straightened. The introduction of the sound was difficult, the canal being apparently tortuous.

June 19th. The catamenia began three days ago, and were still continuing. The sickness, this period, was much less than last time. She had only been sick once in the morning. The pains were also much less, and the quantity reduced. Her diet was still koumiss and brandy.

June 23rd. The period was just over. The quantity was less. She was sick twice on June 21st. She felt better. A metallic dilator was used. June 26th. She was better. She was ordered to try yolk of egg, lightly boiled. June 27th. There was no sickness after the egg. June 28th. She had sickness after an egg. June 29th. The dilator was again employed. The pessary remained. July 4th. She had taken an egg most days, also some juice of rump steak, also koumiss and brandy. She had sickness in the morning, only one day excepted, when she was sick twice.

July 17th. She had for the last ten days taken portions of beef steak, and bread and milk twice a day, without sickness, but was always sick after the first taking of food in the morning. The dilator was now employed twice a week.

October 16th. Since last report, she had occasional dilatation. She was still wearing the pessary. The sickness occurred only once a day in the early morning. She left off the koumiss two months ago. She took now beef (about a quarter of a pound daily), bread, biscuit, jam, etc. She felt stronger. The periods were much less painful than formerly, and lasted five days, instead of ten; and she had no more sickness now at the periods than at other times. November 20th. Last week there was recurrence of sickness, and she had pain in the back. The pessary was found to be pressing unduly; it was altered. December 4th. She was very much better during the last week.

December, 1885. Since the last report, now two years ago, the patient has visited me from time to time. About six months ago, the pessary was removed, but it was found that the sickness returned to such an extent that its use was shortly afterwards resumed. She has had occasional bronchitis, and is not very strong; but the principal symptom, the sickness, has been practically abolished. She is sick in the morning after the first meal, but takes ordinary food without difficulty during the rest of the day. For the last month, the pessary has been discontinued, and without bad effect, the sickness not having returned, as was the case after the first removal of the support.

The patient has had the advantage of Dr. Sutherland's treatment during the time she has been under my notice, and is still under our joint observation.

IS THERE ANY CONNECTION BETWEEN THE (SO-CALLED) ALBUMINURIA OF ADOLESCENCE AND A GOUTY INHERITANCE?

Read at a Meeting of the Border Counties Branch.

By STEWART LOCKIE, M.D.,
Physician to the Cumberland Infirmary.

I HAVE written this short communication, not for the purpose of giving a categorical answer to the question which forms its title, but more with the object of eliciting information, and in the hope that the experience of others may assist in coming to a definite conclusion. So far as my own cases go, they support strongly an affirmative answer; but they are perhaps too limited in number to render it safe to enunciate a generalisation on the subject.

I have been acquainted with this so-called functional or dynamic affection (for cases of organic disease are excluded from consideration) ever since Dr. Dukes published his paper on the subject in the BRITISH MEDICAL JOURNAL for November 30th, 1878. Dr. Moxon and Sir William Gull had previously drawn attention to the ailment, and since then it has been dealt with by others; notably, by Dr. Saundby, Mr. Carter, and Sir Andrew Clark. The great characteristic seems to me to be the rapidity with which the albumen disappears, when the patient is confined to bed and kept on a milk-diet, and the return of the albumen when he is allowed to rise and resume his ordinary diet. I have never observed any oedema, nor great diminution in the amount of urine. Headache is usually the principal symptom of which complaint is made. I narrate the following cases. They are not in chronological order.

