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PART I.

ORIGINAL COMMUNICATIONS.

ART. XIX.—*Simple Fevers and Eruptions liable to be mistaken for Infectious ones.*^a By JOHN STRAHAN, M.D., M.Ch.

THE Notification of Infectious Diseases Act has brought out a fact previously well known to all who took much interest in medical matters—viz., the frequency of errors of diagnosis in infectious diseases. This holds all over Great Britain; but we in the North of Ireland are in, perhaps, a worse case than many others, because our students have not sufficient opportunities for actual observation of these cases.

A contributory defect in medical education here is that students and young practitioners are woefully badly up in skin diseases. Now, the diagnosis of eruptive fevers is intimately concerned with a knowledge of the various forms of skin eruption, and, unfortunately, the diagnosis of skin eruptions, infectious or simple, can be learned only by actual observation. No amount of reading or inspection of plates will ever enable a man to be comfortably sure about a case of scarlatina or measles. One hour at the Skin Hospital, or one run round the wards of the Union Fever Hospital, would do more than the closest study of the best book. This is a great pity, because, like superficial eye diseases, the diagnosis of most skin rashes, infectious or simple, merely involves a glance. They are, in the vast majority of cases, the easiest diseases in the

^a Read before the Ulster Medical Society, February, 1893.

world both to diagnosticate and to treat, as every change is self-evident to a single glance. It is a pity, also, because the public are particularly intolerant of ignorance here, and the man who cannot at once name an evident rash loses the confidence of his patients to a great extent.

I have said that with a very little experience the task is of the easiest. I mean that the referring the rash to its proper class, and even naming the disease, is very easy. Still, there are a number of most puzzling cases, both infectious and simple, where even the most experienced finds himself almost at a stand, and has to defer his diagnosis in order to await developments and to think over the matter, and exclude the possible causes one by one, till at last the mind, often before the next visit, settles on the only explanation of the facts which will meet all the circumstances. In proof of the opinion I hold that far more mistakes are made than there is any call for. I may refer to a letter in the *Brit. Med. Jour.* of Oct. 22, 1892, p. 921, where Dr. E. C. Greenwood says that during a fortnight 35 cases were received with a medical certificate of scarlatina. Out of these 6 had nothing at all the matter, the only reason for suspecting illness being that they had relatives ill of scarlatina; 1 had mumps, 1 typhoid, 1 sore throat, 1 suffered from an erythema of the buttocks from neglect and wet, making 10 out of 35 incorrectly diagnosticated. Whether the 2s. 6d. per head for notification made the practitioners of North London excessively careless I do not know, but I fancy a man would hardly damage his reputation so much for such a sum.

This paper is intended to be an attempt to explain why such mistakes should be so common, and by trying to enter a little into the causes of them, and by drawing attention to the matter, to help to remedy the evil. That it is a crying evil, bringing discredit on the profession and causing the old woman to be put far before the young doctor, especially in children's cases, few will deny. How large a proportion of the typhus cases are diagnosticated in the first instance? I believe typhus is always lurking about the slums of Belfast. I also believe it is rarely diagnosticated until an early death or a second patient in the same house arouses the doctor from his complacent diagnosis of "simple continued" or "gastric." Until recently half the typhoid was never diagnosticated at all. I know it was called "gastric," but gastric was used as meaning a symptomatic fever from gastric catarrh, or far oftener as meaning simple fever. I am quite aware that the typhoid of Belfast

is usually a modified variety. As a rule, there is no diarrhœa, and often no eruption, though the latter would be found much oftener if looked for and recognised when seen. But that this North of Ireland typhoid is true enteric is proved by its long duration in many cases, and the fact that the very mild "walking cases" often end up with a profuse hæmorrhage from the bowels, or peritonitis from perforation, as we might expect from muscular effort during the third and fourth week.

That the very common failure to diagnosticate scarlet fever, measles, Rötheln, &c., injures the reputation of the whole profession, such cases as the following prove. A doctor is called to a case of Rötheln in the early eruptive stage. For want of inquiry as to the length of time the child was ill before the rash appeared he calls it measles. This often passes all right if the doctor remains in charge, but suppose he is absent for some reason, the character of the rash quite changes to a uniform red eruption; another doctor is called in, and he calls it mild scarlatina. In ten days the child is quite well, there is little peeling or other marks of scarlatina, and it becomes evident to the family or the old woman who is always called in to superintend the doctor that it was neither measles nor scarlatina. The public blames us for each mistake of this kind, even when the doctor could not have avoided it by any amount of care; but it is worse for the credit of the profession when the medical man can make no decent explanation or defence.

