

which one looked upon as a death of the nerve tissue. He was quite certain that this did not take place through the bloodvessels. These were necessarily not the masters but the servants of the brain tissue. All the changes in general paralysis, he believed, must originate in the actual neurine tissue.

Meeting VIII.—May 2, 1894.

Dr CLOUSTON, *President, in the Chair.*

I. ELECTION OF MEMBERS.

Prof. Fr. von Esmarch, M.D., Keil, was elected an Honorary Member of the Society.

The following gentlemen were elected Ordinary Members of the Society:—Robert Muir, M.D., 20 Hartington Place, Edinburgh; John Cumming, L.R.C.P. & S. Ed., 94 Gilmore Place, Edinburgh.

II. EXHIBITION OF PATIENTS.

1. *Mr Caird* showed two patients after recovery from TRACHEOTOMY FOR DIPHTHERIA.

2. *Dr Graham* showed a case of FRACTURE OF THE SUPERIOR MAXILLA.

III. EXHIBITION OF SPECIMENS.

1. *Mr Caird* showed specimens illustrating TRACHEOTOMY AND DIPHTHERIA.

2. *Dr Graham* showed a JOINT which had been excised by Sir Joseph Lister in 1884.

IV. ORIGINAL COMMUNICATIONS.

1. THE COMMONER VARIETIES OF LUPUS VULGARIS AND THEIR TREATMENT.

By NORMAN WALKER, M.D., F.R.C.P. Ed., Assistant Physician for Dermatology, Edinburgh Royal Infirmary.

It is not my intention to discuss the histology of lupus, or to review once more the arguments in favour of its tubercular nature. To any one who may still have doubts on that subject, I would recommend the perusal of Prof. Leloir's admirable monograph on "Tuberculosis of the Skin and Mucous Membranes." Lupus has already been several times before the Society this session, usually to indicate the advantages of one or other form of treatment; but

I venture to think that the side from which I approach it is a useful as well as a somewhat novel one, while it will at the same time afford free scope to the members of the Society to enunciate their views on a most important subject.

That there are varieties of lupus has been recognised almost as long as the disease itself. Originally divided into *lupus exedens* and *lupus non exedens*, the latter of these terms, which included *lupus erythematosus*, has almost passed out of use, and we have in its room a multiplicity of terms—*lupus disseminatus*, *hypertrophicus*, *verrucosus*, *papillomatosus*, *lupus vulgaire erythematoïde*, and a host of others more or less scientific. While not questioning the applicability of many of these names, it seems to me that the enormous majority of the commonly occurring cases may be more simply grouped, and it is only with these commonly occurring cases and their treatment that I propose to deal.

Lupus is a disease which seems to be common property. It may be found in any ward in the Royal Infirmary with the single exception of the Lock, and many of the cases on which I have made observations were not under treatment in the skin department. It appears to be common in Scotland. I speak, of course, relatively, and my experience accords with the observation that it is more common in the female sex.

As to the age at which it occurs, modern scepticism is steadily breaking down the old view that lupus is a disease exclusively of the young. I have seen quite a number of cases in middle-aged and even elderly people, and I am convinced that mistakes in diagnosis sometimes are due to the still widespread belief in the old dogma.

The varieties which form by far the greater proportion of the cases which have come under my notice are three in number, and are, in their order of frequency—

1. The "ulcerating" form. For this form the name of *lupus exedens* is probably the best.

2. For the second I would suggest the simple name of *lupus vulgaris*. In this form the most prominent feature is the presence of the apple-jelly nodules of Hutchinson. These may be singly disposed or may run together into considerable areas. There is no "ulceration."

3. The third may, I think, fairly be described as *L. fibrosus*, or fibroid tubercle of the skin.

The first of these is common, and probably most typical of the general conception of lupus. The affected area, most commonly on the face, is covered with granulations from which issues a purulent discharge which dries up into a dirty scab.

Now, we are accustomed to consider these cases as *ulcerative*, and the granulations as identical, or nearly so, with those of a simple ulcer; but, so far as my observation goes, they present important differences. In every case which I have examined these "granulations" are covered by epidermis,—a swollen dropsi-

cal epidermis, which may only consist of one or two layers of cells, but is still detectable.

