CASE IV. Heart-Disease: Ulcerative Endocarditis (?): Enlargement and Tenderness of Spleen: Albuminuria.—E. A. E., a girl eighteen years old, was admitted under my care on February 22nd, 1878. She had had scarlet fever and other diseases common to childhood, but had never had rheumatism or other serious illness. She was said, however, to have been short-breathed and liable to colds. The catamenia had been absent for eleven months. Her present illness commenced a week before admission, and was attributed to kneeling on damp stones. Since then, she had suffered from bad cough, had been frequently sick, and had perspired much at night. Three days ago, her face and legs became swollen. She had been passing urine frequently. The bowels had been regular.

She was in fair condition, and had a high colour, which was natural to her and often became bluish on exposure to cold. The face was puffy and shiny. The feet and legs were much swollen. The tongue was moist, covered with a thin white fur; appetite fair; bowels open; urine pale, clear, 1015; no albumen. Her cough was troublesome; there was no expectoration. Respirations 48; pulse 104; temperature 101°. She complained of headache, but had no other pain. The lungs were fairly resonant, but there was a good deal of crepitation audible over the lower half of the right lung. The præcordial dullness was increased in all its dimensions; and a marked thrill was perceptible over the apex. As regards the sounds of the heart, it may be at once stated that they were a source of considerable interest and frequent examination. The conclusions to which we came, however, were that there was a diastolic murmur (probably aortic) audible along the sternum, but scarcely at all over the aortic valve itself; a musical systolic murmur over the right ventricle, and probably, therefore, regurgitant tricuspid; a deeper-toned, but somewhat indistinct and variable, systolic murmur audible at the apex, which was probably mitral regurgitant; and a diastolic murmur internal to the apex, which blended to some extent with the aortic diastolic murmur, but was of slightly different rhythm, and apparently a presystolic murmur. She appeared, therefore, to be suffering from regurgitant aortic disease; from obstruction and regurgitant mitral; and from regurgitant tricuspid.

During the first three days of her stay in the hospital, her cough subsided; her anasarca disappeared; and her temperature, which rose at times to over 102°, sank by the end of that time to about 99°.

From this time forward to the middle of May, she remained weak, and indisposed for exertion, and suffering off and on from sickness, headache, pains in the chest and abdomen, and slight cough. For a few weeks at the beginning, she was troubled with conjunctivitis and pain in the eyes; for about a week dating from March 12th, the pulse at the wrist varied usually between 44 and 60; the beats of the heart, which were alternately strong and weak, being exactly twice as frequent; and the respirations were rapid, occasionally amounting to 64 in the minute. During the earlier part of this period, the temperature ranged between 97° and 99.8°; but during the latter part of it, mostly varied between 99° and 101°.

On May 17th, her temperature rose to 102.7°, and she complained of a sharp cutting pain in the left side of the chest, which prevented her from sleeping that night. From this time to the beginning of August, her daily temperature ranged for the most part between 98° and 102° or 103°, occasionally, however, falling nearly to 97°, and occasionally rising above 103°. During this period, she greatly complained of chills, not unfrequently rigors, coming on in the morning, and followed by much heat and then by perspirations. She suffered also from tendency to faint, and occasional sickness. The febrile exacerbations, moreover, were generally attended with pain in the left hypochondriac region; and subsequently it became clear that the spleen was enlarged, its area of dullness being considerably increased, and its lower end perceptible below the ribs; and that not only was it the seat of pain, but was tender on pressure. For the relief of this, leeches were applied on July 30th. The last note in regard to splenic pain was made on August 6th. On July 23rd, the urine was dark coloured, turbid from lithates, specific gravity 1022, and contained albumen. The only other noteworthy facts during the period now under consideration were, that, on July 2nd, she complained of pain in her limbs, and one of the ankles was said to be swollen; that, on the night of the 4th, she was kept awake with pain in the right calf, which continued for several days; and that, on the 15th, a similar pain arose in the left calf, which lasted for a day or two. The pain was circumscribed, but unattended with pain or redness.