During a small-pox epidemic mistakes are very numerous, and of all kinds. Chicken-pox is called small-pox and *vice versa*, small-pox is called scarlatina for a day or two, on account of the scarlatiniform erythema which so often precedes the true rash in small-pox, measles, and even typhoid; small-pox is even mistaken for acne and *vice versa*, and small-pox for big-pox (syphilis) and the converse. If students studied skin diseases, or at least erythematous inflammation, a little more deeply, and comprehended the immense number of causes that may give rise to an extensive red rash, with more or less fever, we should at least be saved from the more ludicrous mistakes. Indeed, one of the most interesting questions now engaging dermatologists is the mode of production and grouping of the vast collection of cases comprising the disease erythema. Kaposi classes them as acute exudative dermatoses, and divides them into the "acute contagious exudative dermatoses represented by measles, scarlatina, Rötheln, and small-pox," and the "acute

non-contagious inflammatory dermatoses." The last group is characterised by the fact that the inflammation of the skin begins by a disorder of the vascular tonicity and congestion—in fact, a vaso-motor disturbance or angio-neurosis as Eulenberg and Landois term it. This non-contagious family of erythemas Kaposi subdivides into three—1st. One containing the typical forms, idiopathic and toxic, also the many forms of erythema constituting the disease called urticaria, or nettle rash. 2nd. The varieties of herpes. 3rd. The forms of erythema due to burns, cold, erysipelas, &c. His first group, the typical erythemas, idiopathic and toxic, is the one we want to study in connection with the diagnosis of fevers. Hebra's idea of erythema multiforme does not include all the disorders at present placed in the class of erythemas. These skin inflammations, we should always bear in mind, can closely simulate the eruptive fevers as to the skin eruption, the fever, and even the affections of mucous membranes. Of these there are two classes, which Besnier has named "pseudo-exanthem"—they may very closely imitate the eruptive fevers—1st. Rubeoloids and scarlatinoids; these simulate the eruptive fevers throughout their course; they are both acute and febrile. 2nd. The scarlatiniform erythemas, a most important class not yet properly or completely known; these are febrile at the beginning, inclined to be only sub-acute, and apt to be of longer duration than the fevers they simulate. It must be admitted that it is often impossible to diagnose the rubeoloids and scarlatinoids from the diseases they so much resemble. The scarlatinoids are much the more common. They arise from infectious diseases, such as puerperal cases, surgical septicæmia, gonorrhœa. Such rashes explain many supposed cases of scarlatina after operations, after labour, &c., the origin of which was such a mystery that such patients were supposed to be able to take scarlatina without infection from a previous case. Such rashes may be primary from unknown causes, or due to a secondary auto-toxæmia. They frequently arise from a toxæmia due to certain drugs or articles of food. Idiosyncrasy has much to do with such cases. The scarlatiniform erythemata as distinguished from the scarlatinoids have often been described under other names, as recurrent scarlatiniform desquamative erythema, exfoliating erythematous dermatitis, &c.

The causes of the eruptions known as erythema multiforme are exciting much interest, and advances of much practical value are being made. It was thought that "rheumatism" had

much to do with erythema multiforme. To-day the influence is considered slight, and the idea of rheumatism itself is being changed, as it is now highly probable that the term rheumatism covers a number of different diseases. Besnier says true rheumatism does not include erythema multiforme among its special characters, though this eruption can be induced by it *as by any other infectious condition*. We should never forget that this eruption may appear before or during typhoid, puerperal fever, gonorrhœa, cholera, infectious endocarditis and osteomyelitis, lymphadenoma (?), syphilis, leprosy, vaccination, surgical septicæmia, &c.^a

The form of erythema called urticaria is well known to often assume the acute and febrile form which often causes much trouble in diagnosis. This disease is well known to all physicians, but they are apt to think that lobster or shell-fish is the only cause of the acute form. This is a great mistake, as quite a number of articles of food and drugs may give rise to it in certain constitutions—among these shell-fish, oysters, fish, mushrooms, strawberries, preserved salmon, cucumbers, vinegar, honey, walnuts, game, sausages, pickles, spices, and in individual cases all sorts of things. Then, urticaria is extremely apt to complicate other skin diseases, so that scabies, pediculosis, prurigo, and eczema will often be found to be the exciting cause. In the latter it is a reflex affection, due to scratching, and of course is most common in children who have the most delicate and sensitive skin; but the idea many men have that urticaria is almost confined to children is a great mistake. The sting of the nettle will produce the local symptoms in anyone, and the local application of mustard, turpentine, and many other irritants produce it in many. Far oftener it is due to disorder of the digestive organs, perhaps without the ingestion of any special drug or article of food, or it is the deranged digestive organs which cause the special article to prove effectual. Here another important point arises. In many children and adults derangement of digestion, or of some other function, perhaps aided by ingestion of some article which would be wholesome at ordinary times, will produce the fever without the eruption, and lead to the suspicion of some infectious disease. No doubt this is one of the commonest ways in which simple fever arises. Since early times it has been

^a Kaposi's Lectures, second French Edition, by Besnier and Doyon, 1891. Ohmann-Dumesnil, Jour. of Cut. and Gen. Urin. Dis., Aug., 1890. Stirling, Austral. Med. Gaz., April, 1891.

recognised that surfeit or indigestion produced by over-indulgence would cause a sharp fever.

