

came generally blue, except his ears and his right hand, which were white and cold. His breathing became very rapid and laboured. He soon rallied, and at 5.5 P.M. his respirations were 36; pulse in right wrist 136. He seemed more deaf, and did not answer questions readily. In about half-an-hour his temperature had risen to 105.8°. He complained of no pain. At 8.15 P.M. his temperature had fallen to 105.2°. Pulse 136. No dulness or abnormal sounds in the lungs. He did not pass a very good night. This morning he seems rather strange in his manner and tries to get out of bed; has perspired much during the night. The temperature this morning is 98°. The pulsation in the left carotid is rather more feeble than in the right, and the grasp of the right hand is weaker than that of the left. He can move both the right arm and leg. 5.45 P.M.: Aspect bad; is perspiring; respiration 40, somewhat laboured; pulse 104. 9.45 P.M.: Right arm and leg are now completely paralysed; speech somewhat thick; tongue protruded to left side; takes food, but cannot swallow well.—20th, 8.15 A.M.: The patient had not slept during the night; he had passed urine unconsciously; the temperature had risen, and at 8 A.M. was 104.8°; at 3 A.M. the breathing became rapid and stertorous, but he was conscious till about 7.30. He was now lying on his back, sweating profusely; face cyanosed; respiration 80, very noisy; pulse 160, and hardly to be felt; he was rolling his eyes from side to side occasionally; was able to take food. At 9.55 A.M. the patient died.

*Post-mortem appearances ten hours after death.*—Body fairly nourished; no bed-sores; rigor mortis in legs, not in arms. Chest: Old pleural adhesions on each side; lungs natural. Heart: Pericardium completely adherent. Heart large, weighing 24 oz.; muscles firm; right side natural; left ventricle considerably hypertrophied and dilated; mitral orifice large, admitting tips of four fingers; one cusp of the mitral valve completely destroyed by ulceration, with adherent clots. Abdomen: Spleen enlarged, weighing 26 oz., containing several recent infarcts, some partially breaking down in the centre; at the lower part of the viscus was a cavity about the size of a Tangerine orange, with roughened walls, and containing a reddish turbid fluid. Kidneys large and soft, both containing numerous infarcts. Liver natural. Bloodvessels: In the left brachial artery, just above the superior profunda, was a clot, partially decolourised, extending about an inch and a half above the profunda and for a short distance downwards into that vessel. The left popliteal artery contained a clot reaching about an inch above the bifurcation, and passing down into the posterior tibial artery. Head: Examination not allowed.

## A SIGNIFICANT FACT IN THE DIAGNOSIS AND INTERPRETATION OF THE ALBUMINURIA OF ADOLESCENTS.

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(Concluded from page 1329.)

THE significant fact, which has proved a valuable means of diagnosis to me, and which, I think, throws a vivid light upon the interpretation of these cases, has occurred in my practice with sufficient frequency during the last year or two to be unmistakable. I proceed to explain. It has been a long-established rule at Rugby that the whole school should meet together for morning prayers in the school chapel at 7 A.M. An alteration in this custom was made a year or two ago, as the head master naturally desired to address the assembled boys occasionally on various common school subjects. It was thought that this hour would be most opportune, without calling the whole school together on purpose, which, in the hard work incidental to school life, would have been exceedingly difficult to arrange. It was, therefore, settled that on two mornings in the week morning prayers should be held in the large hall, so that the head master might carry out his desire at the termination of prayers. Whenever this hall had been previously used for large gatherings, seats had been transferred from other class-

rooms, and chairs were procured elsewhere. At the commencement of these "fifteen-minute" meetings, therefore, no seats were provided, as it was deemed no great hardship to stand for this brief period. The arrangement was in existence for a year or two, during which time the following events occurred. While it was exceedingly rare for a boy to faint during morning prayers in chapel, it became a common occurrence when prayers were held in the large hall where the boys had to stand. It was at first naturally assumed that the cause resembled that of the fainting incidental to Militia training and Volunteer encampments, especially church parades, through the constrained position of "standing at attention." (Are these similar cases, undiagnosed as yet?) Then it was assumed that it arose from the hall being hot and ill-ventilated compared with the chapel. But when I found that it was not the delicate boys who fainted, and that the sufferers had hard rigid pulses, I at once saw that it was owing to early albuminuria; and, on analysis, this supposition proved to be the fact in nearly every instance. I have already referred elsewhere<sup>1</sup> to such cases, but here we had a most marked class of them—boys getting up at 6.40 A.M. and rushing down to school. If they assembled in chapel where they could sit, faintness rarely occurred. The same set of circumstances existed, with the exception that the boys were required to stand for a few minutes, and thus by this differential examination the cause was at once discovered and the boys submitted to treatment. But seats have now been provided, and my diagnostic help-mate has failed me, so that the cases have to be traced in other and less pronounced ways. Could a more classical set of circumstances be presented, not only for the purpose of diagnosing cases, but also for their interpretation? Here we had a large number of boys going to bed and lying in the horizontal position for about eight hours and a half, and suddenly assuming the vertical position in the morning, often accompanied doubtless by a quick run of a hundred yards to school, and a flight of stone steps to be mounted on the mornings when they assembled in the large hall, and the circulation proving itself unable to meet the altered circumstances, and failing in the attempt. Is it not, therefore, perfectly manifest that these early cases of albuminuria, as I have already endeavoured to show, arise from the condition of the circulation pure and simple? Any such stress upon the circulation, such as active exertion, will under similar circumstances reveal the presence of albumen in the urine.

