

had to be abandoned by reason of the impossibility of separating the adhesions. Successful removal of the hard cæcal lump seemed to be out of the question: bleeding was therefore stayed and the wound was closed. The patient went on perfectly well for a couple of days and then without apparent reason began to vomit. Local indications of wrong were markedly absent, but on the third day she suddenly collapsed and died in a few hours without attempt at rally. We suspected perforation, and I deemed it useless to interfere.

I have to thank Dr. Poynton for the notes of an exhaustive post-mortem examination from which the following extracts must here suffice. The cæcum was much ulcerated and thickened by chronic inflammation, and at its junction with the ascending colon was a stricture half an inch in length of almost cartilaginous hardness and so tight as only to admit the passage of a small probe. Circumferential thickening and contraction accounted for this, and section showed that the induration passed into the surrounding areolar tissue after the manner of an infiltrating growth. On the cæcal side of the stricture there was extensive ulceration, and perforation had taken place at a point contiguous to it. No ulceration was found elsewhere. In front of the duodenum, in the position of one of the meso-colic glands, was a gland of the size of a small flattened orange, which on section presented the aspect of caseous material, but was not soft. Another smaller gland lay close beside it. There was an old scar just below the apex of the right lung. Microscopical examination of the several diseased parts was made, and the appearances in the gland very strongly suggested tuberculous disease in the neighbourhood. The bowel showed chronic inflammation, without sign of either sarcomatous or carcinomatous growth, and although not definitely tuberculous it was almost certainly of this nature. The stump of the appendix showed nothing more than some inflammatory thickening. Commenting on the notes Dr. Poynton remarks: "The case would appear to be one of chronic tuberculous ulceration of the colon and its junction with the cæcum resulting in stricture, with secondary ulcers, which, from the slight amount of induration, were perhaps not tuberculous, but the result of the obstruction. The glands were affected in the same chronic way."

There is, of course, nothing very uncommon in this condition of things discovered after death, but in its surgical aspect the case appears to me to be worthy of record.

## THE VALUE OF AN EXCLUSIVE RED MEAT DIET IN CERTAIN CASES OF CHRONIC GOUT:

A CONTRIBUTION TO THE STUDY OF AUTO-INTOXICATION.<sup>1</sup>

BY WILLIAM ARMSTRONG, M.R.C.S. ENG.

ABOUT seven years ago I saw two patients, one suffering from severe chronic gouty arthritis and the other from recurrent uric acid calculi, in both of whom, after all routine treatment had failed, cure was effected by the so-called "Salisbury" treatment, prescribed and directed by a lady. Taking for many weeks nothing but red meat and hot water, these patients certainly made wonderful improvement, which, in spite of a gradual return to an ordinary dietary, persists to this day. It seemed to me that this treatment possessed some element of usefulness, but that it ought neither to be used indiscriminately nor without medical guidance. The only English book on the subject, which quickly obtained and still has a large circulation among the laity, was written in a tone and spirit which did not encourage the medical profession to give this method a thorough trial; but the patients whom I had tried in vain to help, and for whom I had sought the best special advice without good result, were so evidently benefited that I have since then given this diet a careful trial, more especially during the last three and a half years, when I have been afforded in Buxton exceptional opportunities for selecting suitable cases for its use and for watching its effects. The

indefatigable and painstaking work of Dr. Alexander Haig and the careful and ingenious experiments of Dr. A. P. Luff, which latter, placed before us in the recent Goulstonian Lectures,<sup>2</sup> have excited so much interest, indicate that the red meats or their salts are in themselves harmful to the gouty. Having for the last three years been working on the subject of auto-poisoning in relation to the causation of gout, some forms of rheumatoid arthritis, and allied ailments, I had been led to doubt whether that is so, or whether it is not the admixture of food of other classes with the red meat which causes complex chemical changes leading to the formation (whether in the blood, tissues, or kidneys) of an excessive quantity of uric acid. The able and suggestive work of Dr. Lauder Brunton has done much to stimulate medical opinion on this subject, and has given us a better understanding regarding the chemical changes which take place during digestion and their clinical significance; while the researches of Gautier and Bouchard have added to our knowledge of "the self-poisoning of the individual."