Another very common cause of urticaria in children and women is irritation of some of the mucous surfaces from worms or uterine disorder, menstrual disorder, pregnancy, &c. If the cause is round worms a few very small doses of santonin will speedily get rid of them—and I say small doses, because I believe that small doses are quite as effectual as large ones, yet are not attended by the disagreeable by-actions, such as yellow vision, and, in infants, convulsions, vertigo, and coma, with vomiting and purging, and occasionally death. It acts best in castor-oil, and one or two grains is enough for anyone.

But cases of thread-worms are often obstinate. They are best treated by the internal use of sulphur or Friedrichshall water, and the application of any mercurial ointment, as citrine, to the anus every night. This at once relieves the itching, and is very important, as the disease is kept up by scratching the anus during sleep, and then transferring the ova to the mouth—auto-inoculation in fact. These cases of acute febrile urticaria are the more likely to be confused with the exanthemata by the fact that very severe symptoms sometimes arise from sudden redness and great swelling of the mucous lining of the fauces and pharynx. A quickly-acting, sharply-purgative dose of some saline is the most prompt treatment for this, and if there is œdema of the glottis it should be followed by grain-doses of calomel every hour or half hour.

Acute febrile urticaria sometimes arises without obvious cause—a severe shock to the nervous system will sometimes cause it. If it arise from some article proving poisonous from either idiosyncrasy or deranged digestion or assimilation, it will often be accompanied by vomiting and diarrhœa, which are nature's cure. An emetic, if in time, or free purging, is the best treatment. If the stomach be not deranged, rest in bed, mild saline purges, fever diet, and then quinine, will be the treatment. Sedative lotions, containing benzoin, relieve the itching best, but acid lotions, such as vinegar and water, are much better than the commonly employed soda or alkaline washes. Hot baths, as a rule, should be avoided, as they usually increase the eruption and the irritation. Attacks of urticaria have followed dentition, the passage of gall-stones, puncture of hydatid cysts of the liver, the application of leeches to the os uteri, menstrual irregularities, abortion, and asthma.

Certain diseases are apt to be complicated by attacks—as jaundice, diabetes, Bright's disease, ague, rheumatism, and typhoid.

Medical men have recently had their attention called to the fact that many drugs will produce urticaria and the various forms of erythema by the frequency with which such results follow from the coal-tar derivatives, such as antipyrin, which often causes a rash very like measles, exalgin, kairin, phenacetin, thallin, &c. But besides these, very many drugs will give rise to severe eruptions. We are all familiar with the severe acne caused by the bromides, which I have known mistaken for both small- and big- pox, the still severer rashes caused by iodide of potassium, and the eruptions due to copaiba and cubebs which sometimes closely simulate measles and sometimes scarlatina. Besides these familiar instances there are many drugs which occasionally cause severe eruptions, which may sorely puzzle the young practitioner. Thus all essential oils—and turpentine occasionally—act like copaiba, capsicum, santonin, chloral, opium, morphin, salicylic acids and its compounds, iodoform, belladonna, and atropin, quinine, tar, carbolic acid, resin, arsenic, cannabis indica, digitalis, mercury, sulphur, and even the innocent, unsuspected rhubarb, may so cover a face with scabs as to puzzle the wisest as to the nature and cause of the disease. No doubt we are not nearly at a full knowledge of these occasional effects of drugs, and surely it is a subject worthy of attention. It may be useful to take a look at some of these eruptions.

Iodine and Iodides of all kinds.—These may cause—1st, erythematous patches (iodic roseola) on various parts, the redness may become raised into large disseminated papules, with a reddened surface around, very like ordinary urticaria; or 2nd, purpuric spots and petechiæ, especially on the legs—this is a common result of iodides; 3rd, rarely vesicular eruptions like a badly developed eczema; 4th, bullæ or large blebs on head, neck, and upper extremities, inclining to become hæmorrhagic; and 5th, acne-like red papules, becoming pustular in some instances, often so large as to resemble boils, very similar to the common bromide eruption. When it takes the acne form it chiefly affects the face and shoulders. It has been mistaken for small-pox. The fact that it is usually accompanied by other signs of iodism, especially the enlarged lymphatics behind the angle of the jaw, the violent coryza and flow from eyes and nose usually lead to its identification.

Bromides.—Alfred Sangster (“Dict. of Surgery,” p. 15, Vol. 2)

describes bromic eruptions as also presenting four forms—1st, ordinary erythema; 2nd, a maculo-papular rash closely agreeing with a common syphilitic rash; 3rd, bullæ inclining to be hæmorrhagic; 4th, the commonly observed pustular acne of face and chest, and an eruption which has been called confluent acne. When fully matured, it presents round flat tubercles, with thin moist epidermis, resembling condylomata; or thick brown crusts covering a moist surface, dotted with minute abscesses. Each patch has a dark red areola.