In one case where the ulcerative appearances were so marked that I removed the ulcer under the belief that it was a rodent, this condition was present. This observation confirms one already made to this Society by Dr M'Bride, some of whose sections I have examined, regarding lupus of the mucous membranes where this same condition is present.

A further interesting confirmation I have got from Prof. Leloir's monograph. Although he does not verbally refer to it, every one of his drawings of lupus shows epithelium present. Sometimes the granulations are so dropsical that they present the appearance of a myxoma; they may be so infiltrated with round cells as to suggest a round-celled sarcoma, but they are always covered with epithelial cells.

These epithelial cells are, of course, far from normal,—they are swollen, their nucleus often degenerating; they are loosely adherent, and they allow freely the passage of serum and leucocytes. So marked is this catarrhal process that the tubercular nature of the malady is sometimes almost obscured, but one can usually find at the lower border of the infiltration tubercle follicles with giant and epithelioid cells. The process is mainly a catarrhal one, and the question arises—To what is this due? It is, I believe, in no direct way related to the tubercular process, but is due to the action of other (pyogenic) organisms. This is, of course, no new doctrine, but to it and another observation of Unna's, made in another connexion, I would subscribe. The other observation is that these organisms do not penetrate into the deeper parts, but cause the catarrhal process by a chemiotactic action. Just below the surface may be found, surrounded by masses of leucocytes, large collections of chain and cluster cocci. I am, of course, very familiar with the fact that on the surface of the skin large numbers of organisms are found. These, however, do not belong to that category.

The second form is also very common, and may occur in any situation, though most common on the face. In it the tubercular process is practically unaccompanied by any secondary changes, and it may fairly enough be described as miliary tubercle of the skin, or, as I suggested earlier, as *lupus vulgaris* without any qualifying adjective.

It presents on examination enormous numbers of tiny tubercle follicles which, when they enlarge, show as the apple-jelly nodules, or may, by coalescence, form large areas of irregular shape. The skin is evidently unbroken and relatively little affected. The papillæ over superficial nodules are gone, but the layers of the rete still remain. If, however, a number of superficially-lying nodules coalesce, the nutrition of the epidermis is interfered with, pyogenic organisms find a habitat, and the case passes into the catarrhal form. In many cases, however, this does not occur, and the disease

extends by the formation of new nodules until large areas are involved.

Many of the older nodules disappear, leaving in their place a scar, but it is a scar which is practically never a healthy one, and thus the area is always enlarging, the margin being the seat of the most active disease. The nodules vary in the depth at which they are situated. It does not seem reasonable to suppose that they have the power of locomotion, and thus becoming more superficial; but, of course, an increase of size would bring a part of the nodule near the surface. But sometimes the nodules are extremely superficial, and then the prognosis is all the more favourable.

As to the structure of the follicles, it is that of tubercle, consisting of giant and epithelioid cells. The only point in which I feel compelled to differ from some recent observers is as regards caseation. There is in the follicles a certain blurring of the outlines of the cells, which is no doubt of that nature, but I can find nothing at all comparable to the caseation occurring in other organs, such as the spleen. But this is hardly a practical point.

I enter on the consideration of the third class with some trepidation, for though the cases are not uncommon, my observations on them do not accord with those of the text-books. Neither Mr Morris nor Dr Crocker, the author of the most recently published works on dermatology, refer directly to them, and yet, to my thinking, they present both clinically and anatomically very marked characteristics. The cases to which I refer occur usually on the limbs, rarely on the face, and present the following characters:—The patch, usually single, varies in size from a sixpence up to six inches in diameter. It is red and often scaly, the skin is thickened and often thrown into folds, and when pinched up is felt to be very firm and stiff to the touch. Any appearance of lupus nodules is masked by the diffuse redness present, but the reddish pink colour of the centre is mingled at the margin with an orange hue. This, however, is not very evident, and such cases are quite often diagnosed as patches of chronic eczema or psoriasis. The buttock is not infrequently attacked. In three of my cases it has been the seat of the disease, and in Leloir's monograph there is a fair plate of the condition.

None of my cases have shown any tendency to ulceration. They have slowly spread, but never, except under treatment, has there been the faintest tendency to break down. Now and then a small abscess, which I have traced to a softened tubercle, forms, but it rapidly heals.