Early in August, there was considerable improvement. The temperature became normal or nearly so; all pain in the spleen and elsewhere subsided; sickness ceased; and the urine became free from albumen. She left the hospital on September 9th, apparently convalescent. I did not see her again, but heard that she died suddenly, under what circumstances I do not know, a few months afterwards.

REMARKS.—The above case was interesting as a study of cardiac

murmurs; but in the absence of a *post mortem* examination, it is useless to discuss the facts of the case further than has been already done. At first, I was disposed to regard the heart-disease as congenital, and so, indeed, it may have been; but since rheumatic symptoms manifested themselves whilst she was under treatment, there is some reason to suspect that her cardiac disease was of rheumatic origin. The case, while it was under observation, was in all respects a typical example of ulcerative endocarditis. It was a very disappointing case to treat, for nothing that was done for her appeared to do her any good. It is interesting, however, that, without apparent cause, the special symptoms of ulcerative endocarditis subsided during the last month of her stay in the hospital, and that she left the hospital comparatively well. In this respect, her case resembled Case I. Both of them show that the symptoms of this affection may disappear, at any rate for a time; and presumably, therefore, may disappear altogether. Whether or not the symptoms in this case recurred before death, I am unable to say.

ON THE USE OF ARSENIC IN SKIN-DISEASES.*

By ROBERT FARQUHARSON, M.D., M.P.,

Assistant-Physician and Lecturer on Materia Medica at St. Mary's Hospital, etc.

It seems only natural that this Association should take an especial interest in the action and uses of arsenic in cutaneous medicine, for it is little more than thirty years since it made a vigorous effort to poll professional opinion widely on the subject. In 1848, a series of queries was issued to all its members, and the seventy-five answers received bore emphatic testimony to the fact, that the remedy had never been found either fatal or permanently detrimental to health. It may have been necessary to reassure the public mind at that time, for it seems pretty certain that arsenic was then prescribed without much scientific precision, and in a way which must often have aggravated the symptoms which it was intended to relieve; and the writings of Hunt, valuable though they undoubtedly were as the records of a wide and well used experience, undoubtedly unsettled the minds of practitioners by the free use he made of the drug in almost every form and variety of skin-disease. Arsenic at this time was in serious danger of suffering gravely in general estimation from the indiscriminate praise of some of its more enthusiastic adherents; and it is only the able writings of Hutchinson, Startin, Clifford Allbutt, Wilson, McCall Anderson, and others, which have once more placed it in its proper position, and pointed out with scientific accuracy the class of cases in which it may be given with most advantage; and, following the action of thirty years ago, I venture to invite the members of our Association here present to open their budgets of experience, and discuss a few points which I will now briefly lay before them.

We do not require to be specialists to know, in a general way, which cases of skin-disease benefit by arsenic and which are rebellious to improvement under its use. Any practitioner who gravely proposed to treat measles, or small-pox, or scarlet fever, with Fowler's solution, would be looked upon as little short of a lunatic; and all the cutaneous manifestations of syphilis are by common consent regarded as quite outside the boundary of this line of medication. A broad distinction has been drawn in respect of treatment between the moist and the dry eruptions; for, whilst we know that a case of acute eczema, with red smarting skin and copious exudation, is usually made worse by arsenic, no fact in therapeutics is better established than the disappearance of the same eruption when it has become chronic, under the use of the drug, or the way in which the silvery scales of psoriasis will gradually drop from the skin of the patient who has perseveringly taken his daily doses. All this is part and parcel of the commonest professional knowledge. Can we do more than simply reaffirm the facts? Shall we rest satisfied with their simple possession as mere empirical experience, or may we attempt to explain? Is there any guiding principle which may serve to place our practice on a scientific basis? Is there anything in the physiological actions of arsenic from which we may derive any clue to its practical uses? Writers on therapeutics supply some facts which have been used in explanation; for we are told that various skin-eruptions of a vesicular, pustular, and even scaly character, occasionally follow the administration of the drug; and from this we might consider ourselves entitled to argue that it simply acts as a cutaneous stimulant by setting up a new action which may replace, or even permanently displace, the morbid process already going on. But specious although this may seem at first sight to be, it can hardly be accepted, in the absence of more convincing evidence than we can at present bring forward in its favour, for all authorities allow that cutaneous irritation is