Iodoform.—The iodic and bromic rashes are bad enough, but I should like to know what a young practitioner would make of a bad case of iodoform poisoning. According to Ringer, iodoform in large doses internally is liable to produce a kind of intoxication followed by convulsions with tetanic spasms, *high fever*, mental depression, involuntary evacuations, widely dilated pupils, delirium, and sometimes sudden collapse and death. Even its external application sometimes produces serious symptoms, which may assume three forms—1st, coated tongue, total loss of appetite, nausea, and even diarrhœa; 2nd, rapid feeble pulse, which may rise to 140, may become irregular, and the case may show other signs of cardiac failure; 3rd, active and furious delirium, with hallucinations or melancholia, loss of memory, coma, and even sometimes convulsions and paralysis. These toxic effects of iodoform may be transient, or persist for weeks, or end fatally. Such poisoning is rarely seen in children, as their kidneys and elimination generally are so active that the poison cannot accumulate in the blood.

As might be expected, age favours the appearance of toxic symptoms, as also does debility or Bright's disease. Iodoform depresses cardiac action as part of its physiological action. In frogs it arrests the heart in diastole probably by its action on the cardiac ganglia. Like chloroform, ether, arsenic, phosphorus, and many other poisons, when given in fatal doses, iodoform produces profound fatty degeneration of the liver, kidneys, heart, and voluntary muscles. It is eliminated in the breath as iodoform, and by the urine as iodide and a little iodate. In large doses hæmaturia and albuminuria may occur, and after death a glomerular nephritis will be found. It is also said to excite acute poliomyelitis. Its local application has resulted in death several times, but used moderately there appears to be no risk. Hourly doses of 10 grs. of potassium bicarb. are recommended as an antidote to the poisoning.

Belladonna and Atropin.—These may cause an extensive erythema—sometimes partially punctate, so that the resemblance to scarlatina is perfect; but usually it occurs in large patches, principally on the upper part of the body. There is no burning or itching, and it is not followed by desquamation. Sometimes the erythema more resembles measles, and, as belladonna-poisoning is attended by great heat of skin, dilated pupils, restlessness, and delirium, with perfectly dry and often red and painful throat, it requires care to distinguish it from the exanthemata. I have seen just such an eruption, and, indeed, a similar state generally, several times in women who had been drinking heavily for some days; the capillaries of the skin seemed to be quite paralysed. All the alcoholic cases recovered.

Belladonna-poisoning may result from the external use of the drug as liniment or even plaister, especially if excoriation exist.

Chloral.—The erythema caused by chloral is usually in patches, and affects the neck especially, the chest, the large joints, the backs of the hands, and feet. It is usually attended by heat and itching. The rash may take the form of true urticaria, or may be vesicular, papular, or even purpuric. Chronic chloral-poisoning is attended by great vaso-motor paralysis of the skin, conjunctivitis, and purpura on the legs are common.

Salicylic Acid and Salicylates.—Sangster gives three forms:—1st. Diffuse erythema, with puffiness or œdema about the eyes. 2nd. A rash of vesicles and pustules confined to the hands and feet. 3rd. Various hæmorrhagic rashes. The common salicylic rash consists of patches of erythema mixed with limited hæmorrhages into the skin. These are liable to be further changed by the profuse sweating produced by the drug.

Copaiba.—The commonest form is a roseola, attacking the hands, arms, feet, knees, and abdomen. The rash is slightly raised, so that it can be felt by the finger. It may be a true urticaria with much itching, or it may closely resemble a macular syphilide, or it may exactly imitate measles or scarlatina. When it occurs as urticaria the white centres of the wheals may be absent, so that the whole eruption is red. In order to distinguish between copaiba rash and the exanthemata we have the facts that the breath, urine, and even the skin and clothes of those taking copaiba smell strongly of the drug; then it does not prevail on the face more than elsewhere, as measles does, and coryza and catarrh form no part of the condition. I have seen copaiba rash

exhibited to a class of students as a good example of the eruption of typhus by an eminent hospital physician.

As regards syphilis, the absence of any other symptom but a red rash should prevent any man from dreaming of such a diagnosis, although a man suffering from copaiba rash is usually the sort of man we would look for syphilis in.

Cubebs.—The rash resembles that of copaiba, but is more evenly spread over the body and without itching, which circumstances only make it the more difficult to identify. Usually, of course, one can ascertain that a drug is being taken if one only thinks of it. I think this a most important point in all diagnosis. All true diagnosis is by exclusion. Each man according to his lights, and often quite unconsciously, passes a certain number of diseases before his mind as possibly present in the case before him. These are rapidly dismissed one by one as something arises to the mind excluding each, until only one or two are left as possible. Where the careless or the imperfectly-instructed medical man usually fails is in passing before his mind quite too few possibilities. His list is too short. I think, in fact, if the medical man ever passed in review before his mind the possibility of some eruption being a drug-rash, he would be very unlikely to make a mistake. Where such mistakes arise it is from never considering the possibility of the drug origin. It may be due to deficiency of imagination in some men: imagination is a much more useful quality than is generally supposed. All great inventors and men of genius of all kinds have a great imagination in the direction, at least, in which their ability lies. No man could invent a new mouse-trap, not to speak of writing a poem or a novel, without unusual imagination, which presents images new as well as old to the mind—presents possibilities to the mind which it reasons on and dismisses until one arises which seems worth elaborating. So the able medical man, if a case presents any difficulty, keeps raising possibilities before his mind, which his reason may either dismiss at once or inquire into, until a possibility which becomes a probability, and then almost a certainty, comes before the mind and the diagnosis is made—as far as that man's ability can carry him. Men of little imagination often stop short for want of images from the imagination, and are content to say, "I do not know what this case is." Now, a man of imagination would have some opinion as to its nature, the correctness of the opinion depending on his medical knowledge and his mental ability or clearness of understanding.