It seemed to me that these cases presented good hope of cure by excision, and I have therefore had a pretty full opportunity of studying the anatomy of this form. The essential part of the process is, of course, the formation of tubercle, but these are comparatively few in number; and they are imbedded in a densely thickened corium, a thickening due to the increased formation of

fibrous tissue. Here and there the softening of a tubercle is observed much more often histologically than clinically, and they would appear, many of them, to be absorbed. This must also be the direct fate of many of the tubercle follicles, for they are very much more abundant at the margin than at the centre of the patch, while the condition of the fibrous tissue is reversed.

The papillæ of the skin appear to be increased on account of an increase in the interpapillary processes of the rete, but there is no true increase of the papillæ. That belongs to another and fortunately rarer form of this disease. Sometimes the horny layer is excessively thick, a condition which may be noted clinically. But the essential characteristic of this form is the great increase in the fibrous tissue of the corium, an increase which must be due to the stimulation of the tubercular poison, and which I think warrants the application of the term *L. fibrosus*.

As to treatment, our aim, of course, is in all cases the destruction of the tubercle bacillus either by direct or indirect means, but the same methods are not equally adapted for all cases, and in our warfare against the disease we must not forget, as Mr Morris sagely remarks, that there is a patient behind it.

As to any internal treatment, I use only one remedy, viz., cod-liver oil, and it can only assist other measures,—it will never cure the disease. Many drugs may be indicated by the condition of the patient, and my remarks on their general uselessness only apply to those cases where the patient, except for his lupus, is in good health. Of the thyroid treatment recently recommended by Dr Bramwell, I have so little experience that I prefer not to pass any opinion. But that the case on which he first tried it, and which I saw once before sending to him for admission, was enormously improved I am most ready to admit.

Local treatment is absolutely essential, but the principles which should guide this local treatment are to my mind not sufficiently defined; and I think it is possible to lay down some general rules which may guide us in the treatment of particular cases.

Of course, excision where possible would, if satisfactory, be the best treatment. But my experience has not been altogether happy. Some of the cases have relapsed, though some have apparently been cured. In a case which I have here to-night, Mr Miller kindly excised a patch rather larger than a crown. Although the wound did not look at all nice at the time, the result is remarkably good. I would not go so far as to say that there is no tubercle present, but I can observe no evidence of it.

Of one thing, however, my experience of excision has made me very sure, and that is that excision must be very wide. In examining the removed portion I have always found small tubercles perilously near the track of the knife, although the incision was to all appearance quite clear of the disease.

In using other forms of local treatment our aim is the removal

or destruction of the tubercle bacillus, and as we cannot see it we must be guided by the evidence of its presence—the tubercular nodules. Now, it is to me, at least, evident that simple scraping, *the* favourite remedy, as I suppose I may call it, is not equally applicable to all cases. It removes all the soft cellular tissues which lie on the surface, but as soon as the spoon reaches formed connective tissue, nothing but undue force will enable it to remove any more. Yet tubercles lie in this tissue, which as time goes on grow and multiply, and the case, temporarily improved, is in time as bad as ever again.

I hope I have made it clear, in speaking of the varieties, that these are due to secondary changes exclusively, the tubercular element being the same in all. I endeavour to make treatment follow these lines, and first aim at removing those secondary changes, thus bringing the skin into a condition as nearly normal as it is possible for an organ affected with tubercle to be, and then I attack those tubercles.

In the ulcerative form we have a large amount of a loose oedematous cellular tissue, a condition brought about by secondary infection. This condition may be removed by prolonged antiseptic dressing, as by Brooke's ointment, but is much more rapidly and efficaciously done by the spoon. After the part has been thoroughly scraped, some further benefit may be attained by the application of nitrate of silver, sublimate, pyrogallic or carbolic acid. By this means all the secondary products and a considerable amount of tubercular tissue is removed.

In the nodular or apple-jelly form of the disease no secondary process is present, but the nodules are present in such numbers that it would be an almost hopeless task to endeavour to destroy them individually, and their number may be reduced by the application of one or other of the selective drugs which destroy the weakened tubercular tissue, and have comparatively little effect on the healthy skin.