* Read in the Subsection of Dermatology at the Annual Meeting of the British Medical Association in Cork, August 1879.

very rarely observed when arsenic is given as an ordinary nervine tonic; and although skin-diseases sometimes seem to grow temporarily worse under its administration, this result does not occur with sufficient regularity to give any really solid support to the theory in question. Arsenic, however, no doubt modifies in some way the nutrition of the skin, by altering its conditions of cell-growth, as Broadbent puts it, "by effecting a change in the blood through a general influence on cell-growth in all the tissues and organs, and a special influence on cell-growth in the skin as the arsenic is passing through it". As a proof of the influence of the drug as a cutaneous nutrient or tonic, I have only to remind you of the sleek and rosy complexions of the Styrian arsenic-eaters, or of the way in which a closely allied drug, antimony, is given to horses to improve the condition of their coats. And in this influence we might, naturally enough, again seek for the explanation of the facts which are acknowledged by all, were it not for the clinical experience already noted, that, whilst arsenic does good in some cases, it appears to be inert, or even positively harmful, in others.

Before proceeding to hazard any opinion on the reasons for this, let us consider for one moment some of the other uses to which we put the remedy, and but very little reflection will remind us that many of these are intimately connected with its undoubted efficiency as a nervine tonic. Vague although this term may be, and unconnected in our minds with any precise theory or physiological law, it recalls to every experienced practitioner the valuable aid afforded by arsenic in chorea, in neuralgia, in asthma, and in various periodic disorders; and to go a step further, it would only seem reasonable to assume that it may also have the most beneficial influence over those skin-diseases which are included in the neurotic class. Dr. Clifford Allbutt has formulated this principle very clearly, and, in a paper in the *Practitioner* for 1874, has pointed out how acne, and eczema, and psoriasis, and lichen, and urticaria, show their nervine origin in heredity, in symmetry, in itching, and in tingling; and I think we must all have observed their frequently intimate connection with mental shock and depression, and the way in which they may alternate with or accompany such undoubtedly nervous affections as chorea. It is true that we are often utterly unable even to attempt an explanation of the sudden and unexpected appearance of some one or other of these varieties of chronic skin-disease, but it is well in every case to make careful inquiry into the family history and personal antecedents of the patient, and find out, if we can, the remote clue which may lead us up to the truth. The rheumatic diathesis is also justly held responsible in some measure for the appearance of some of the varieties of eruption; but whether we accept the view of Addison or not, and range this among the neurotics, we have another reason for the success of arsenic; and Yandell's observation of the frequent association of skin-disease with malarial poisoning, shows that we must look to the antiperiodic virtues of the remedy as the occasional groundwork of its action. In short, to use the nomenclature of Hardy, even without being able to explain its meaning, we may say broadly and generally that, in the darting type of cutaneous disorders, arsenic usually acts satisfactorily and well.

And at this point, it may not be out of place to say a word of grateful recognition for the labours of those French observers who have laid before us so clearly the diathetic nature and origin of skin-diseases, and have encouraged scientific research into the constitutional action of remedies, as opposed to the more purely local medication of the Vienna School. In pemphigus, which is presumably a nervous affection, arsenic acts with much of the certainty and charm of a true specific; and Mr. Hutchinson, to whose writings we owe nearly all our precise knowledge on this subject, tells us "that it not merely represses the eruption, but remedies the unknown constitutional cause on which it depends, always benefiting the general health of the patient, making relapses fewer and slighter, and frequently succeeding in effecting a cure".

In lichen ruber, even Hebra (opposed as he usually is to the constitutional treatment of skin-diseases) is compelled to allow the controlling influence of arsenic; and Fowler's solution has been strongly recommended as an addition to bromide of potassium, as preventing the troublesome and disfiguring pustular eruption which frequently follows the administration of this useful drug. On this point I should be glad to hear the opinions of others, and more especially as to the probability, or possibility, of any interference with the restraining influence of the bromide over the epileptic paroxysms being thus exerted. In one case, recently under my care, the patient, after taking the combination for a short time, complained that his medicine did not do him so much good as formerly, imagination being quite excluded from his calculations by the tasteless nature of the addition, and the care taken not to let him know that any change had been made.

