CLINICAL LECTURES

DELIVERED IN

THE OUT-PATIENT DEPARTMENT OF THE
HOSPITAL FOR SICK CHILDREN,
GREAT ORMOND STREET.

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I.—SCURVY AND PURPURA.

THOSE who have been in the habit of attending this department will, I think, remember well the first case about which I have to speak, for the appearance and condition of the patient were calculated to attract attention, and to fix themselves in your recollection. Louisa T., the child in question, a pretty slender girl five years old, with delicate features and fine silky hair, was brought here in a state of extreme emaciation and debility. She was so weak that she could not walk or even stand, and had to be carried into the consulting-room by her father. She was, moreover, extremely anæmic—blanched, indeed, to a degree rarely seen except after profuse hæmorrhage, and yet there was nothing to account for the pallor, the prostration, or the wasting. There had been no loss of blood, no acute disease, no drain upon the system of any kind. The history given by the father was, that the child had been in perfect health until three months previously, when she was vaccinated, after which she had gradually become thinner, having been feverish and thirsty ever since the operation. There had been no cough, no vomiting or diarrhoea. There was no history of syphilis. The parents had five other children, all of whom were alive and well. The family lived in an open and airy part, had several rooms, and were in a position to obtain ample and proper food. The child, the father said, had lacked nothing. She had fish, meat, and vegetables daily; was extremely fond of potatoes, and drank a small quantity of beer every day at dinner. An examination of the chest showed nothing abnormal. The urine was found to be free from albumen. The tongue was much coated, the skin hot and dry, and the bowels constipated.

The treatment consisted in regulating the bowels by mild aperients, and giving a mixture of quinine and steel wine, with a liberal diet of fresh meat or beef-tea, vegetable and fruit daily, and abundance of milk. As cod-liver oil could not be taken by the mouth on account of the retching which it produced, a dessert-spoonful was ordered to be rubbed into the skin night and morning. Immediate improvement followed; the fever abated; the tongue became clean; the child rapidly gained strength and flesh. Seventeen days after her first visit, she first complained of sore-throat and difficulty of swallowing; and, on examination, the uvula and part of the soft palate were discovered to have been destroyed by ulceration, leaving a raw, ragged margin round the fauces. The throat was sponged out with a strong solution of nitrate of silver, and in a few days had quite healed. In consequence of the deficiency of the soft palate, the food passed into the posterior nares during the act of swallowing; but at the end of a week there had been such an adaptation of the parts that this accident no longer occurred. The extraordinary rapidity with which recovery proceeded will be evident from the fact that, while when she was first brought to the hospital on the 11th October a mere skeleton, pallid beyond description from anæmia, and unable to stand or sit up, on the 18th of November she astonished me by walking into my consulting-room without assistance, and looking quite plump and rosy. Her father told me that he thought she was almost well.

For the next month, the patient attended very rarely, so that I hardly saw her, until one day at the end of this interval when she was carried into my room in a worse condition than on her first visit to the hospital. She was again too feeble to stand, extremely anæmic, with a hot dry skin and a thickly coated tongue. The pulse was 136; number of respirations 44; and her condition altogether appeared so critical that I at once procured her admission into the hospital as an in-patient. She remained under my care, and as soon as she had been put to bed I examined her more carefully, and found the body covered with small purpuric spots; there was, however, no sponginess of the gums. The glands of the neck and groin were enlarged; but nothing abnormal could be detected in the thorax and abdomen, with the exception of some large and small bronchial *râles* in the chest. No medicine was given, but new milk in abundance, strong beef-tea, and three ounces of port wine.

The next day, the child seemed better, the tongue cleaner, pulse down to 128, and respirations to 32; the temperature 99.4. Citrate

of iron and quinine was given; but the symptoms increased in gravity during the next few days, the temperature rising from 102 to 105 deg. Hæmoptysis now occurred, which appeared to come from a patch of ulceration which was discovered on the hard palate, just within the alveolar process, and from which blood was oozing.