The treatment of the fibroid form of the disease by scraping demands an amount of resolution and an expenditure of energy which is but poorly rewarded by the result. Here, too, I try to get rid of the secondary change, the formation of fibrous tissue, before directly attacking the disease. The method I have found most useful in that respect is blistering, and I believe that the reputation of many of the applications in lupus is dependent to a large degree on their counter-irritating properties. The effect of repeated blisters is to remove much of the thickening and bring the nodules to sight. The action is no doubt somewhat similar to the congestion method of Bier, for blistering causes severe local congestion, and I gather from Mr Miller that it is in these fibroid cases that most benefit results from Bier's method.

Finally, having reduced the nodules in number and brought them to view, I proceed to destroy them, and without detaining

the Society by a discussion of the different methods, I will simply say that I find the cautery the most satisfactory weapon. I use either a fine Pacquelin or the galvanic cautery, and I am inclined to give the preference to the latter. It does not seem to destroy much, but a few days after quite a considerable slough separates, and recurrences are, I think, less frequent after its use. Recently, when only one or two nodules have remained, I have used electrolysis, but it is not applicable to large areas.

The great remedy for lupus is perseverance. Whatever be the original form of the disease it must be followed through until the last tiny nodule has disappeared, and this demands much patience on both sides. I never now undertake the treatment of a case without explaining to the patient or the friends that a prolonged course of treatment will probably, or rather certainly, be necessary. No single operation except the most heroic excision can possibly cure the disease.

I have only been able to indicate a few general views on the subject, and have had to leave much untouched. The selection of a particular selective drug is one of much import, for all cases do not do equally well on the same. I hope, however, that I have made clear the anatomical difference between those common clinical varieties, and that these differences may be found useful as indicating the lines along which treatment should proceed.

Note.—Thyroid Treatment. Since writing this paper I have had further opportunities of observing the effects of this remedy, and as it is at present the object of so much attention, it is perhaps as well that I should state the results of these observations. Considerable improvement is usually produced, but this improvement is in the disappearance of those secondary changes to which I have referred. The effect of the thyroid is to reduce the catarrhal to the simple form, but I question very much if the tubercular process is appreciably affected, and the surgical methods are so very much more expeditious that they will usually be preferred. But in some cases I believe it may prove of use, and it certainly deserves further investigation.

Mr A. G. Miller said he would like to say a few words upon three methods of treating lupus. They were,—(1), Bier's congestion method; (2), scraping; and (3), excision. It was important to bear in mind that in lupus, as in all tubercular affections, the results of treatment depended very much upon the peculiarity of the patient's constitution, or whatever else they chose to call it. There were some tubercular patients who would not kill. They seemed to have a tendency to work through all sorts of tubercular conditions, and to get well. Others, let them do the best they could for them, went down the hill. He had now tried Bier's congestion method in several cases, and had reason to be very well satisfied with it so far. In the case of the girl with tubercular affection of both feet whom he had already shown to the Society, he had treated one foot by Bier's method, and the other by blistering and scraping.

The main difference between the two limbs ultimately was that the spreading foci, which were very numerous, had disappeared in the Bier's foot, and had not returned. The congestion seemed specially to prevent the tendency to spread. Bier's method, with the addition of scraping, he thought, was an excellent way of treating lupus. With regard to treatment by scraping, it was of no use unless it was done thoroughly. There were three different areas in lupus,—the cicatricial, which had got well, and did not need to be meddled with; the granulation, which might be scraped if they liked; and the area of apple-jelly nodules. For the last, which was the spreading area, scraping, with a Volkmann's spoon at least, was of no value whatever. If they were to destroy lupus by scraping, they must employ the very smallest sharp spoon they could get. He much preferred the older spoon of Squire. It just fitted a lupus nodule. It was, in addition, a splendid diagnostic aid. It would only go in if there was a nodule. He had had a case from which he scraped away a considerable amount of granulation tissue. No tubercle bacilli were found in it. But in one of the nodules removed by means of a Squire's spoon myriads were found. He adopted Sir Joseph Lister's plan of applying pure carbolic acid after scraping away everything. It probably helped to destroy the bacilli, but in addition it produced a white pellicle, which he removed, and so made an extra scraping. Regarding excision, he entirely agreed with what Dr Walker had said. It must be very free if it was to be successful.