In impetigo and strumous affections, probably including lupus, we cannot hope to derive much benefit from the use of arsenic; but I

should again ask for the teachings of experience as to its action in herpes zoster—a form of eruption which has been occasionally observed to follow its use.

Having got so far, let us now proceed to consider the mode of administration of our remedy; when should it be given; in what doses; and under what conditions may we hope to ensure its best effects? The question of dosage naturally first presents itself, and two rival plans have been vigorously supported, both at home and abroad; the first advising us to begin with small doses, and increase with cautious deliberation; whilst the other sanctions a much more decided system of medication. Of these, I unhesitatingly prefer the second—believing that, like quinine and iodide of potassium, arsenic is more likely to produce well marked physiological effects, when given in fairly large quantity than in small. As a rule, I find it good practice to begin with ten minims of liquor arsenicalis, and push boldly on up to fifteen or twenty minims; and, in this way, I have not only obtained results of a very satisfactory kind, but I have seldom had much trouble from the patient's inability to continue the use of the drug. In fact, one girl, eighteen years of age, who was formerly a good deal upset by five-minim doses, is now (on the occasion of a relapse of her psoriasis) taking fifteen to twenty minims, with most signal success.

Against one dogma, strongly held by Dr. Begbie and other excellent authorities, I feel it my duty to protest; and that is the necessity for the production of the physiological effects of the remedy before it really begins to act efficiently as a curative agent. Dr. Begbie writes: "I have never seen the loathsome scales of lepra or psoriasis drop from the skin and leave healthy cuticle, till the eye and the tongue manifested that the system was under the influence of the mineral, and that for days and weeks together." Now, in my own experience, I have not only found this to be quite unnecessary, but observation has taught me that, when the eyes begin to smart and the tongue to be covered with a silvery fur, the skin-eruption usually becomes worse—not in the sense of that temporary irritation which may give the much needed stimulus to the sluggish progress of the disease, but as a needless, and therefore injurious, addition to the discomfort of the patient, being followed by no improvement, or giving better hope of permanent cure; and, as regards these physiological actions, which I hold we should avoid if possible, I should like to hear the experience of others regarding their frequency, and the order of their occurrence. Slight conjunctival inflammation is probably most usually observed, the patient complaining that his eyes are stiff and aching; and observation detecting fine infection of the superficial vessels, more especially of the lower lid, and, more rarely, a pink zone around the cornea. To this succeeds puffing about the lower lid, and the loose cellular tissue between it and the malar bone, resembling the look of kidney-disease, and being occasionally, according to some observers, associated with albuminuria. The tongue is covered, save at the extreme tip, with a thin greyish fur, through which a few enlarged papillæ are distinctly visible, and the resemblance to an irritable patch of mucous membrane brushed over with a coating of mucilage at once suggests itself. If the poisonous action of the drug had been allowed to go further, we have a thick yellowish deposit, with bright red tip and edges, suggesting the irritation progressing below.

I have not often detected abdominal tenderness or diarrhoea; but sudden and effectual vomiting, following each attempt to swallow a dose of any of the preparations of arsenic, is an evidence of idiosyncrasy more especially met with in females, and is a fatal barrier to the use of the drug, as every attempt to establish toleration only makes the patient worse. None of the symptoms which I have just described are dangerous in any degree, and require little in the way of treatment beyond a gentle purgative and temporary discontinuance of the remedy; but, as already noted, they are to be avoided, as interfering with the regular and systematic treatment by which we can alone hope to cure, or even alleviate, a case of long-standing chronic skin-disease. It may be well occasionally to look to the urine, and see whether renal congestion or actual disease may not be present to interfere with the natural elimination of the drug by the kidney; and thus render it necessary for us to try to find out active remedies elsewhere.

One other physiological peculiarity has been described by Dr. McCall Anderson, and that is the great susceptibility to cold experienced by persons under the influence of arsenic; but I have never seen any direct evidence of this, and would prefer to explain the connection, if it be confirmed, by the action of the remedy in curing or partly checking the cutaneous affection, and thus causing that not uncommon diversion, a metastasis to the bronchial mucous membrane, which might appear to be due to chill or exposure.