Quinine has been known to cause erythema, urticaria, raised papular rashes, and even purpura. Of course such effects depend on an idiosyncrasy and are far from common, but sometimes the red rash is very pronounced and might easily be mistaken by a careless man for something else.

Tar, Turpentine, Resin, Carbolic Acid, Essential Oils of most kinds, have all produced various forms of erythematous inflammation of the skin. Lister's dressing has produced general urticaria involving the whole surface. The urticaria of turpentine is attended by much itching and irritation; it inclines to the face and upper part of the body. The rash may result from either the internal use or the external application of the drug.

Sulphur sometimes causes an eruption like imperfectly evolved eczema. Tar often does the same.

Opium and Morphin are often followed by urticaria, with great irritation. But in this case it is probably a mere nerve reflex from the scratching, because in many people any preparation of opium causes a severe itching. This causes scratching, which causes an eruption, aided by the perspiration to which opiates usually give rise.

Arsenical eczema is described in all works on medical jurisprudence, and is a subject of great importance, as it often divulges the fact that chronic poisoning is going on from some cause—arsenical wall-paper or arsenic in various dyes used for hat linings, stockings, shirts, drawers, gloves, &c. Arsenic is especially apt to be present in the coal-tar dyes so extensively used at present. These aniline dyes were supposed to cause skin eruptions themselves, and were denounced in consequence for a time in the medical journals. But this was a mistake, for, although these coal-tar derivations will cause eruptions when used internally as drugs, they do not do so when applied to the surface in the dry state as dyes. Dr. B. W. Richardson found that arsenic present as an impurity was the real offender in such cases. Everyone knows that arsenic has a powerful effect when used as an external application. If in the concentrated state, it is a powerful caustic, used by the cancer curers and often with great success; in more dilute form it will cause inflammation, the intensity of which is in direct proportion to the strength of the application. Thus Fowler's solution (1 per cent. sol.) causes corns and warts to dry up and exfoliate, and ʒi. of Fowler to the ounce of water makes an excellent wash for onychia and other unhealthy sores. Strong

solutions of arsenic applied for some time will cause the skin to ulcerate.

Internal Administration.—But it is to the effects of arsenic on the skin when given internally that I wish especially to draw your attention. It is well known that the prolonged use of even small doses often gives rise to peripheral neuritis, especially of the intercostal nerves, resulting in herpes zoster or shingles. Now, this disease is often attended with considerable fever, as well as intercostal neuralgia, sometimes rather intense for a day or two previous to the eruption. This state of affairs is very liable to be mistaken for pleurisy, pneumonia, or pleuro-pneumonia, the more so as the medicinal use of arsenic is very liable to give rise to cold catching and even bronchitis, so that there is likely to be more or less cough as a complication.

I know that the tendency of arsenic to cause bronchitis has been denied by some authorities lately; but everything is denied occasionally, and unless my observation and experience are totally at fault, I have seen arsenic give rise to colds and even severe bronchitis so often that I always warn people taking it to stop cold baths and be very careful about exposure. It has also seemed to me that the use of the cold bath while taking arsenic has also a tendency to produce zoster—at least, I have seen a sea-captain patient of mine, who often suffers from a painful dyspepsia that single-drop doses of arsenic before meals relieves best, suffer twice from zoster under such circumstances. I know that a second attack of zoster is a curiosity, but in this case there could be no doubt about it: the new and the old cicatrices were mingled on his side the last time I examined him. Strange enough, his son, a lad of twelve years, had also an attack of zoster while taking arsenic for a painful stomach affection exactly like his father's. I made both these patients abandon the cold bath when taking arsenic, and they have had no more shingles, but whether in consequence I cannot say.

Besides the herpes zoster the prolonged internal use of arsenic is well known to give rise to a dirty browning of the skin, and even furfuraceous desquamation, especially in those parts covered with the clothes. Förster (*Berlin klin. Woch.*, No. 50, 1890; *Med. Annual*, 1892, p. 20) gives a case in a young lad with exophthalmic goitre, who developed bronzing after long use of arsenic. The whole neck and upper part of the chest was brown coloured, and immediately under the nipples began a darker colour, which on the abdomen became deep brown, the back being lighter colour.