The course of treatment, which lasts from four to twelve weeks in its strict form, is as follows—subject, of course, to such modifications as the condition of the patients and their progress demand. The bowels having been thoroughly relieved the patient begins to drink from three to five pints of hot water daily; the temperature of this should be from 100° to 120° F.; a little lemon juice may be added, and it should be drunk in sips. One pint should be taken at least one hour before each meal, and the same quantity at bedtime. The food should consist at first of beefsteak from which all fat, gristle, and connective tissue have been removed; this should be thoroughly minced, a little water being added, and then warmed through with gentle heat until it becomes brown in colour and perfectly soft and smooth; it can be eaten thus or else made up into cakes and cooked on the grill. On the minced meat may be put the poached whites of from two to four eggs per day. The only bread allowed is a half slice, cut very thin, and thoroughly torried in the oven, with each meal. A little salt or pepper may be added to the meat, or a little mustard freshly mixed with lemon juice. As the treatment progresses a little of the steak may be given grilled, or a lean mutton chop; very little or no fluid should be given with the food. The quantity of the meat given is from one pound to four pounds in the twenty-four hours. During the latter part of the treatment a grilled cod-steak is often ordered. Alcohol should be avoided; if absolutely necessary a little good whisky with cold water may be given with food; or a cup of weak tea with a slice of lemon, or a cup of black coffee may be taken. The immediate results experienced are a feeling of hunger and a difficulty in drinking so much hot water; these difficulties soon disappear, although the feeling of "emptiness" due to the stoppage of the carbohydrates often persists. There is also a marked diminution of the abdominal girth and a more or less rapid loss of flesh, especially in those who are fat and flabby; but walking is much easier and the breathing is often greatly relieved. The urine at first is often scanty and loaded with urates, which indicates either the necessity for adding some freshly prepared citrate of potash to the hot water given in the early morning and late evening, or else an increase in the quantity of water drunk. The bowels become constipated, the motions being scanty and dark coloured. An aperient is often necessary. After the first two or three weeks the patient begins to feel weak and easily tired, and it is wise at this stage to limit the amount of exercise taken, substituting in some cases a little massage; but before the conclusion of the course the strength returns, and stout patients especially feel the benefit of the diminished weight.

The changes due to the treatment are very marked. The swelling of the joints diminishes, the aching and soreness are greatly relieved, and the mobility is considerably increased. The patient becomes brighter, and work, both mental and bodily, is done with pleasure instead of with trouble and effort; acidity, pyrosis, heaviness, distension, and oppressed feelings after food disappear, flatus is greatly diminished in quantity and becomes much less offensive, and the perspiration loses the disagreeable odour so frequently present in these cases. The urine becomes more copious and clearer, and does not give the reactions to nitric acid and ferric chloride mentioned later, and the oxalates and uric acid are materially decreased. The indications for

<sup>1</sup> A paper read before the Medical Society of London on April 26th, 1897.

<sup>2</sup> THE LANCET, March 27th and April 3rd and 17th, 1897.

the adoption of this treatment seem to me to be: (1) obstinate and refractory chronic gouty arthritis; (2) recurrent uric acid calculi; (3) frequent and intractable migraine; and (4) obstinate gouty dyspepsia. The treatment appears to be indicated more especially if any of the following symptoms are present: (a) amylaceous and intestinal dyspepsia; (b) acidity, pyrosis, and flatulence; (c) heaviness and irritability after food; (d) excessive formation of sulphuretted hydrogen in the large intestine, disagreeable smelling perspiration, and offensive breath; and the following conditions of the urine: (e) persistent lithiasis; (f) oxaluria; (g) excessive formation of indican; (h) purple or red reaction with nitric acid; and (i) wine-red reaction with ferric chloride.