Concerning the best mode of administration, I may say that I have always found the liquor arsenicalis to be a safe and reliable preparation, and am by no means prepared to concur in the opinions of those who

believe the liquor sodæ arsenitis to be much more free from irritating action. It is an invariable point of practice to direct our patient to take his dose during, or directly after, a meal; and this is a judicious injunction—not only because the metal is less likely to depress and annoy when given on a full stomach, but, following the analogy of other drugs, we may venture to assume, even in the absence of actual physiological proof, that the preliminary solution in the gastric juice or the bile may be necessary to develop its full powers, and to promote its absorption.

Children generally bear arsenic remarkably well; and it has been stated by Bulkley and Ringer, and other authorities, that girls more especially may be given very large doses with impunity. But my own experience is entirely opposed to this; and the only case in early life, where the drug seriously disagreed, happened to belong to the female sex. Lilly H., aged 4, came under my care at the Belgrave Hospital for Children, with an unusually bad attack of psoriasis, due to no ascertainable cause. Five minims of liquor arsenicalis were ordered to be taken twice a day; and a week later, when she again presented herself, I was shocked to see the change in her appearance. From being plump, fresh, and rosy, she had grown dull, thin, pale, and dejected; her lips were dry, the eyes deeply injected, the tongue covered with a dirty yellowish fur and displaying a red tip and edges. The appetite was entirely lost. She complained much of thirst; was very restless and sleepless; skin hot and dry; pulse quick and sharp. The mother stated that, after four doses of the medicine, the child became very sick, and complained much of pain in the back of the neck. Recovery rapidly followed soothing treatment and withdrawal of the drug, and a cure was eventually effected by phosphorus; but the case shows that, even in the very young, idiosyncrasy is occasionally, though rarely, observed, and must at all events be remembered, even although, unfortunately, it cannot be foreseen.

Finally, the all-important question may be asked: Can we really hope permanently to cure skin-diseases by arsenic? I think we may; true although it undoubtedly is that, whilst one case of psoriasis will rapidly improve under its use, another, apparently similar in every respect, will prove entirely rebellious; and, over and over again, we shall be disappointed by the frequency of relapse. But, if the eruption come under our care early, and we treat it carefully and systematically, and, above all, continue the medicine for some time after the skin has become smooth and clear, we may promise the best results to our patients. Of course, we may fail by trusting too implicitly to mere drug treatment, and by neglecting other means suggested by general principles and common sense. Good food and mental and bodily rest are of the first importance; and of this I observed a notable example last winter among my skin-patients at St. Mary's Hospital. A young married woman, with extremely bad psoriasis, made not the least improvement with arsenic; and, even when the drain of a suckling child was removed, we were surprised to note that the eruption continued as bad as before. It was then found that she was suffering, in addition, from the depressing influence of a bad husband and insufficient food; and, on being taken into hospital, she very quickly made a complete and satisfactory recovery.

In conclusion, and in briefly summing up, I would suggest the following points as most worthy of your consideration; and, to facilitate discussion, I will throw them together in the form of a few questions.

1. Shall we explain the fact that arsenic is useful in some cases of skin-disease, and inert, or even harmful, in others, by its stimulating action; by its modifying influence over cell-growth; or by its properties as a nerve tonic? Of these, the last appears the most comprehensive and suggestive.
2. In which special cutaneous affections have you derived most aid from arsenic?
3. Is it your impression that arsenic, given along with bromide of potassium to prevent acne, in any degree lessens the controlling influence of the bromide over epilepsy?
4. Which preparation of arsenic do you prefer? Do you agree with me in beginning boldly with large doses; and, like me, do you find it unnecessary to induce physiological effects?
5. What is your experience of the relative frequency, and order of occurrence, of these physiological effects?
6. Do you believe that we may hope to cure skin-disease by arsenic?

BEQUESTS.—Miss Mary Wasey, of Prior's Court, Chieveley, Berks, has bequeathed £3,000 to the Berkshire County Hospital, and £2,000 each to the Bath Hospital for Strangers, the Consumption Hospital, Brompton, and the Cancer Hospital, Brompton. Sir Theodore Brinckman has left £100 to the Windsor Infirmary; and Mr. William Cobbett of Wigmore Street has left £100 to the Surrey County Hospital, and £10 to the Western General Infirmary.