The buttocks and upper thighs were also dark brown, which grew lighter lower down. The eruption was quite symmetrical. Arsenic had been steadily given for eight months. Wyss recently reported two cases as above after a long use of arsenic for chorea. He called it melanosis. In one case, a boy of twelve years, the colour came out when he had taken arsenic only six weeks (3 drops, increased to 15 daily). It grew deeper afterwards, disappeared when the drug was stopped, and recurred when it was recommenced. In the second case, a boy of ten, the same thing happened after six weeks also.

Rhubarb.—Goldenberg (*New York Med. Jour.*, Dec., 1889) has shown that this drug may sometimes produce a severe eruption with fever. He gives a case where the patient's face was covered with brownish-red irregular pustules about the size of a pea to that of a bean, deeply infiltrated at their bases. There were many crusts, which, on removal, left a moist, bleeding, fungoid surface. This rash also occurred on both front and backs of the hands. The rash disappeared spontaneously in a few weeks after stopping the drug. It left no cicatrices, although bluish pigmented spots were left. In this case there was no fever; indeed, the general health was perfect. Goldenberg experimented twice subsequently on the same man, each time with the same result. The disease was so like pemphigus that it might easily have been mistaken for it. But M. Litten (*Therapeut. Monatshefte*, Dec., 1890; *Med. Annual*, p. 66, 1892) records a more serious form. While taking infus. rhei he had rigors and pains in the limbs; temperature 103·3° F. Then the face, lips, and tongue began to swell, the eruption being fully developed next morning. He then presented the following curious condition:—The face was very much swollen and covered with scabs, mixed with numerous ecchymoses and spots of purulent exudation. The scalp, beard, eyelids, and lips were affected equally. The whole body was covered with a polymorphous eruption, which, like that on the face, presented two types—subcutaneous hæmorrhages and pustules. The hæmorrhages varied from the size of a bean to that of a cheese plate, and were of all shades of colour from bright red to brown; they were scattered equally all over the body, face, and scalp. The pustules, as in Goldenberg's case, closely resembled pemphigus. Sometimes they became confluent, and so occupied large surfaces, as they were thickly scattered over the whole body, hands, face, scalp, &c. On the backs of the hands they were filled with clear fluid, which did not turn to pus. On

removal of the scabs, shallow, dirty-looking ulcers were found. All the lymphatics were inflamed, painful, and enlarged. The mucous membranes of the nose, eyes, lips, mouth, and throat were equally affected with blebs and effusions of blood beneath the epithelium, and great swelling of all these membranes occurred. The tongue was as badly swollen and blistered as the rest, and this and the swollen lining of the mouth almost prevented speech. The urine was frequently loaded with blood, but sometimes clear. It contained no albumen or sugar, but was stained a deep brownish-yellow, as always occurs from the internal use of rhubarb, as was proved by its turning a deep purple red on adding caustic alkali. This urine reaction, and the fact that the patient was strong and well, but for the rise of temperature and the eruption, were the only points by which this condition could have been discriminated from some very serious disease, as hæmorrhagic small-pox, unusual secondary syphilitic eruption, &c. But even with these guides I should wonder what most young physicians would have made of the case, as the supposedly innocent nature of the drug given would have lulled suspicion of its being the sole cause of such an alarming state.

I shall not weary you further with drug eruptions. Most of you have personal experience of the scarlatiniform erythema produced so often by the modern aniline products, the measles-like and scarlatina-like rashes often following antipyrin, exalgin, phenacetin, &c., as these things are well known to cause eruptions one would not be apt to be deceived.

However, some of the rare and severe rashes brought out occasionally by iodide and bromide of potassium might puzzle any man. Dr. Norman Walker describes such cases in the *Lancet* of March 12th, 1892, p. 571, and the article would well repay perusal. He also gives many cases searched up out of foreign and American literature of a most instructive nature. He says the first reference to the tubercular form of iodide rash was by Ricord in 1842, then by Fischer, then by Tilbury Fox. Colcott Fox applied the term "condylomatous" to such eruptions, which gives one an idea of the forms they may assume. M'Hardy and M'Call Anderson also describe such. The latter relates a fatal case of iodide purpura. Nevins Hyde, of Chicago, gives, perhaps, the best account. Walker's case began as a red nodule on the bridge of the nose, and quickly became a tumour, occupying the lower half of the nose. It was elevated one-third of an inch, and looked exactly

like an epithelioma. On touching it, however, it was peculiarly soft, sponge-like, and painless. But excluding epithelioma there was great difficulty in its diagnosis, as there were three other possibilities—mycosis fungoides, syphilis, and a dermatitis due to some drug. It had to be removed by the knife in the end. Time will not permit me to enter into the endless forms this tubercular iodide eruption may take. Those who wish more information should read the article mentioned.