On examining the chest, fine crepitation was heard at the right apex, but no sign of consolidation. Ammonia and bark, with brandy, were given freely; but the typhoid state deepened, the pulse and respirations became more rapid (144 and 40). The anæmia had notably increased since admission, and now the pallor was most intense. Hæmorrhage from the palatal ulcer recurred, but was arrested by styptics. The patient seemed frightened and restless, and lay coiled up in bed, her teeth chattering with cold, although she was wrapped in many blankets. The following day she died.

The *post mortem* examination exhibited the following conditions. The rigor mortis was slight; the body and limbs were covered with scattered ecchymoses. The heart was healthy, with fair clots in all the cavities. There were some recent pleural adhesions. The lungs were partially solidified, especially posteriorly, but not so as to sink in water; these more solid portions exhibited large patches of a red, port wine colour, not unlike red currant jelly, but in parts darker: this appearance was clearly the result of ecchymosis. In the fauces, the uvula and a portion of the soft palate were destroyed; the arch was, however, complete, although contracted. The pharynx was healthy, but the lower half of the œsophagus was distended by a firm coagulum of dark blood, rather firmly adherent to the mucous membrane, which, when the clot was separated, presented an ecchymosed appearance in its entire circumference: there was, however, no actual ulceration, and this appearance ceased at the cardiac orifice of the stomach. The stomach itself was filled with a dark fluid, consisting of the admixture of liquid food with a large quantity of blood. Its walls presented in parts small ecchymoses beneath the mucous membrane. In the intestine, scattered at various points, but few and far between, were bright crimson ecchymoses, one of which showed signs of ulceration. About the lower third of the ileum were two Peyer's patches in a state of ecchymotic ulceration; one of these was very large, and covered with adherent feculent deposit. In the large intestine, and the lower part of the small, especially about the ilio-cæcal valve, the apertures of the solitary glands were conspicuously marked as greenish-black dots. This was especially well seen in the patch just above the valve, where the dotted arrangement was very striking. There was not a trace of tubercle in the whole body.

The symptoms observed during life, and the morbid appearances discovered in the body after death, clearly show this case to have been something more than mere purpura. The progressive cachexia, the ulceration of the soft palate, the œsophagus, and the intestines; the inflammation of the pleura, the red-stained half-solid lungs, the conspicuous greenish-black spots marking the solitary glands in the intestine, are exactly what we find in scurvy, as ordinarily distinguished from purpura. Then, again, the rapid revival which followed the treatment is just what is seen in regular sea-scurvy, the administration of a proper diet producing an almost immediate and marvellous effect in most instances. The subsequent relapse and fatal termination after apparent recovery are equally significant. There is in scurvy always a great tendency to relapse after the first partial convalescence, which almost invariably follows appropriate treatment in all but the most advanced and hopeless cases. In the present instance I have a shrewd suspicion that the return of the disease in such an extreme degree, when the cure seemed almost complete, was due in some measure to the neglect of the medicines and special diet as soon as the symptoms ceased to be urgent; and the irregularity of the patient's attendance lends support to this view. Another point worthy of note is the striking contrast between the effects of treatment at first and after the relapse. Nothing could be more satisfactory, and certainly a *propter hoc*, than the remarkable and rapid improvement which followed tonics and proper dieting at the commencement; nothing more utterly futile than the same treatment in the later stage. The reason of this, I imagine, was partly that there was not time for the remedy to take effect, but chiefly because the child died, not so much directly from the evil condition of blood, whatever that may be, which is the essence of the disease in scurvy, as indirectly from the internal hæmorrhage and pleurisy which resulted from this. These secondary lesions killed the patient before the blood-fault could be repaired. There was, however, I think, an omission in the treatment which I should be careful to guard against in another case of the kind. The *post mortem* examination showed that considerable hæmorrhage had taken place from the mucous membrane of the lower part of the œsophagus. Now this hæmorrhage might reasonably be expected to be controlled by styptics. The bleeding surface could be reached directly by remedies taken by the mouth. The morbid action was going

on in a position where the local application of astringents could be brought into play; and the bleeding might, I think, therefore possibly have been subdued by the administration of the sesquichloride of iron or of tannin, and the patient thus given an additional chance. There was nothing to show during life that this internal hæmorrhage was going on. The hæmoptysis was assumed to come from the palatal ulcer, from which blood was oozing. But the case teaches us how necessary it is, in treating scurvy and purpura, never to forget the possibility of the occurrence of hæmorrhage along the alimentary tract, and to provide against that contingency as far as possible by the administration of appropriate styptics.

