected until it had reached a larger size. In this case the diagnosis was made easier, as the purpuric symptoms had subsided somewhat, so that the sudden access of pain followed by the presence of a lump when I saw the child, made diagnosis easy.

When, however, the acute colic of Henoch's purpura causes an intussusception to arise in the middle of an

attack, it is on the characteristic appearance of the tumour alone that a provisional diagnosis can be made, and Lett's dictum is that the appearance of this lump during an attack of Henoch's purpura resembling an intussusception justifies exploration. The discovery of an intussusception after death is a disaster, but it must not be forgotten, in considering the question of exploratory operation during an attack of purpura, that it is not without its especial risks; the wound may show a tendency to slough, or uncontrollable oozing may occur from it, and ultimately prove fatal, as in the case mentioned by Fitzwilliams.⁵ The recognition of this liability to intussusception, the careful and frequent examination of the abdomen, and, if necessary, the administration of an anaesthetic if rigidity or distension of the abdomen make proper examination otherwise impossible, are the only means by which the condition will be recognized sufficiently early to render operation effectual.

I have to thank Mr. Gilbert Barling, into whose ward the patient was admitted, for permission to publish this case.

REFERENCES.

- ¹ Henoch, *Berl. klin. Woch.*, 1874. ² Osler, *Amer. Journ. of Med. Sci.*, vol. cx, 1895. ³ Burrows, *Brit. Journ. of Child. Dis.*, p. 28, 1904. ⁴ Sutherland, *Brit. Journ. of Child. Dis.*, p. 23, 1904. ⁵ Fitzwilliams, *Reports of the Society for the Study of Disease in Children*, vol. viii, p. 320. ⁶ Fisher, *Brit. Journ. of Child. Dis.*, p. 97, 1904. ⁷ Lett, *Reports of the Society for the Study of Disease in Children*, vol. viii, p. 307. ⁸ Grieg, *Scot. Med. and Surg. Journ.*, April, 1908.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HYSTERIA IN A LAD.

At 11 a.m. one day a lad, aged 17, cut a piece of flesh (the size of a threepenny-piece) out of the inner side of the terminal phalanx of his left index finger when cutting off the leaves of a mangold with his pocket knife. The daughter of his employer washed the wound and dressed it with boracic ointment. He went on with his work, and appeared in his normal health during the afternoon. At 5 o'clock his employer found him leaning against the wall of his yard in a "fainting" condition. He helped him indoors and laid him on a couch.

I saw him at 7.30 p.m., and found him unconscious and very restless; the pulse was rapid and very weak; his extremities were cold. I could not get a clear history, and, thinking that he was suffering from loss of blood, I gave him a hypodermic injection of strychnine ($\frac{1}{10}$ grain) and applied hot bricks to his feet and axillae. His restlessness soon increased, and there began some violent clonic movements of his arms and legs, and twice he got into a position of slight opisthotonos. I then gave him a hypodermic injection of morphine ($\frac{1}{8}$ grain) and atropine ($\frac{1}{100}$ grain). The rigor-like movements continued, sometimes in one limb, sometimes in all. He would twist his body from one side to the other, so that he had to be prevented from falling off the couch. At no time did he have any tonic spasms. The pupils were rather dilated and reacted readily. Breathing was normal. He had not vomited, nor passed urine nor faeces, nor bitten his tongue. The temperature was 98.2°; the knee-jerks appeared normal. There was no mark nor contusion on his head nor was there any history of his having fallen down. The extremities soon became warm and the pulse full and strong.

At 11.30 p.m. he seemed much better and asked for a glass of milk, which he drank. In answer to inquiries, he said he felt quite well; his finger did not pain him, and he remembered nothing of his attack. At 2 a.m. he relapsed again and was, I am told, more violent in his movements. At 6 a.m. he became quite normal for twenty minutes, after which he relapsed again. At 10 a.m. he again became normal and walked across the room to the night-stool, where he passed about one pint of high coloured urine.

When I saw him at 11 a.m. he was again unconscious, with occasional clonic movements of the limbs and restlessness movements of the body. He often clutched his injured finger with the other hand. The lungs, heart, and abdomen appeared normal; the temperature was

98° F. and pulse 64. I dressed his finger again. It was looking very healthy.

For the next four days he was, for the most part, in this unconscious state, but woke up from time to time to ask for food. His bowels were open after castor oil, and he passed his urine only once a day. After the first day he could be partially roused if shouted at. The temperature varied from the first between 98° F. and 98.4° F., and the pulse never quickened above 80. Each attack grew less severe. On the fourth day of his illness, when his attendant was asleep in a chair, he got up and went into the next room to the night-stool. In his lucid moments he talked rationally, complained of nothing, and remembered nothing of his attacks. His finger healed rapidly, and on the sixth day he walked outside to a van and was driven home.

In appearance he was a healthy looking fellow. He had had no previous severe illness. His younger brother, however, I am told, is very nervous and faints if he cuts or scratches his finger. His parents are healthy, but quick tempered.

From the second day I considered his attacks to be functional and treated him by suggestion. I think the family history of nervous instability, the history of the case, and the absence of signs of any organic disease confirm my diagnosis.

RICHARD C. C. CLAY, M.R.C.S., L.R.C.P.

Fovant, Salisbury.

A CASE OF PETROL INTOXICATION.

THE minor effects of petrol fumes are well known—headache, sickness, giddiness, etc. These pass off quickly, and no bad result follows, but the following case nearly proved fatal.

P. S., aged 16, apprentice to a firm of electrical and motor engineers, was sent to clean out the pit of a private garage, the car being outside. He was called for to do something, and, not answering, was found crouched up in an angle of the pit. He was lifted out and laid in the open air, and shortly afterwards vomited violently, staggered up, seized the brush he had been using to sweep the pit, and was with difficulty prevented from continuing his work. He then became unconscious again, and was taken home (about two miles) in the car.

When I saw him, immediately on arrival, he was unconscious with shallow breathing, a weak, thready pulse, marked inward strabismus, and contracted pupils. No light reflex was present. His lips were a bright red and his cheeks flushed. He was cold and his teeth chattered, but there was no distinct rigor. The knee-jerks and other reactions were absent, nor had he any sensory reactions. His clothing smelt very strongly of petrol and his general condition was bad. The respirations, though shallow, were regular, and, as it was noticed that his pulse was slowly improving, artificial respiration was not used.

Three hours after being found he answered questions if aroused; he complained of intense headache and of a pain in his stomach. The reflexes were still absent, but the strabismus was not quite so marked. He also began to turn over and to adopt a sleepy expression and attitude. Throughout the night he slept well and quietly.

Next morning he could not remember much. He said something made him cough badly directly he stooped down in the pit. Then he thought he slipped and fell. He remembered being sick. I do not doubt that very little more of "the gas" would have been fatal. The time which elapsed between his going into the pit and being found cannot be accurately fixed, but, so far as can be judged, it was not more than about three minutes and a half at the outside.

Durham.

SELBY W. PLUMMER.

THE late Dr. A. B. Duffin left net personalty £48,268.

MADAME DÉJERINE, Doctor of Medicine, has received the Cross of the Legion of Honour. This is, we understand, the first time the decoration has been given to a woman for distinction in science. Madame Déjerine is the wife of Professor Déjerine. She collaborated with her husband in the production of an important work on the anatomy of the nervous centres, and has pursued many independent researches in neurology.