I may, perhaps, relate with advantage a single instance even more remarkable, arising from a similar cause. A boy was standing near his mantelpiece between 11 and 12 A.M., and suddenly fell down, cutting the back of his head on the fender. The question arose as to whether he had had a fit or fainted. As soon as I felt his pulse I was confident that it was one of those cases of fainting arising from albuminuria, and on examination this proved to be the case, and he recovered eventually under treatment. The main characteristics of these cases of early albuminuria reside in the infinite variety of their cause, in the quantity of albumen presented, and in their duration.

As to the causes, we may say that whatever entails extra work upon the kidneys at once hampers their circulation. For example, a chill, which throws upon them the work of the skin; a constipation, which acts in a similar manner; over-feeding, which gives them stress of work; also it may arise through mal-assimilation caused by indigestion, and hereditarily imperfect organs, entailing imperfect elimination of impurities from the blood, with the resulting transmission through the kidneys of irritating ingredients—setting up, therefore, increased arterial tension, with the production of transient, or even permanent, albuminuria if the condition be long continued. The amount of albumen varies from day to day and from hour to hour, sometimes the merest trace being present, while at the next examination the urine may become almost solid on boiling.

As an example illustrative of duration, I may mention that I have under my care at the present time a boy aged fourteen, who was sent to school at the seaside more than two years ago, on the recommendation of Dr. Broadbent, on account of this ailment, and in whose urine albumen is still present from time to time, and for more or less prolonged periods in considerable quantities. His father even

<sup>1</sup> Brit. Med. Jour., May 8th, 1886.

can tell when it is present from the boy's appearance alone.

Another case which I have now under my care, and in respect of which I have grave anxiety as to the future, arose in the following way. The boy was returning to school for the summer term, and as it *was to be* the summer term, he could not want, and thus removed, his flannel vest before starting, leaving his overcoat, which he had worn through the vacation, at home also. This happened in winter weather, although May was the actual month. He took cold on the journey; and although this occurred last May (1890), his urine is now for days together loaded with albumen; it is then absent for a day or two, then persistent all day, and so on.

At the present moment I have under my care a young lady suffering from this characteristic albuminuria. Her history is, that she had not been well since she attended two balls on consecutive nights during the cold weather some three weeks since, when she probably became overheated and was insufficiently clad, she having removed her under-vest. Her aspect had become muddy, she had lost her spirits, and she complained of always feeling tired. I found her pulse hard, and her eyelids oedematous in the morning. I at once diagnosed albuminuria, and found the albumen persistent throughout the day. It disappeared altogether during continuous decubitus, and is now not present in any urine except that passed after breakfast—that is, in the first urine passed after she has been up for an hour.

In another case which I watched for several years (1886 to 1890), and which was one of the most troublesome, I gradually elicited the following remarkable fact, which I have never found before or since, and the meaning of which I have not yet satisfactorily interpreted. Whenever the urine was free from albumen he felt ill; whenever it was present he felt well. He used to tell me beforehand whether I should find albumen or not. Whenever he looked ill and miserable, and felt ill, he was right,—no albumen was present. But whenever he felt quite well he would laugh and say that I should find, in consequence, a quantity that morning. The albumen was still present a year or two after he left school. Since then I have again examined it, and there was not even a trace. But this condition of kidneys does not exclusively occur in adolescents, for last year a chemist, forty-five years of age, consulted me with albuminuria, which was intermittent for several weeks. The case behaved exactly like an ordinary case of early albuminuria as to feeding and decubitus, and he subsequently quite recovered. Its origin dated from a drive on a cool summer evening, when the patient, unaccustomed to driving, omitted to wear an overcoat. Moreover, he had had a similar attack a year or two previously, and recovered.