CASE I.—G. H., now aged 15½ years. In 1881 and 1882, I had been repeatedly consulted about this lad, on account of headache, more or less persistent; and on one occasion attacks of epistaxis were reported. The tongue was usually clean, and, though repeatedly looked for, no albumen was found in the urine. On October 22nd, 1883, albumen¹

was for the first time detected, to the extent of one-eighth; the complaint was still of headache, and the appetite was impaired. He was put to bed, and had milk-diet. On the 25th, the albumen had disappeared, and also the headache. On November 1st, there were morning headache, and a trace of albumen; the next day, the albumen had disappeared, and remained absent on November 9th. This lad soon afterwards returned to a public school, and was not constantly under observation. I saw him, however, occasionally. It was found that whenever he returned to this school, where the work was hard, he failed in health, the albumen returning; and at last it was deemed advisable that he should remain at home, working less hard, and on a restricted diet. On June 28th, 1884, the urine contained one-sixth of albumen and a small quantity of sugar. By July 16th the albumen was reduced to a trace, but it continued present in small quantity every time the urine was examined until June 6th of the following year, when it was absent. On four occasions since, it has been examined, and the first three times was free from albumen; on the last, however, a small quantity was present, though the patient had been feeling quite well for some time. This lad's maternal grandmother has well marked chronic gout, and gouty eczema. His mother also has traces of a gouty constitution.

CASE II.—A. B., aged 22, an undergraduate at Cambridge, came under my care on March 24th, 1885, complaining of sore-throat. He had travelled from Cambridge to London, and thence to Carlisle, a few days before, and thought he had caught cold. He had not, however, been very well for some weeks before leaving Cambridge, feeling unable for much mental work. Since his return home, he had been languid, disinclined for exertion, excessively irritable, heavy looking, and apparently, at times, at a loss for words when speaking. On examination, there was very slight follicular sore-throat, and, a day or two afterwards, some enlargement of glands in the sterno-mastoid region. The temperature was normal; the pulse quiet; the complexion "muddy"; the appetite impaired; and the tongue furred. Under treatment, the sore-throat and enlarged glands soon became well, but, otherwise, the patient's condition was unaltered. In consequence, on April 1st, the urine was examined. It was found to be turbid from amorphous urates, of specific gravity 1040, containing one-sixth of albumen, but no sugar nor tube-casts. The amount passed was about two pints in twenty-four hours. He was ordered to remain in bed, and to have exclusive milk-diet. By April 6th, the albumen was reduced to a trace, and, by the 8th, had disappeared. On the 10th, the albumen still continuing absent, bread, rice, and chicken-broth were allowed, in addition to milk; and, in a few days more, white fish. On the 17th, the patient was allowed to leave his bed. Early in the morning of the 18th, he awoke with pain in the left wrist. When seen, the wrist was swollen, very tender and painful; there was no redness; the swelling extended over the metacarpus. The temperature was normal; the urine faintly acid, containing no albumen. A diagnosis of gout was arrived at, and treatment ordered accordingly. Exclusive milk-diet was resumed. On the 19th, the wrist was less painful; the pulse was quickened and very tense; the temperature remained normal; the urine contained a small quantity of albumen. On the 20th, the urine was still slightly albuminous, the pulse much less tense, and the wrist less painful; there was slight oedema over the metacarpus. On the 21st, the albumen had disappeared, and the symptoms of gout were rapidly subsiding. On the 22nd, there was no pain, and scarcely any swelling of the wrist. During the following three weeks, the urine was repeatedly examined, and again on October 19th, 20th, and 22nd; on each occasion, albumen was absent. It is almost needless, in this case, to inquire for a gouty family history, as the patient himself exhibited unmistakable symptoms of the disease. The history is, however, not wanting. The patient's maternal grandfather and grand-uncle suffered from gout; his paternal grandmother has nodose phalangeal joints, and, at present, at the age of 90, has eczema of the fore-arms, which, I doubt not, is of a gouty nature.

CASE III.—A. G., a girl aged 17, came under my notice in the end of August last, complaining of a slightly painful feeling of oppression in the occipital region. After a few days, a tonic having failed to relieve, the urine was examined, and found to contain two-sevenths of albumen; a single epithelial cast was seen, under the microscope. She was sent to bed, and an exclusive milk-diet given. The next day, the albumen had absolutely disappeared, and continued absent so long as she was under close observation. After the first few days, the patient was allowed to get up, the diet being, however, somewhat restricted. On October 11th, there was a return of albumen; she was again sent to bed, and the albumen again disappeared. The patient resides at a distance from me, but I have the urine sent to me from time to time. I find that albumen is generally present when the patient is up and moving about. This girl inherits a gouty predisposition through her

¹ I make no pretensions to have accurately estimated the amount of albumen, and merely speak of the proportion which the deposit bore to the whole column of urine in the test-tube.

mother, one of whose brothers has had repeated attacks of the disease, and a sister has also had slight gouty symptoms. Two other members of the mother's family have had liver-disease, and one of them glycosuria.