PURPURA HÆMORRHAGICA.*

By J. MAGEE FINNY, M.D. Univ. Dub., F.K.Q.C.P. Ireland, Physician to, and Lecturer on Clinical Medicine in, the City of Dublin Hospital.

CASE I.—Catherine W., a widow, aged 56, was admitted into the City of Dublin Hospital under my care on August 6th, 1877. She had always enjoyed good health, never having had any illness. Her confinements (for she is the mother of four children) were easy, and six years ago her changes stopped gradually without any unpleasant symptom. A year ago, she visited America, and returned in good health. Her diet has been always good, including meat, vegetables, and porter for dinner.

About six weeks before admission, while out walking, she experienced a sensation of cramp and weight in both legs, more particularly in the right. She did not pay it much attention for a fortnight, although the sensation of weight and heaviness in walking continued. She then observed several small specks on the front of the legs. They made their appearance without tingling or any other sensation. At times, they disappeared for a day or two, when new ones would take their place. The chief complaint she then had was a sense of fatigue, so that, though she was up and out every day, she had to lie down several times to rest her legs. The uneasy sensations she attributed to rheumatism, and it was for this supposed disease that she sought relief in the hospital. The symptoms increased in severity within a fortnight of her admission, the pains in her legs and knee-joints and ankles being such as to prevent her from having any rest for some days and nights. She also felt very weak, and was hardly able to stir about the house without assistance. A few days before admission, her feet swelled, and large purple stains, like "bruises", appeared on the knees and ankles and the skin over the tibiae, the right leg being the worst. Her gums bled the day before admission, but she never, before or afterwards, had hæmorrhage from any of the mucous tracts.

In appearance, she was much younger looking than her age, having a great quantity of long brown hair, with but few grey hairs interspersed. Her features were pronounced, her skin of yellowish tinge, teeth sound, but gums and tongue pallid. The pulse was soft and compressible, 94 in the minute. All the organs and viscera in the body seemed normal. The legs and feet presented a very remarkable appearance. They were swollen and cedematous, with large ecchymoses of various shades of colour—in parts purple, in parts black and blue, and again in parts of greenish-yellow and light straw colour. The right knee in particular was marbled with blue and yellow, and to all appearance exhibited the identical characters of a very severe bruise. The left leg was similarly affected, but to a less degree. The thighs, with the exception of a hand's breadth above the patella, were free from all spots, and I may add that no other part of the body and extremities showed any stigmata or vibices. Both ankles and knees were swollen, particularly the right knee, which had all the physical characters of synovial effusion. The surface over the tibiae was spotted with petechiæ, varying in size from a flea-bite to a split pea. The left tibia was distinctly enlarged laterally about two inches below the knee, and was well bowed forwards in this place, having the characters of a large flat node. The knees, ankles, and tibiae were extremely sensitive to touch and to cold, the latter being much complained of, although the temperature of the ward was high. Owing to the state of her legs, the patient was unable to stand or move, and she had to be carried into hospital.

The treatment consisted of rest in the horizontal posture; wrapping the knees in cotton-wool covered with gutta-percha tissue; a diet of beef-tea, milk, and a little wine; and a mixture containing in each dose twenty minims of liquor ferri perchloridi and two grains of sulphate of quinine, three times a day.

The urine was examined a couple of days after admission, and found free from albumen.

August 11th. She had now no pain in the legs and feet; she slept well; her appetite was improved. The swelling was less, but the discoloration, particularly about the knees, was more pronounced. She was ordered to continue the medicine, and allowed chop, buttermilk, and beef-tea. Two lemons were to be used each day.

August 16th. No new spots had appeared. The colour of the vibices and ecchymoses over the knee and ankle had changed to green; all cedema had disappeared, and the effusion into the right knee had almost subsided. She could move her limbs without pain, and, except on standing, the joints were painless. As a diarrhoea had set in since yesterday, the lemons were discontinued and an astringent mixture ordered.

* Read in the Subsection of Dermatology at the Annual Meeting of the British Medical Association in Cork, August 1879.