The case, then, being clearly one of scurvy, there is one remarkable fact to be noted with regard to its etiology. The conclusion arrived at by Dr. Budd and other observers, that scurvy is invariably dependent upon a deficient supply of fresh vegetable food, has been generally accepted as completely and satisfactorily established. The deduction is supported by a great mass of evidence; and yet Niemeyer points out that scurvy prevails amongst people who subsist almost entirely upon vegetable food, where other hygienic conditions are bad, as amongst the poor inhabitants of certain parts of Russia, who suffer from destitution and live in damp and ill-ventilated houses. And then, again, cases crop up occasionally in our own experience like the one we are considering, in which the symptoms and lesions are those of scurvy, yet the alleged invariable cause of scurvy is wanting. We are driven, then, to the conclusion, that the relation between the deficiency of fresh vegetable food and scurvy, however frequent, is not absolutely constant and invariable. In this instance, not only was the patient not deprived of fresh vegetable diet, but had an especial liking for potatoes and beer, both admirable antiscorbutics, and took them daily. She was the child, moreover, of parents tolerably well to do, living in an open and healthy part of London, with more fresh air and a better home than the majority of town children. There was, in fact, nothing whatever to account for the scurvy; none of the conditions under which it usually arises were present.

A similar case of scurvy came under my care not long ago, and was afterwards an in-patient under Dr. Dickinson, where there was the same striking absence of faulty diet or hygiene. The patient was a boy seven years old, who had spongy gums, was covered with purpuric spots, and suffered from frequent and dangerous epistaxis. He was the son of a market-gardener living at Kew, and, as you may imagine, did not lack fresh air or fresh vegetables.

Dr. Garrod formerly suggested that the blood-fault might consist in an excess of the salts of soda and deficiency in the salts of potash, and the theory was supported by analysis, showing that in scurvy the blood is actually deficient in the latter; that, in scorbutic diets, soda-salts exist in excess, while they contain little potash; and that all antiscorbutics contain potash in large amounts. Two stubborn facts, however, militate against this view. The first is, that many articles of diet, as peas, for instance, which contain nearly as much potash as lemon-juice, possess no antiscorbutic properties; and the second, the circumstance to which I have already alluded, that scurvy occurs amongst vegetable feeders, whose diet must contain abundance of the alkali. The theory that the disease depends not upon deficiency of potash, but of certain vegetable acids, is in the same manner negatived by the fact that these acids alone possess no antiscorbutic power, and by cases such as those I have stated in which scurvy occurs when they are present in the diet.

The question, then, of the etiology of the disease stands thus: whilst in the vast majority of cases scurvy is the direct result of a deficient supply of fresh vegetable food, it is also connected in some way with want and foul dwellings; and, further, it occasionally arises under circumstances where no evil hygienic conditions of any kind can be discovered. The essence of the disease is, no doubt, a faulty condition of blood, which, by supplying imperfect material for the nutrition of the capillary walls and other tissues, renders them fragile and soft, so that they readily break down, and hæmorrhages and ulcerations follow. Dr. Wilson Fox has recorded a case of purpura following syphilis, in which the small vessels of the skin were found to be the seat of amyloid change. But the case was one of extensive amyloid disease; and the fact that purpuric extravasation does not ordinarily occur in connection with this degeneration, although the tissues first affected are the coats of the small arteries, proves that the existence of this change does not render them abnormally fragile. In addition to this, amyloid changes have not been discovered in other cases of purpura. The morbid condition of the tissues, whatever its exact nature, is clearly due to an impoverished state of blood. This may be produced by the want of sufficient supply of necessary ingredients in the food, or be the result of the action of other bad hygienic conditions upon the nutrient fluids. In those cases where neither of these causes are in operation, we are

driven to the supposition that the error must be somewhere in the process of assimilation, either in the absorbents or in the tissues themselves; and that, although the necessary ingredients are introduced in the alimentary canal in sufficient quantities, and properly prepared there, they are either not taken up and appropriated by the absorbent vessels, or, if taken up by the vessels and passed into the blood, they are not assimilated by the tissues themselves.

