it. More trust must be put in time than force—indeed the utmost gentleness must be used. I usually succeed in a few minutes.

APPENDIX.—The result in the case of Mary P., on whose membrane I applied collodion on August 2nd, is so interesting that I think it well to complete the history. After returning from Cork, I saw her on August 18th. She stated that, after the application, she had had pain in the ear; that on August 7th (that is, five days after the application), she had a slight discharge, which had since continued. On examination, I observed an irregular rupture of membrane at the postero-inferior segment, with some discharge. The opening was considerable. Air whistled through when she inflated the drum. I thought it well to inject weak solutions of iodide of potassium, carbonate of soda, and caustic potash. This I did for a week, but without improvement. I ceased the injections, and resolved to try how long I could keep the perforation open. I applied collodion on the membrane, so as to exert traction on the margins of perforation, and ceased further treatment. The ear has been perfectly dry ever since and free from pain. On September 8th, the perforation was round, and at least three-quarters of a line in diameter. For some time the hearing had not improved; but, on the date mentioned, she could hear a very moderate voice at ten feet, whereas she had formerly only heard at the distance of two feet. The important fact to be noted is that, from August 7th till September 8th, a perforation was kept open by the very simplest means.

THE PRESENCE OF FAT IN THE URINE.

By THOMAS OLIVER, M.B.,

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ON reading a foot-note in the chapter on Chylous Urine, in Dr. Roberts's *Handbook on Urinary and Renal Diseases*, I see that, while he is fully aware of the occurrence of cases in which the fat which is present in the urine is globular and not molecular, he is unwilling (and I think rightly) to regard them as belonging to the same series of cases as those comprised under chyluria. And certainly they differ in a few respects. As the two cases I am about to report resemble a case published by Dr. Bramwell in the *Edinburgh Medical Journal* for 1858, p. 714, about which there seems to have been some doubt, I may be excused for thus bringing forward a paper to substantiate what has already been observed. In speaking of the characters of chylous urine, Dr. Roberts says: "On standing awhile, it sets spontaneously into a trembling coagulum, which, after a time, redissolves and breaks up into flaky clots. Not unfrequently, this coagulation takes place within the bladder, and occasions serious pain and difficulty in micturition. The milky appearance of chylous urine is due to the presence of a finely divided fatty or oily matter. This is thrown up as a creamy layer after the urine has stood for some hours. When chylous urine is agitated with ether, the fat is dissolved, and the secretion assumes the transparency and colour of healthy urine... Chylous urine is invariably coagulated by heat and nitric acid. The specific gravity is generally below the average. When examined microscopically, chylous urine is found to contain a variable number of granular nucleated corpuscles, like those of mucus or chyle, and generally, but not always, red blood-discs. The fatty matter almost invariably occurs in the form of excessively minute granules (resembling the molecular base of the chyle), which are not resolvable into visible globules under the highest powers of the microscope." With these characters before us, we can easily see wherein the two cases hereunder mentioned differ from those of chyluria. In the first case, there was, on one or two occasions at least, observed a gelatinous-looking coagulum occupying the centre of the glass of urine and suspended all the way through it. This spontaneous coagulation, so to speak, was not constant; nor was there any precipitate with heat and nitric acid. On the addition of nitric acid to some of the cold urine, no opalescent line was appreciable, owing to the intensity of the milky colour of the urine; and the same remark applies to heat. Heat only intensified the colour of the urine without producing any precipitate. Occasionally, after standing for a few days, a creamy layer was found to occupy the surface of the fluid. Microscopical examination revealed the presence of myriads of fat-globules of various sizes; the appearances observed being not unlike that got in a similar examination of milk. Agitation with ether, while it dissolved the fat-globules, did not remove the milky colour of the urine altogether; and the average of the specific gravity of the urine collected at different periods was higher than that of chylous urine. There was a resemblance to chyluria, however, in the course of the disorder. The presence of fat in the urine was not persistent: its presence was interrupted for days, only to reappear again; its existence was often unknown until the urine was examined; occasionally, however, it was preceded or accom-

panied by a general feeling of *malaise*, headache, or pain in the epigastrium. In both of the cases that fell under my observation, there were epileptic fits, and the urine which was examined after these seizures was sometimes milky, and rich in fat-globules.

CASE I.—On February 3rd, 1877, while in practice in Preston, I was called to see Caroline F., aged 27, who was said to be in a fit. When I arrived at the house, I found that the fit had passed off. She had recovered consciousness, and now complained of extreme pain in the head and of being very tired. The patient was a well-developed muscular woman, of sallow appearance. She was pitted with the marks of small-pox, and had a goitrous swelling of the neck. The heart and lungs, on careful examination, were found to be healthy. Pulse 72. The skin was moist; the bowels costive. I asked her friends to let me have some of her urine for examination; meanwhile giving her a smart dose of compound jalap powder and a mixture of bromide of potassium and chloral.