Mr Miller then showed a LAD who had suffered for many years from lupus, which extended over nearly the whole of the face and neck, and into the mouth and nostrils. It had been scraped forty-eight times with the patient under chloroform. Only two or three of these scrapings, however, had been extensive. Great improvement had been effected, and the patient was now nearly well.

Dr W. Allan Jamieson said that the observation which Dr Walker had made with regard to the presence of epithelium over the granulations was an exceedingly interesting one. They had generally been led to believe that there was an entire loss of epithelium, and that the ulcer had eaten a way into the corium itself, the nodules commencing in the corium, and from the presence of pathogenic organisms leading to secondary changes producing ulceration. Regarding the fibroid form, there was no doubt that they met with lupus on the limbs of a more dense and persistent form than on the face. This, however, might be due to the fact that in the limbs there was a thicker layer of epidermis and a less superficial vascularity. Fibroid lupus was therefore probably simply a variation from the ordinary type without being actually another variety of the disease. There was a variety of lupus known as *lupus verrucosus*, of which the ordinary post-mortem wart was an example. This form at first sight seemed to

be quite different from ordinary lupus; but when, by means of salicylic plasters or scraping, the papillary hypertrophy was removed, they came down upon a tissue in which there was a fibrous state of the skin and apple-jelly nodules,—in fact, it was reduced to a lupus vulgaris *plus* more connective tissue. This form was rare on the face. When it was found there, it occurred on the upper lip or chin, where the skin approximated more to that of the extremities than on the cheek or nose. Therefore he thought that while Dr Walker was inclined to cast aside the too numerous and superfluous nomenclature of lupus, he had erred a little in the same way by adding another form which simply depended upon a difference of situation, or upon an excess of what was normal in all conditions of lupus,—the presence of *lupus fibroma*, as Unna had called it. Excision was hardly applicable for the face, as it seldom left a linear cicatrix. If skin-grafting was employed in order to avoid this, there was the risk in the face of the occurrence of erysipelas, or of sloughing of the patch of skin. Whatever they did in the treatment of lupus, it must be their endeavour to produce as much scar tissue as they could, and to reduce as much as possible the number of nodules. He had found that some other preparations, such as oleate of mercury, acted quite as well as Brooke's ointment as a means of introducing antiseptics into the skin. There was one remedy which Dr Walker had not mentioned which he thought was of extreme value in lupus, namely, carbolic acid. Pure carbolic acid painted frequently over a patch of lupus lessened, though perhaps slowly, the number of nodules in the patch. It produced a greater density of the tissue, and apparently led to a condition of the soil which was less suitable for the growth of the bacillus than before. Blisters no doubt did good. They acted much in the same way as an attack of erysipelas. Still it must be looked upon as merely a preliminary measure. It probably acted much in the same way as tuberculin, causing hyperæmia around the lupus nodules, and for a time disappearance of the obvious symptoms. Before using the cautery, he found the employment of the ordinary dental burr of great value. He used it as a drill, and drilled it into each nodule. He used in general a fine thermo-cautery. He did not think that the increased congestion caused by the galvanocautery was an advantage. What often threw their cases back as much as anything was the influence of cold. When the patients were exposed after treatment in hospital wards to cold atmospheres and winds there was apt to be a relapse. They therefore should endeavour, as far as possible, to keep the patients warm.

Mr Joseph Bell said that it seemed to him that one of the greatest things they could do to help the cure of lupus would be to explain, both to the profession and to the public, that lupus was a disease of extreme gravity, as bad as cancer, and that it should be treated surgically as soon as the first sign was seen. It was no use waiting to see the effects of constitutional treatment. There

was not the slightest doubt that the best way to treat lupus of the limbs was to excise it freely. But in the face, they had to provide for the future appearance of the patient. He used a sharp spoon. The smaller and sharper the instrument was, the better. Squire's spoon, even, was too blunt. After scraping out the nodules, he applied a strong solution of chromic acid. Every person had their own views with regard to the local method of destroying the apple-jelly nodules. Constitutional treatment had not very much effect. The disease should be treated, like cancer, early and heroically.