Rashes with Uræmia.—Then we may have uræmia, with febrile symptoms, a temperature of 104° or 105° F., though such are rare, and we may have uræmic rashes. At the Clinical Society, London, Nov. 13th, 1891, Dr. Le Cronier, Lancaster, gave notes of eight cases. Such occur mainly in cases of chronic interstitial nephritis. These cases first showed as maculæ, and papules of a bright red colour on the extensor surfaces of hands, forearms, and legs, then rapidly spread over the whole body. In a few days the rash in every case underwent one of three changes—1st. Gradual subsidence, with very free desquamation, the true skin being left brawny and infiltrated; 2nd. Freely exuding eczema developed, the gummy fluid drying up forming crusts; 3rd. In the more severe cases, pustules, and even small abscesses, followed the previous or squamatus stage. All forms and stages presented severe itching. Such an eruption in uræmia is of very grave import. In seven out of the eight cases death occurred within five weeks of its first appearance. Such rashes show an evident analogy with the rashes due to pyæmia, ptomain-poisoning, and drug eruptions, being due, like them, to one or more toxic substances in the blood, which the diseased kidneys have been unable to get rid of. The eruption seems to be of the nature of a trophoneurosis. The article is well worth perusal (*Lancet*, Nov. 21st, 1891, p. 1169). For an account of febrile uræmia an article of M. Huchard in the *Revue de Méd.*, Feb., 1892, p. 163, or the *Practitioner*, May, 1892, p. 371, may be consulted. His case was a man, aged twenty-eight, admitted with uræmic coma. He had been drinking, but there was no lead-poisoning. There were epileptiform convulsions, sometimes spontaneous, but easily induced by moving the patient, owing to hyper-excitability of the muscles, and hyperæsthesia of the skin. The temperature on admission was 98° F., as is common, but it quickly rose to 100° F., and next day to 103°; on the third day it was 104·5°, after a series of alternations of coma and convulsions. The urine was very albuminous. Death occurred

on the third day. Granular kidney was the only important lesion found.

Roseola, or Rose Rash, is another form of erythema which adds greatly to the troubles of the young practitioner. It is now generally used to signify any red eruption of an evanescent kind. How commonly it is mistaken for scarlatina is proved by the frequency with which mothers proudly announce that their children have had the distinction of a second attack of scarlatina. Such second attacks in reality are very rare, and when we hear such stories we generally conclude that the affection was really roseola in one, at least, of the attacks. Rashes of this kind are also often put down as R $\ddot{o}$ theln, which is rare as a sporadic disease, usually occurring in widespread epidemics.

Roseola is very common in children; generally it is associated with slight gastric catarrh, or other digestive trouble. In infants very slight derangements of digestion, &c., or of the general health, will induce a roseola, which may take the form of a diffuse redness, or of scattered red patches. It usually consists of small rose-coloured spots, or transient patches of redness, which usually disappear in from twenty-four hours to a few days or a week. It is most common in hot weather. It is apt to attack the most prominent parts of the face and extremities, but may be limited to one limb. It itches slightly. The best means of distinguishing it from scarlatina and measles are—It wants crescentic arrangement of spots seen in measles, the dark red spots on the soft palate often seen before the measles rash comes out on the skin, and the constitutional symptoms of measles as a rule are more severe. It is of a deep rose colour, and not scarlet, like the rash of scarlatina, nor can it be resolved into the innumerable red points which form the scarlatina rash; neither are the roseola patches so uniform or diffused as in scarlatina. Roseola, though, is often preceded by sore throat, more or less, and catarrhal symptoms are so common in children that they often coincide with an attack of roseola, so that it often makes a very good imitation of measles or, still better, of R $\ddot{o}$ theln. But what occasions still more confusion is the fact that roseola is liable to come out from various poisons in the blood. Thus we find it preceding small-pox by a couple of days, just when the patient is getting into high fever, and who can avoid error under such circumstances? It also precedes scarlatina, measles, cholera, modified small-pox, typhoid fever, syphilis, diphtheria, malaria (*Roseola febrilis*). It may also either

precede or follow the pock in vaccination. As the fever of these diseases is often present before the rose rash comes out, it is no wonder medical men are so often led astray.

Roseola, as we said before, accounts for most of the wonderful cases of scarlet fever following parturition and surgical operations, where the infection cannot be traced, for the best of reasons, and where no harm is done. Fortunately, in small-pox as well as after parturition and surgical operation, and in cholera, the rose rash has a peculiarity of seat which should put us on our guard. The rash may be very copious, but its characteristic seat is the lower half of the abdomen and the anterior and inner aspect of the thighs. It may appear elsewhere in these cases, but generally it is confined to the lower half of the body. It is part of a strange and interesting subject to say that in general the skin affected with this erythema remains entirely free from the small-pox eruption. In the same way, Neumann (Pullar's Translation, p. 89) says, speaking of the influence of one contagion on another: "Syphilitic eruptions of the muscular, papular, and squamous varieties disappear during the variolous process, as in all specific fevers. Syphilitic ulcers become unclean and covered with a thick yellow exudation; around and upon the broad condylomata small-pox pustules accumulate in great numbers. When the variolous process has exhausted itself, the former symptoms of syphilis reappear, but in a milder form. He argues from this that vaccination is not likely to make syphilis develop in a child. He also says that true small-pox shows a tendency to become confluent on parts where either an acute or chronic inflammatory process already exists. Thus a severe form of confluent small-pox is frequently associated with eczema, and if the eczema extend over the entire body, the life of such patients is much endangered if they are attacked by small-pox. We also find an accumulation of small-pox pustules on parts the seat of psoriasis, scabies, or other skin diseases. People affected with ichthyosis and prurigo are often freed from these diseases when attacked by small-pox. We have lately heard a great deal of attacks of erysipelas removing various morbid tumours, even cancers; and undoubted cases are reported in the journals.