Another point of great interest is the relation of this disease to purpura. There can be no doubt that, under this designation of purpura, we are in the habit of including a number of distinct conditions, in which the extravasation of blood beneath the skin forms one prominent feature. Thus, purpuric spots occur in various acute disorders, as well as in scurvy—as, for instance, in small-pox, acute rheumatism, in syphilis, and in Bright's disease; in all of which some great change in the state of the blood has taken place. In them, the purpura is merely an accident resulting from this change. There is, however, described in text-books a definite disease called purpura, and styled purpura simplex, or purpura hæmorrhagica, according to its severity. There are laid down, moreover, several points of difference by which it may be distinguished from scurvy, to which, in many respects, it bears a close resemblance. It is said, for instance, that while the onset of scurvy is always gradual, and due to one cause only—viz., deficiency of fresh vegetable food, purpura often comes on suddenly in persons enjoying good health; that it is entirely independent of diet; that the gums are not swollen and bleeding, as in scurvy; that it is not cured by fresh vegetables; but that it is, on the contrary, often of a sthenic character, and yields to mercury, blood-letting, and purging.

Now, these distinctions are not altogether borne out by my own observation. It is no doubt true that purpura does occasionally occur in well nourished, well housed persons, in apparent good health; but such cases are the exceptions, and, as a rule, it is closely connected with poverty, starvation, and close dwellings. Then, as to the argument from treatment, which is always liable to be a source of fallacy, I have constantly found purpura, like scurvy, rapidly improve under a liberal diet and lime-juice; and I cannot but think that, when the disease has disappeared under blood-letting and purging, these measures have been accompanied by diet which has supplied the deficient constituents to the blood. The disease has probably got well from the diet, and in spite of the other treatment, rather than in consequence of it; although it is possible that the diminution in the amount of fluid in the blood-vessels may have done passing good by temporarily relieving the pressure in the fragile capillaries, while permanent results have been effected by improved diet and hygiene. Purpura is met with almost entirely amongst the poorer class of hospital patients; and the very change from the scanty bread diet and foul rooms of their own homes to the ample food and free ventilation of a well regulated hospital must exercise a powerful influence. And then, again, with regard to these two diseases, just as cases in which all the symptoms are those of scurvy occasionally arise without any deficiency of fresh vegetable food or other usual cause of the disease, so, conversely, cases in which the symptoms are simply those described as belonging to purpura are met with connected with a deficient supply of vegetables. Two instances of this kind have lately come under my notice. The first was a boy aged seventeen, who came to me in the skin department at St. Mary's Hospital with purpura. The gums were not spongy, and the only fault which could be made out was the existence of the subcutaneous ecchymoses and some swelling and tenderness over the dorsum of one foot; otherwise he appeared to be, and affirmed himself to be, in perfect health. His history was this. He had just returned from a visit of several months to some friends in the country; and, as the only vegetables provided by them were potatoes, which he disliked, and never ate, he had subsisted entirely upon bacon and bread and butter, with a little fresh meat occasionally on Sundays. He had been on scurvy diet. On full diet, and a couple of lemons daily, he was well in a fortnight. The second case is that of Emily G., a child four years old, who is now in the girls' ward of this hospital. Her case is in many ways a very striking and instructive one. The child was brought to me suffering from severe whooping-cough. She spat blood, and the conjunctivæ were crimson, and so swollen with ecchymosis that the sclerotics were entirely hidden. The mother also drew my attention to the fact that she was covered with purpuric spots; on the body these were mostly small, but on the arms and legs large bruise-like patches. While examining the spots, I made the further discovery that the patient had general ichthyosis, well marked, although not of the most extreme kind. And then the history revealed a curious connection between the purpura and ichthyosis. She had previously been under treatment for the skin-disease at another hospital, and had been ordered by the physician under whose care she came to eat no vegetables. Accordingly, for two months she had no fresh vegetable, with the excep-