I am sure that where either damaged kidneys or a weakened heart are present exceptional care should be taken; in fact, many of these cases are quite unfit for the treatment. I do not say all, advisedly, as I have seen several cases in which both unsound kidneys and heart have been greatly relieved, but such patients require daily watching and the exhibition of great care, experience, and discretion. The above mentioned symptoms, I would venture to submit, bring us face to face with the great question of auto-poisoning. I have been greatly impressed by the sudden subsidence of severe chronic gouty arthritis in five cases. In three of these it followed what were described as "very severe bilious attacks"; and in two it came on after severe and spontaneous attacks of diarrhoea; the relief was immediate and complete, and for several weeks the patients kept better, but gradually the old symptoms began to return, and in three months after the sudden improvement they were as bad as ever. No doubt also many of us have observed how severe attacks of deltoid rheumatism of many weeks' standing have been at once removed by a mercurial purgative. These facts seem to me to point to the possibility of poisons generated in the alimentary canal setting up affections of the joints. Bouchard describes certain articular enlargements which he contends are almost always present, more or less, in cases of gastric dilatation. That a very considerable number of ptomaines, leucomaines, and toxins are formed in the alimentary canal seems to be beyond doubt, as is also the fact that they are taken up by the blood and appear in the urine. A most important discovery was made by Gautier in 1885, when he found that poisonous alkaloids were continuously being formed in healthy men and animals by decomposition in the intestinal canal during the process of digestion or in the blood and tissues generally by the metabolism which occurs during the functional activities of life. It seems to me that if we have either an excessive formation or a deficient elimination of these toxic products we get a condition of self-poisoning, which may be either slight and transient, severe and lasting, or, what I believe to be more common still, a daily storage of small quantities of noxious matter which gradually undermines the health, leads to deterioration of the nervous system, and disturbance of the nutrition of some or all of the structures of the body; and it seems likely that vital action is much more quickly interfered with through the accumulation of waste products within the organs than by any want of nutriment of the organs themselves. Aitken, writing on gout and rheumatism, says: "They are such diseases as become developed under the influence of agents generated within the body itself through the continuous exercise of its functions in the daily course of nutrition, development, or growth." That marked symptoms of poisoning do not more frequently occur is due to the physiological processes continually going on in our bodies: (a) the elimination of the poisons by the kidneys, liver, skin, lungs, and the lining membrane of the bowels; and (b) their destruction by oxygenation, the leucomaines being burned up in the blood. That the urine contains toxic products was made clear by the researches of Mr. Reginald Harrison, our esteemed President, concerning so-called "catheter fever" when he gave his adhesion to the following important conclusions: (1) In health alkaloids exist in the living subject; (2) these arise in the intestinal canal through the action of putrefactive intestinal organisms; (3) the alkaloids of normal urine represent a practical part of these alkaloids absorbed by the intestinal mucous membrane and excreted by the kidneys; and (4) diseases augmenting intestinal alkaloids augment in consequence the urinary. Dr. Lauder Brunton suggests that one set of poisons is probably allied to uric acid, and includes guanidine, methyl-guanidine, xanthine, and other derivatives of urea. A very interesting statement has been made

that while the greatest part of the products of albuminous waste is in health secreted by man in the form of urea with very little uric acid, in disturbance of nutrition (as by self-poisoning, affections of the nervous system, &c.) the quantity of uric acid is enormously increased. It has also been suggested that as pyrocatechin, a body of the aromatic series frequently found in urine, is known to have a poisonous action on the spinal cord it may probably interfere with the joint centres, and thus set up reflex trouble in the articulations.

To those who entertain the opinion, so generally held, that the various toxins are formed from the decomposition of animal food it will not be at all clear how a meat dietary, even with the aid of hot water, can alter this condition; but Brunton and Macfadyen have shown that "the same bacteria which form a peptonising enzyme on proteid soil can also produce a diastatic enzyme on carbo-hydrate soil"; and, further, that "the same bacilli, when grown in starch-paste instead of in gelatin or in beef-tea, produced a different ferment, which would convert starch into sugar, but which would not act upon gelatin." Bouchard, again, strongly condemns bread, with the exception of the outer crust, on the ground that the process of baking, although it has interrupted the fermentation, has not stopped it altogether, and that this fermentation re-appears when moisture and temperature are again favourable to it, and from this are formed acetic and butyric acids, leucin, tyrosin, and phenol in large and poisonous quantities. The difficulties of a mixed diet of meat and carbo-hydrates in the gouty state are that the latter are so much more easily oxidised, and are therefore more readily consumed in the system than the albuminous compounds, and thus prevent the disintegration and oxidation of the latter; and also that vegetable albumin less easily undergoes disintegration than animal albumin. In gout disintegrative changes in the albuminates are arrested, and insufficiently oxidized substances remain in the blood; and in this connexion it is of importance to note that under a diet of animal food more oxygen is retained in the system than when starchy foods are taken in excess. The microbes subsisting on starchy food, milk, and cheese may be got rid of by a purely meat diet and *vice versa*, the offending microbes being starved out.