CASE IV.—The last case I have to mention is one that came before me in 1879. Of this, I regret that I have few notes, excepting of the condition of the urine. It is that of a boy, aged 12, who was brought to me on May 12th, 1879, on account of symptoms which led me to examine the urine at once. There was found in it one-twelfth of albumen. He was put to bed on a milk-diet; and, as in Case III, by the following day the albumen had disappeared. Two days afterwards, a trace was detected. On the 19th, 22nd, 23rd, and 31st, the urine was free from albumen; but, on each occasion, it contained a trace of sugar. On June 4th, there was neither albumen nor sugar.

The patient's family, some time afterwards, removed from this neighbourhood. For the purposes of this paper, I, the other day, wrote to the father to inquire whether there was any gout in the family. He replied that his father, the grandfather of the boy, had been for many years occasionally troubled with gout.

We have here, then, four cases of so-called albuminuria of adolescence, in all of which a gouty family history can be traced. The affection, so far as I am aware, seems to have been observed mainly amongst the more cultivated classes, and to be frequently associated with severe mental work, and, perhaps still more, with mental worry, conditions which are well known to be the frequent precursors, in older people, of undoubted attacks of gout. It is stated, in a leading article in the *Lancet*, I know not on what authority, that Sir Andrew Clark "has ascertained that 10 per cent. of the young men competing for places in the Indian Civil Service become subjects of albuminuria."

Since entertaining the idea of the possible connection of the albuminuria of adolescence with a gouty inheritance, I have looked through what of the literature on the subject I have had access to; and whilst finding nothing which gives absolutely direct support to the theory, I have found much which lends indirect support to it. Writers on gout, and its connection with disorders of the liver and kidneys, as well as writers on hepatic diseases generally, speak of temporary albuminuria, without renal disease, as of frequent occurrence in cases of gouty dyspepsia. In these cases, Parkes thought that "through some failure in preparation, either by the stomach or the liver, albumen enters the right side of the heart, still in a crude state, and in a condition similar to that introduced into the jugular vein in Bernard's experiment, in which crude albumen, injected into the jugular vein, produced temporary albuminuria." This opinion of Parkes on the pathology of albuminuria of indigestion is the one now generally adopted. I think that the cases of albuminuria of adolescence are strictly analogous, though it seems difficult to believe that the pathology of them is so simple as that just stated; the complete disappearance of albumen in a single day, after confinement to bed, though it had previously existed in large amount, seems to point to more complex conditions, possibly to an alteration of blood-pressure in the renal vessels.

According to Sir Andrew Clark, nervous excitement, as at a political meeting, is sufficient to induce temporary albuminuria in gouty subjects, whose kidneys are as yet structurally unaffected.

The facts above referred to, when taken in connection with my own cases, give considerable support to the idea that the occurrence of albuminuria in young subjects, with a gouty family history, is more than a mere coincidence.

A CASE OF GOUT.

Read before the Plymouth and Devonport Medical Society.

By WILLIAM H. PEARSE, M.D.,
Senior Physician to the Public Dispensary, Plymouth.

IN the year 1871, I was consulted by a gentleman, aged 35, who stated his case thus. He had become blind when about 25, from inflammation of the eyes of gouty type. He had suffered frequent attacks of gout in the joints, especially of the feet and knees. For over a dozen years he had been in the habit of passing uric acid calculi—often as many as thirty in a week; these calculi varied in size from that of small shot to a pea. He had suffered also during several years from daily diarrhoea. For about three years, he had used opium suppositories, always one each morning and evening, and often a third in the day. He had had attacks of purpura; that is, dark scorbutic-looking blotches, of one, two, or three inches in diameter, would appear on the legs, besides numerous smaller spots of the same type.