tion of a small portion of one potato as a treat two or three times a week. Her father being out of work, the family lived almost entirely upon bread, and the child had neither milk nor fresh meat. At the end of this time, the whooping-cough being severe, and the purpura having appeared, the mother transferred the child to this hospital, where she attended as an out-patient. The paroxysms of cough, which were of excessive violence, abated in the most striking manner under the use of tincture of Indian hemp, a remedy which, when given in full doses and carefully mixed with mucilage to prevent precipitation, is in my experience the most valuable of all the sedatives in the later stages of this disease. The purpura did not, however, disappear *pari passu*, in spite of the full diet and fresh vegetables which were directed to be given. Fresh crops of ecchymoses appeared from time to time. It is probable that the impoverished circumstances of the family did not permit them to feed the child properly. Two lemons were now ordered to be taken daily, and from that time the purpura faded away, and no fresh blotches have appeared for several weeks. The girl is, as you see, nearly well, and as the whooping-cough has gone, she has been received into this hospital in order to be transferred to the convalescent branch at Highgate, where the cure will be confirmed by wholesome country air.

The truth, then, with regard to these two affections, scurvy and purpura, appears to be this. Purpura is not to be regarded as a distinct disease, but as a symptom denoting a certain condition of blood and blood-vessels which occurs in several distinct diseases. The most common disease of which purpura is one of the phenomena is scurvy; and I believe that the majority of cases of so-called purpura met with in this country are cases of slight or imperfectly developed scorbutus. And this view is confirmed by the fact that we meet with every gradation of the disease, from a few scattered ecchymoses to the extensive extravasations, indurations, ulcerations, and serious inflammations of its full development. All degrees arise, as a rule, under similar conditions of life—viz., scanty unvaried diet, such as the bread and weak tea which form the staple food of the London poor, foul dwellings, or lack of fresh vegetables. When these evil conditions, and especially the latter, are present in moderate degree, so-called purpura results; when they are present to an extreme degree, or their action greatly prolonged, the extreme form of the disease is produced, and so-called scurvy follows; and, lastly, the disease may arise, as in two of the cases I have shown to you, when no defect of diet or any hygienic condition can be traced, and in which the blood-fault must be due to some secret cause which has not yet been fathomed.

CASE OF PULMONARY HÆMORRHAGE.

By W. J. BARKAS, L.R.C.P.Lond., M.R.C.S.Eng.,
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THE following case came under my notice while acting as surgeon in the steamship *Emblehope*, on her return voyage to England from Calcutta. It is mainly curious from the large amount of blood the man lost during the last ten days of his life. He had from one to three attacks of hæmorrhage every day, the quantity varying from one and a half gills to rather more than a quart. During his recovery from the slight pneumonic attack, the pulse gradually became slower, though the temperature remained very high. The ship was for some time in very rough seas, and in a disabled state from the engines breaking down and the hold filling with water. The waves kept washing over her decks, thus causing the sailors to be constantly at work at the pumps, while their clothes were saturated with water; and, with their usual recklessness, they would actually lie down to sleep in that condition.

The patient was J. G., aged 38, a seaman, married, and having two children. He had undergone great hardships from shipwreck and other casualties, and had led a very laborious life—so much so that he had the appearance of a man of 50 years, though he had been all his life a careful and temperate person, and had never suffered from any severe illness. On the voyage from England he had a slight attack of bronchitis, which left an occasional short hacking cough, without any expectoration, and without any difficulty of breathing. From that time till this illness came on he felt perfectly well, with the above exception. During the afternoon of June 21st, 1872, he was seized with a violent fit of coughing, followed by a copious flow of red fluid blood, which coagulated into a firm clot immediately on exposure to the air. The bleeding soon ceased. On seeing him again two hours afterwards, he was expectorating blood mixed with a little mucus; the cough was very slight, with no difficulty of breathing; pulse 82; tongue clean; skin moist and warm; bowels open. There was slight dulness on percussion, and some small crepitation at the posterior portion of the base