I would now ask the question whether, from the foregoing facts and theories, it is possible to suggest any scientifically satisfying reason for using this dietary. And in reply I would submit that meat taken as suggested is easily and readily digested; that the process of digestion is more complete and perfect, and is almost entirely free both from the processes of fermentation and putrefaction and from the toxic products thereof; and also that there is a more complete oxidation of the food taken, and therefore less waste and morbid material remaining in the system. Whatever poison does remain is more promptly eliminated by diuretics than by any other means, and no diuretic is more efficient than a free supply of water, especially when taken into a comparatively empty stomach. The exceptional power of water as an eliminator has been well shown by the researches of Sanquirico into the lethal doses of various drugs. There can be no doubt also that water has a direct flushing effect on the stomach, kidneys, and liver. It has been suggested to me that, while a very much improved condition of the general health might be brought about by the stimulating effects of a diet of red meat, the uric acid in the system would be driven into the joints to their great detriment, and that when this diet was discontinued most serious relapse would occur, the last state of the patient being much worse than the first. I have watched this point most carefully, and in a number of cases I have gradually brought the patient down from a meat diet to a carefully arranged mixed dietary, and in eight cases still further to the meat-free dietary recommended by Dr. Alexander Haig, without any such result being observed. Had space permitted I should like to have submitted the detailed notes of cases of chronic gout and recurrent renal calculi treated by this method. In some respects the latter cases are the more interesting, for in spite of the continuous taking of solvents they were, up to the time of taking this dietary, frequently passing uric acid calculi. With the exception of a few small stones passed shortly after the commencement of the treatment (in less than half the cases only) no further formation took place, although the use of all solvents was discontinued.

My experience of the so-called "Salisbury" dietary has led me to form the following conclusions, which I venture to submit for consideration and criticism: (1) that a certain

number of cases of chronic gouty arthritis, recurrent uric acid calculi, and gouty dyspepsia, with fermentative changes, which have proved refractory to ordinary methods of treatment and dietary, may be treated by means of an exclusively red meat dietary, *plus* hot water drinking, with excellent results; (2) that this method of treatment is irksome and trying, and as, unless it is carried out strictly in the first instance, it is apt to do harm it should only be used in those cases where other methods have failed or are thought likely to do so; (3) that the cases require careful selection and close medical supervision, the details being modified according to the needs of each individual patient; (4) that those who suffer from persistent albuminuria or organic heart disease are in most instances unfit for this treatment—when, however, it is prescribed for them its course should be watched daily; (5) that certain cases of chronic gouty arthritis which fail to improve while on a mixed diet recover equally well whether on this dietary or on the meat-free dietary suggested by Dr. Alexander Haig; (6) that it is of the utmost importance that no addition, however small, of carbohydrates, saccharine matters, or fruit be made to the dietary during the first few weeks of treatment, very slight acts of carelessness in this respect having often caused disappointment and failure; and (7) that used with due care and discretion this method is a most efficient, and sometimes even a brilliant, addition to our therapeutic resources, but that it is only necessary in some 3 or 4 per cent. of gouty cases treated.

Buxton.

## ON THE CONNEXION (IF ANY) BETWEEN MENTAL AND NON-PUERPERAL UTERINE DISEASES.

BY JAMES BRAITHWAITE, M.D. LOND.,

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MY attention was drawn to this subject by the following case. A single woman had spasmodic dysmenorrhœa of a very severe type. Her own medical attendant, who was a homœopath, not having given her any relief, she came to me as long as eight or ten years ago. I found her to be a delicate woman with some traces of old tubercle in the right apex. I dilated the cervix moderately, as I found that all medicinal treatment was useless. This dilatation gave her great relief from the pain, but it was only temporary, and in three months' time the pain was as bad as ever. The uterus was what I call "a sitting-down womb," as the sound first passed forwards, then backwards a little, and then forwards again. At her request I re-dilated the part, but did it extremely thoroughly, passing a laminaria tent the first day and dilating successively by Hegar's and Reid's dilators on the second and third days. The canal would then admit an index finger. This permanently cured the dysmenorrhœa, and the patient remains to this day perfectly well as regards this disease. Some years after this other symptoms led to a re-examination, when retroflexion was found. As the patient apparently suffered from this displacement it was rectified by a Hodge's pessary, No. 1 size, as the vagina was very small. This answered extremely well, and the periods, which had been rather profuse, became quite normal in amount. I again saw nothing more of her for some time, except that at regular intervals of about eight months I inserted a fresh pessary. In the autumn of 1896 she had begun to be in a desponding mental condition. She was, to use her own words, "unutterably miserable." Nothing could overcome her dejection of spirits. She was perfectly sane, and talked reasonably, but hopelessly, of what she called her unaccountable misery. In her letter to me she used the following expression: "The miseries of this extraordinary illness are breaking my heart." I will not say here what I thought was the real cause, or what I recommended in the treatment, as the patient went up to London on the advice of a relative and consulted a London physician, not, however, a gynecologist. He at once made a vaginal examination without removing the pessary, if the statement of the patient is to be relied upon on this point. He made her "breathe down," to use her own words. He then told her that the cause of her mental condition was the state of her womb. He did not treat her himself for this, but sent her to a well-known electrician and gynecologist. This