His gums and teeth were sound. He was subject to violent retching almost every morning; an attempt to brush the teeth would excite it. The heart's action was regular, without *bruit*, but somewhat feeble. The lungs were sound, and without any oedematous crepitation at their bases. The urine was free from albumen, but always presented crystals of uric acid under the microscope.

He was a man of large frame, and stout, and was a hearty feeder. He had been pretty much interdicted from the use of vegetables and fruits, on account of the diarrhoea. He had been long under treatment, and had taken, over a series of years, large quantities of bicarbonate of potash, and bicarbonate of soda. He had been accustomed to take brandy and water daily, not in excess, but with dinner, and at night. He had, on more than one occasion, had his alcohol stopped by his physician, with the result, as the patient described it, of utter prostration, and necessitating the sudden change to a physician who freely restored the brandy, and which was as often followed by the comparative restoration of the patient.

The patient was engaged in the active duties of life, but the smallest muscular exertion was accompanied and followed by great prostration and shortness of breath.

Under all these circumstances, I ordered the continuance of his opium suppositories and brandy. I ordered the free use of vegetables and fruits. His favourite vegetable was cucumber, which I freely allowed; he took, also, the juice of a dozen or two of lemons every week. He was ordered to wear a flannel belt around the loins and abdomen. For the rest, I prescribed from two-thirds to one tumbler of Celestin Vichy water, to be sipped before breakfast, or at 11 A.M.; also, a pill of exsiccated sulphate of iron, quinine, nux vomica, and extract of gentian.

In a few weeks, a very marked improvement was apparent; the complexion was less sallow, the calculi lessened, and the vomiting less frequent; for a couple of years, the patient was continually expressing himself as feeling greatly improved.

Such was the good from the use of the Vichy water, which was taken at intervals—for instance, for a month, then discontinued for a few weeks, and then again resumed for a month—that, two years after I was first consulted, I sent the patient to Vichy, where, for five weeks, he drank, moderately, the water of the Grande-Grille thermal spring (105.8° Fahr.). The patient felt the heat of the weather a good deal, but returned safely; with the result that, for nearly two years, he was exceedingly better in health, in all respects; the calculi almost disappeared during the first year of his return. Such was the good which followed a month's use of the hot water at the spring, that, in spite of the dreaded heat, the patient voluntarily went to Vichy for a second time, in the third year after his return. This was again followed by a lessening of the stones, and a general improvement in health.

As general tonics, and as changes from Vichy water, the patient took, in different years, Spa and Perrière natural waters—the one ferruginous, the other arsenical. He occasionally took a month's course of lithia aerated water.

The following marked events occurred subsequently to this period. In two different years, there were severe developments of the scorbutic-purpuric blotches on the legs; another year, there was a very severe attack of gout in one knee, and, associated with it, for several days, a most intermittent pulse. On another occasion, the heart was intermittent and slow, for several days, but without other localisation of gout.

The patient having passed thousands of calculi, he was often able to trace their passage down the ureters, and recognised when they passed into the bladder. On one occasion, however, calculi of large size passed slowly down the two ureters at the same time. Starting nearly together from the kidneys, the two ureters were blocked two days, two nights, and part of the third day; then, first one, and afterwards the other stone, dropped into the bladder. During this entire suppression of urine, there were no bad brain-symptoms, or other symptoms of uræmic poisoning. Not the less, the patient's system seemed to have received a "shock." About one-tenth of albumen was ever after present in the urine, but no casts. The patient had frequent attacks of gout in one or other foot, occasional attacks of urticaria, a pulse generally somewhat intermittent; but he was able, generally, to be out of doors and in business several hours a day during several years.

He suffered a good deal of distress from dreams, and from a feeling of exaltation of consciousness, which would come on at night and prevent sleep. During the past few years of life, the pulse was slightly intermittent, but without *bruit*. Occasionally, I have seen his sweat leave, as it were, a dusting of urate of soda on his face, which, by a wipe of the finger, would form a visible ridge. A hypo-