of the right lung. The heart's action was feeble, but normal. On the 22nd (7 A.M.), he had passed a quiet night; he expectorated some pure blood, but the sputa were commencing to assume the rusty colour of pneumonia. His cough was very slight; pulse 100; temperature 101 deg.; no pain. He was treated by ammonia, plenty of nourishment and port wine, and by the constant application of hot poultices over the chest. At 4 P.M., there was no increase of dulness; temperature 103 deg. Shortly after this visit, he had a severe fainting fit, but soon recovered, with only a slight headache, which was relieved by cold applications. On the 23rd, dulness on percussion was still present; he had very little cough or expectoration; pulse 100; temperature 102 deg. On the 24th, the sputa were bloody; pulse 90; temperature 103 deg. He was ordered ten grains of quinine night and morning. On the 27th, the temperature had fallen to 100 deg.: the quinine was continued, and he was ordered to have quinine mixture three times a day. On the 28th, the lungs were free from dulness; he had no cough or expectoration; pulse 80; temperature 98 deg. From this date he rapidly improved, and was gradually able to resume work; but on July 7th, alarming pulmonary hæmorrhage occurred without any previous warning. He appeared in his usual health even after the attack was over. There were no signs of phthisis, aneurism, congestion of lungs, or heart-disease. Mr. Lee, Resident Civil Surgeon, Trincomalee, saw the case with me, and was also unable to detect any cause for the hæmorrhage. I ordered him a mixture containing dilute sulphuric acid and sulphate of magnesia. On July 8th, he had had a return of the hæmorrhage, but expectorated bloody mucus. He was ordered to take 30 minims of tincture of sesquichloride of iron every four hours. On the 11th, he had had three or four attacks of bleeding since the 8th. The quantity of blood lost in each bleeding varied from a pint to a quart. He was ordered to take the tincture every two hours. There was no hæmorrhage until the 17th, when it broke out to a more alarming extent than before. I now gave gallic acid in twenty-grain doses, but without effect. On the 19th, I ordered him to take fifteen minims of oil of turpentine every ten minutes during the attacks, and every hour between them. This seemed to lessen the quantity of blood lost, but did not prevent the bleedings from returning. The debility rapidly increased, and the breathing was very difficult during the attacks, but not at other times, he only then feeling languid and weak. This continued till the 27th, when he died from asphyxia, not being able to cough up the blood, which was flowing in large quantity. I was not able to obtain a *post mortem* examination.

PARACENTESIS THORACIS.*

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JAMES O, aged 10, complained of chilliness and lassitude on February 1st. During the night fever set in, accompanied with delirium and a lancinating pain in the right side. On the following day, and up to March 1st, when first seen, he had been playing about the house, although he was during each night feverish, and slightly delirious, and occasionally referred to pain in the right side.

On examination, the skin was found to be hot and dry; the respiration somewhat increased in frequency, with short troublesome cough; there was also pain in the right side, inability to lie on the left side, etc. On listening to the right chest, no sound of any kind was heard except that produced by the air passing into the larger bronchial tubes; the respiration on the left side was puerile. He was ordered diaphoretic medicines, etc.

March 2.—During the evening the skin became moist; and through the night free perspiration set in.

March 3, 9 A.M.—The boy suffered from urgent dyspnoea, and had to get the head raised. Bronchial respiration was quite gone; the right side was stationary during respiration; there was a complete dulness on percussion at the back as high as the spine of the scapula; also total absence of vocal fremitus and vocal resonance. His face was pinched and dusky-looking; pulse 130. Throughout the afternoon the dyspnoea was of a suffocative character, with a sense of great pressure in the neck near the right sterno-clavicular articulation. The signs of suffocation were so well marked that the parents watched over him, expecting every minute to be his last. He was again seen at 5.30 P.M., and the operation of tapping the chest was advised, as the only means likely to save his life. At my request, Dr. Philipson kindly met me in consultation, and fully coincided with the diagnosis, and necessity for immediate operative measures. The trocar and cannula (a long vulcanised India-rubber tube being attached to the cannula, with the free end in a basin

* Read before the Northern Branch.