February 4th. She felt rather better. The bowels had acted well; the tongue was clean and moist. She had passed urine freely, and without pain; but, as it was mixed with that of her friend, I did not see it. The fits had not been so severe nor so frequent. She was still languid, and complained of pain in the epigastrium and loins. She told me that she had small-pox eight years ago, when in Bolton, and that she had not enjoyed good health for the last two years. Since this last period, she had been subject to fits, of the approach of which she was sometimes aware. The pain in the head, of which she said she was seldom free, was increased. There was a peculiar feeling in her legs, which moved upwards. She uttered a scream, and fell unconscious on the ground.

February 5th. She was somewhat improved since yesterday. The fits still continued. The specimen of urine received this morning, and which was passed without difficulty, resembled milk in appearance. It was the urine first voided this morning; it was acid, of specific gravity 1014. Heat only tended to increase the opacity without producing coagulation. There was no reaction appreciable with nitric acid; for, from the opacity of the urine, no distinct line of opalescence could be made out. On allowing the urine to stand for some hours, there appeared suspended in it a gelatinous-looking coagulum of a somewhat flocculent nature at its sides. This substance, when examined microscopically, was found to consist of an enormous number of fat-globules of various sizes; the appearance of the field being not unlike that got in an examination of human milk. No tube-casts were seen. There were a few epithelial cells and mucus-corpuscles.

February 6th. She continued to improve. The urine was to-day of a light yellow colour, clear, of acid reaction, and had a specific gravity of 1018. It bore no resemblance to the milky urine of yesterday. Under the microscope were seen a few fat-globules, octohedral oxalates, mucus-corpuscles, and epithelial cells. She was ordered to take liquor ferri perchloridi dilutus.

February 7th. She had only had two fits since yesterday. She told me that she had, when living in Bolton about a year ago, an attack somewhat similar to the present, and at that time she passed milky urine. The blood examined to-day gave negative results. Urine acid, clear, specific gravity 1031.5, with a copious deposit, presenting to the naked eye the appearance of oxalates with a dark hood resting on its surface. No albumen nor sugar was present. Examined microscopically, it was found to contain caudate cells, octohedral oxalates, squamous epithelium, and fat-globules in greater abundance than in the specimen of yesterday. (Dr. Marshall kindly confirmed the presence of fat in this urine.)

February 14th. She had continued to improve until to-day, when she came to my house complaining of great pain in her head. She had been taking the iron with benefit. She was ordered croton-chloral-hydrate.

February 15th. She was, if anything, rather better to-day. She did not send any of her urine for examination, as she began to menstruate yesterday.

February 18th. The urine sent to me to-day was of a light straw colour, of specific gravity 1019; it contained a soft downy deposit not unlike mucus; no albumen nor sugar. Under the microscope, fat-globules were seen in abundance, a few crystals of uric acid; large squamous epithelial cells, many of which were studded with fatty points, while one or two contained fat-globules.

February 22nd. She had had headache to-day, but felt able for her work in the mill. Occasionally she felt sick when at her work. In reply to questions, she stated that she had never had scarlet fever nor dropsy, and had never taken cod-liver oil. She suffered at times from leucorrhœa. I again examined her carefully, and found all the organs normal.

February 23rd. The morning urine was of a very light straw colour, specific gravity 1018, with a faint mucus deposit, which was loosely sus-

pended in the fluid. It contained mucous cells and a very few fat-globules. A number of large flat epithelial cells were seen, and these were studded with fatty points.

February 25th. She stated that she passed some milky urine this morning; but, through carelessness, I was not furnished with any of it for examination.

February 26th. She had a fit in the mill this morning, and had to be taken home. She again complained of great pain in the head, chiefly the frontal region. She had been sick once or twice. The urine passed this afternoon, three or four hours after the fit, was of very pale colour, of specific gravity 1011; no albumen. Under the microscope, it was seen to contain large rounded epithelial cells studded with fatty points. A few small fat-globules were also seen floating about. Croton-chloral-hydrate was ordered.

March 1st. I had seen nothing of this woman for the last two days. She was very well to-day. She stated that the medicine relieved her headache. Ophthalmoscopic examination gave negative results. The urine passed this morning looked thick and turbid; it was acid, and had a specific gravity of 1028. Addition of ether did not altogether remove this turbidity. The urine to-day was found to contain albumen, 4 per cent. Under the microscope, myriads of fat-globules of various sizes were seen. A few squamous epithelial cells were seen, and these were studded with fatty points. Two or three octohedral oxalates were present.

March 3rd. She felt pretty well to-day. She had had slight vertigo and headache, and slight inclination to vomit. The urine was of specific gravity 1016, clear; no albumen.

March 8th. She was not so well to-day. She had had two fits, and complained very much of headache and dimness of vision. The bowels were constipated. The urine was of specific gravity 1016; no albumen. It contained a few mucous cells, octohedral oxalates, and fat-globules. The compound jalap powder and liquor ferri perchloridi were repeated.