Diagnosis of Erythema Roseola.—This is the only important point about this disease. It may be mistaken for R $\ddot{o}$ theln, measles, or scarlatina. Roseola is not contagious or part of an

epidemic. There are none of the special prodromal symptoms of the eruptive fevers, such as marked sore throat, marked coryza, nasal and pharyngeal catarrh, &c. Nor does the rash come out after a definite period of fever, nor begin in a special part of the body. The fever does not last so long, nor is it in proportion to the rash. The temperature in roseola, when uncomplicated by an incubating fever, rarely goes above 101° F., usually 100° , whereas scarlatina often reaches 105° F., and measles 104° or 105° . Roseola may present some redness without swelling of the palate and fauces, some sore throat, but nothing serious, no catarrhal flux either from eyes, nose, or mucous flow in the pharynx. Then the fever before eruption is often only of a few hours' duration, whereas scarlatina has 24 hours and measles 72. In roseola the rash is not concentric like measles, nor punctiform like scarlatina, so that we are not likely to mistake roseola for typical measles or scarlet fever, but then there are cases of these diseases where most of the symptoms are wanting, and in spite of all rules many cases of great difficulty arise. For instance, the eruption of measles, instead of being in patches and mottled, may present a uniform red appearance like scarlatina. When this is so, the length of prodromal fever, the catarrhal symptoms, if present, and the nature of the epidemic, may prevent us falling into the error of calling it scarlatina. But how shall we be sure it is not roseola? It all ends in knowing the real exanthemata well, and in balancing probabilities and weighing evidence, until it have excluded all the diseases we can. Mild cases of Rötheln are easily diagnosed, but severe cases may be very like either measles or scarlatina, or both, on different days. Mild cases of both scarlatina and measles are often very hard to diagnose. Often the sequelæ and the infectiousness are all that exist of scarlatina. A few points about Rötheln may be interesting. The prodromic fever is either wanting or of brief duration, rarely lasting more than a day. This prevents its confusion with measles, which has three days. Rötheln appears as small, circular patches and points of a rose colour. It may appear first on the back, but generally on the face and neck, extending more or less over the body within 24 hours. It fades and disappears in from 2 to 4 days. Itching is often present—sometimes severe. The rash differs from that of measles in being smaller, less papular, spots round instead of oval, not arranged in crescents. Increase of

temperature in the eruptive stage is slight or absent, differing *thus even from mild measles*. The fauces, nostrils, and conjunctivæ are affected as in measles, but in a less degree. The larynx and bronchial tubes are rarely affected, or, if at all, but slightly. There is no tendency to bronchitis or pneumonia. Furfuraceous desquamation sometimes follows the eruption, but it is not the rule. As a rule, patients are hardly ill enough to keep the bed, but it may be associated with diphtheria or other affections which may prove fatal. The eruption may closely resemble scarlatina, but as regards temperature Rôtheln is totally unlike scarlatina, excluding the few cases in which the latter is so mild as to be trivial. If Rôtheln prevail in a place as an epidemic, and scarlatina be not prevalent, this fact may guide us. Rôtheln is essentially epidemic, sporadic cases being rare; affects children chiefly, but is not very uncommon after puberty and up to forty. Far and away the majority of cases occur between 2-10 years.

ART. XX.—*On Three Cases of Enterectomy and Enterorrhaphy.*^a

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THE abdominal cavity has for many years afforded a fruitful field for surgical enterprise. No organ contained within its walls is too awe-inspiring or too sacred to escape the sacrilegious hands of surgery. They are enclosed and protected by a membrane which was formerly regarded with reverence and dread. The peritoneum has now lost many of its terrors. It is opened with as much *sang froid* as in former days it excited misgiving and fear. We have learned to treat it humanely; to protect it against those dangers which modern science has taught us to avoid; and we have found that our confidence in it has not been misplaced. It has been shown repeatedly that every abdominal viscus can be dealt with successfully. Either entire organs or parts of organs have been removed without injury to the organism as a whole—the hollow viscera form no exception.

^a Read before the Section of Surgery in the Royal Academy of Medicine in Ireland, on Friday, May 12, 1893. [For the discussion on this paper, see page 523].