An old Rugby boy consulted me not many weeks ago, stating that he was said to be suffering from overwork, and that he was greatly perplexed as to the course to pursue. He had intended to present himself at one of the universities for a scholarship, but he could not read for even a few moments consecutively without becoming dazed and suffering from intense headache. His condition, together with his disappointment at the blighting of his prospects, caused him considerable distress, and he came to ask my advice, as I had known him for some years while at school. As he unravelled his story, without any comment from me, my impression was that he was suffering from hypermetropia; but when I put my fingers on his pulse, I felt convinced, owing to the marked arterial tension, that his cerebral symptoms were toxæmic, and that the case was simply one of early albuminuria. Certainly, no overworked brain ever possessed such a pulse. However, I made a complete examination, and found the characteristic heaving heart's action, as well as the rigid arteries, and could discover no other fault until I examined his urine, when the source of his trouble disclosed itself. His sight was normal. With weekly doses of blue-pill, and daily doses of sulphate of soda and bicarbonate of potash, his symptoms soon disappeared, and he could resume work as he desired without discomfort. He obtained his scholarship, and is now at the university. On subsequently referring to my records, I found, what I had forgotten at the time, that he was one of my old cases of albuminuria when at school.

Judging from past experience, and as I pointed out many years ago (1883<sup>2</sup>), I am persuaded that many cases of

assumed overwork should be classed under the same category as this case, and that, in their treatment, a dose of blue-pill is far more efficacious for their cure than cessation from work.

The following points present themselves as the result of this consideration of the subject:—1. It is not safe to make a diagnosis in any patient without an examination of the urine. 2. Are not all cases of early albuminuria, in their early stage, identical with the class of cases I have described? 3. If so, it is perfectly clear that these cases of early albuminuria, which are so common in the young, constitute the early stage of what eventually may become developed into the chronic disorganisation of the kidney which is termed Bright's disease. 4. Would it not be well to come to some understanding as to its nomenclature, so that a uniform and appropriate name may be assigned to this disease, and that it may cease to be termed "functional"?

The gist of the whole matter seems to be this: That where the hyperæmia of the kidneys is severe the albuminuria is persistent, in whatever position the body may be placed, whether at rest or not, and whatever diet may be partaken; while if the hyperæmia be slight, from the cause having been trivial, or from a severe attack which is passing away, then the albuminuria only shows itself when the body assumes the vertical position, or under exertion, or after a full meal; but if the hyperæmia be prolonged, however slight in degree, the albuminuria gradually becomes persistent, owing to the permanent dilatation of the blood-vessels, and tends to destruction of the kidneys. As in the eye the inflammation may be so severe that the eyelids cannot even be opened, or may be so slight that there is no indication of any hyperæmia except under work; so here the inflammation of the kidneys may be so severe as to cease to work, as in acute nephritis, or so slightly hyperæmic that it is only elicited under a stress of its circulation, such as arises in assuming the vertical position, undergoing active exertion, or partaking freely of food, which is a pathological condition.

Rugby.

## EXCISION OF THE CONDYLE AND NECK OF THE INFERIOR MAXILLA FOR OSSEOUS ANKYLOSIS OF THE RIGHT TEMPORO-MAXILLARY ARTICULATION.

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THE rarity of osseous ankylosis of the temporo-maxillary articulation makes it desirable that all cases of this condition should be placed on record, especially where operative measures have been adopted for its relief. In few text-books of surgery is the deformity even referred to, while in fewer still is any operation described.

J. C—, male, aged twelve years, came under my care in February, 1890, complaining of stiffness of the jaw and inability to open his mouth. The following history was elicited. Apart from anything bearing upon his present condition, he has always enjoyed good health. In 1885 he had scarlet fever. This was accompanied by right suppurative parotitis, which was followed by gradually increasing impairment of movement at the right temporo-maxillary articulation. In 1887 he was able to separate the teeth for a quarter of an inch, and this was increased to one inch by forcing the jaws open, under chloroform, by means of a wooden wedge. Although this treatment was afterwards continued, the jaws were soon approximated more firmly than formerly, until the teeth could not be separated at all.

In February, 1890, his condition was as follows:—He was well-nourished, and presented nothing noteworthy, except in connexion with the condition of the right temporo-maxillary articulation. A hard swelling, indicative of former inflammatory mischief or periostitis, extended from this articulation to the angle of the jaw, and produced undue prominence of the right cheek. The skin near the angle of the jaw was marked by cicatrices. The incisor teeth were directed forwards, leaving a space one-eighth of an inch wide between them. Through this opening the patient had

<sup>2</sup> The Book of Health.