Mr Alexis Thomson said he wished to give his opinion in favour of treatment by excision. He had made sections of lupus, and seen that the nodules were not on the surface, and therefore not removable by ordinary scraping, and he had seen cases in which scraping had been carried on into the teens of years. The nodules were underneath, and separated from the reach of the spoon by dense fibrous tissue. He would not give in to the view that excision should be limited to parts where only a linear scar was allowable. The disfigurement that was left was less than what resulted when other methods were used. By Thiersch-grafting especially one was able to get a good result. His only difficulty with Thiersch-grafting had been, not that he did not get healing, but that the hairs on the graft when it was taken from the thigh developed to such an extent that they became unsightly.

Mr C. W. Cathcart said he would like to have Dr Walker's opinion upon an interesting point, into which he had not entered. It was a striking fact that tubercle bacilli might be on the surface of the skin for years as lupus, and not affect glands or give other manifestations. Another remarkable fact was that the typical tubercular ulcer had undermined edges. When the tubercle bacillus attacked the surface of the skin it spread along and did not extend deeply. Might not the explanation of these facts be that the corium acted as a barrier to the tubercle bacillus?

Dr Norman Walker, in replying, said he was sorry to differ from Mr Miller on one point. As far as his experience went it was incorrect to say that the central or cicatricial area in lupus could be safely left alone. One of the main points in the diagnosis from a syphilitic scar was that the tubercular one was not healthy. The syphilitic was much whiter. Nodules almost always arose again in the lupus scar. It was true that it was impossible to scrape away the deep nodules. It was also to be remembered that they were often so small that they could not be seen with the naked eye. There might be something in Dr Jamieson's contention that the fibroid form of lupus was due partly to position. But while he had seen only one case at all comparable to it on the face, he had seen a good many of the ulcerative and apple-jelly forms on the limbs. He did not agree with Dr Jamieson that the effect of blistering was comparable to that of an attack of erysipelas. He

could not see how the corium could act as a barrier to the tubercle bacillus. Against such a view there was the fact that lupus of the face did not spread any more than lupus of other parts where the corium was thicker.

2. ON SYPHILITIC NODOSE PERIARTERITIS.

By ALEXANDER BRUCE, M.A., M.D., F.R.C.P. Ed., F.R.S.E., Assistant-Physician, Edinburgh Royal Infirmary; Lecturer on Pathology, Surgeons' Hall.

THE object of this communication is to draw attention to the existence of a variety of arterial disease specially affecting the adventitial sheath (in the form of either nodular swellings or diffuse thickenings), which has been, in this country at least, not sufficiently recognised by pathologists; to show the ætiological relationship of some of the forms of this affection to constitutional syphilis; and to inquire whether it may not be possible, in some cases, to diagnose its presence during life.

Nodose periarteritis, as the condition has been very happily termed, can hardly be said to have found a place in English text-books of pathology. So far as the writer is aware, the best short reference to it is to be found in Ziegler's *Lehrbuch der Path. Anat.*, seventh edition, vol. ii. p. 67, where it is referred to as "a peculiar but as yet imperfectly explained process, which produces a cellular infiltration and proliferation of all the coats of the vessels, separating and causing limited necrosis of their elements; . . . and as being associated with thrombosis, aneurismal dilatations, and in its severer forms with inflammations of the surrounding tissues." There is no reference to its connexion with syphilis, although it is pointed out (p. 66), in the description of obliterative endoarteritis due to syphilis, that one of its distinctive features is the cellular infiltration of the adventitia which accompanies it. Most other text-books overlook the condition altogether, and those that note in connexion with obliterative endoarteritis any infiltration of the outer coats appear to regard this as subsidiary or secondary to the endoarteritis (*Transactions of the Pathological Society of London*, 1877). This is presumably in large measure due to the comparative rarity of the periarterial disease as distinct from obliterative endoarteritis, and to the influence of the monograph of Heubner on the syphilitic affections of the cerebral arteries, in which the infiltration of the outer sheath is not even mentioned.

Several papers, however, have appeared in various journals which give a more or less exhaustive account of the histological changes, and at the same time teach that there are at least two, and possibly more than two, sets of causes of the disease; while they leave little doubt that one of these causes is constitutional syphilis.

Before discussing these papers, it may be well to state here the