gentleman recommended electricity and baths in the treatment. He wrote to her mother, and the following sentence is taken from his letter: "The local condition is a hardened condition of the womb due to the bend, for which the dilatation does but temporary good. Electricity followed by the baths will, I believe, certainly allow of a complete cure." The patient then returned home to consult with her mother, and I was sent for and told about the opinion which had been given, and was shown the letter from which I have quoted. The next morning I examined the patient carefully myself. There was absolutely nothing abnormal, the uterus was in good position, there was no flexion or displacement of any kind, and the roof of the vagina on every side of the uterus was perfectly soft and normal. I may here say that I believe the physician who first examined her was perfectly honest in the opinion he gave her—that the mental condition was owing to some uterine disease. He did not verify this by his vaginal examination, as he did not remove the pessary. He seemed to think that such a condition must *necessarily* arise from uterine disease. With regard to the letter from the gynecologist, it will be noticed that he referred to the dilatation, and said that this did but temporary good, whereas it made an absolute cure of the dysmenorrhœa. The bend referred to in the letter did not exist at the time I dilated for dysmenorrhœa, nor did it exist at the time of his examination, for I examined her myself a few days afterwards, and there was not the least trace of flexion, and there had been no flexion for at least eight months previously, when I last changed the pessary. He must only have inferred that there was a bend because he found a Hodge's pessary in the vagina. The real cause of the mental condition I believe was as follows, and this is also the patient's own explanation. In the summer of last year she had an attack of syncope at a menstrual period, not from pain, but simply from debility. She fell down upon the ground, as she was standing at the time. The next month she expected another attack, and she thought it possible that at any time she might fall down in the street. The dread of this kept her confined to the house and in a state of mental misery. I had recommended her to be sent from home to Cornwall or Devonshire in order that she might have frequent change of scene and air. When asked my opinion about the proposed electricity I said to the mother, the daughter not being present, that although I entirely disagreed with the idea that the mental condition was caused by a hardened condition of the womb, because no such hardened condition existed, and the case could be easily explained by the mental anxiety caused by the dread of another attack of syncope, still, I would not dissuade them from the electrical treatment, as the season of the year was winter, and the complete change of scene to a London nursing home, with the feeling that something great was being done for her, would probably act almost, if not quite, as beneficially as my plan of a tour in the South of England. The patient accordingly went to London and had electricity applied three times a week for five weeks, and then five times at rather longer intervals. She then went to Brighton for three weeks, and returned home about the middle of April perfectly cured as regards her mental condition. I feel absolutely certain that the electricity merely acted in the way I have named, and possibly the remedy is thought more of when it is very expensive.

This case it is which has drawn my attention to the subject which forms the title of this paper, especially as the physician who first saw the case in London, according to the patient's account—and I have nothing else to rely upon, for I have not had any communication from him or from the electrician—at once came to the conclusion that such a mental condition must be necessarily uterine in origin. A few years ago I altered and improved my plan of indexing my private cases. Since then I have full notes of about 2000 gynecological and obstetric cases, the latter, however, being relatively few in number. I therefore at once referred to my index, and I have not one case at all like that which I have described, but I do not include in this cases of puerperal origin. A great many of the patients with retroflexion complained of curious feelings in the head, often described as a weight on the vertex. There are also a considerable number of cases of menstrual and inter-menstrual neuroses, often of a very severe type, but unattended with any mental affection. I must make, however, an exception to this statement, as I had one case of a girl who was overworked at school; menstruation ceased, and the girl ceased to speak or take any notice of anything around her. She