March 11th. This morning I examined the specimen of urine which was sent to me on the 1st of March. There was a thick milky-looking scum on its surface, which, under the microscope, was seen to be composed of myriads of oil-globules, and there were also seen the ova of the fungus *mucor mucedo*. The ova were elongated, and had not the glistening look of the oil-globules.

March 13th. The urine was of specific gravity 1030, acid, of a light yellow colour, with a fawn-coloured deposit of urates. A few oil-globules were present.

March 25th. She had, since March 13th, been pretty well until to-day, when she had another fit in the mill. She looked very pale. The bowels were constipated. The urine was of specific gravity 1032; it was not examined microscopically.

July 16th. I had seen nothing of this patient for the last two months.

CASE II.—September 21st, 1877. Mrs. D., aged 37, draper, had been subject to epilepsy for the last ten or eleven years. At the age of seventeen, she had one or two attacks of *petit mal*. Her husband lived apart from her, and his intemperate habits had caused her much anxiety. Her youngest child was nearly a year old. When she was carrying him, her feet swelled very much; at present, only the right foot was swollen. Headache was the most prominent symptom. She was sallow, pinched, and worried-looking—the latter condition was probably aggravated by the cares of business. The epileptic fits usually came on at her menstrual periods, at which time the discharge was pretty profuse as a rule. She improved for a time under the administration of any remedy; iron, quinine, bromide of potassium, and chloral had all done good. I had frequently examined her urine, and found it at times to contain albumen.

September 22nd. The urine passed yesterday morning was sent to me to-day. It was of a pale straw colour, with a specific gravity of 1025. On heating the urine, it became turbid; but this disappeared on the addition of a drop or two of acetic acid. Under the microscope, it was found to contain a large number of fat-globules of various sizes, crystals of phosphates, a few mucus-corpuscles; no albumen. Yesterday, she complained of not feeling well; she had pain in the epigastric region, and altogether felt ill and indisposed from lassitude.

September 23rd. I was only furnished with two or three teaspoonfuls of urine for examination. It contained a few small fat-globules and phosphates.

September 25th. The urine was very pale, of specific gravity 1013, acid; very little sediment. A few crystals of uric acid and one or two epithelial cells were all that could be detected under the microscope.

March 8th, 1878. This patient was still in very indifferent health. She was subject at times to epileptic fits, but was able to conduct her business.

Frequently I have detected the presence of albumen in the urine after

epileptic seizures; and it was this fact that led me to an examination of the urine in these two cases. The patient Mrs. D. is, in my opinion, the subject of chronic Bright's disease (contracting form); and I base my opinion on such facts as these: a steady but progressive emaciation, almost persistent headache, her sallow tint, the occasional presence of albumen in the urine, and the tendency to menorrhagia; and other circumstances, which might be considered factors of production, are not wanting, such as extreme anxiety and worry from domestic troubles and the cares of business. If this diagnosis be correct, then it is just possible that the kidneys have reached the stage of what Dr. George Johnson calls the "granular fat kidney", in which there is a fatty degeneration of the cells in the cortex, a tendency for these fatty molecules to form globules, which, by a solution of the cell-wall, escape into the tubules and get carried away by the urine. This is the only explanation I can offer for the presence of fat in her case; and for its presence in the urine of the other I can offer no explanation. In the case of C. F., albumen was detected in only one out of the eleven samples of urine furnished for examination; and although tube-casts were earnestly sought for, they were never detected. Of the questionable relationship of the discharge of milky or fatty urine to the epileptic seizures, I can say nothing. The presence of fat in the urine may be only a coincidence. The connection of the discharge of a milky urine with the fits was a fact which had been observed by the patient herself, and which I had the opportunity of corroborating on one or two occasions.

Since writing the above, I have been informed of three similar cases, which occurred in the practice of Dr. Hope of this town. The urine was milky in all the cases, and, under the microscope, was extremely rich in fat-globules. Fat was found in the urine of a woman after parturition, and in one of the other cases it occurred at a time when the patient had been exposed to prolonged muscular exertion with a good deal of anxiety, and its voidance was followed by an extreme degree of prostration and faintness. All of his cases, too, improved under the administration of iron.

A CASE OF DIPLEGIA.*

By JAMES CUMING, M.D.,

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A NUMBER of cases of double facial paralysis, or diplegia, as the affection has been termed by Wachsmuth, are on record; but the malady is rare; and I have thought that a case of this affection which I have had an opportunity of observing with some care might interest the section.

The patient, a girl aged 17, had been employed in a factory, where she worked in a very warm room. As she found the heat disagreeable and weakening, she applied to the manager, and obtained a change to a cold room. A little time after this, she became affected with facial paralysis of the right side, with its accompanying distortion of the features. At the end of three or four days, the unpleasant twisting of the face ceased, in consequence of the paralytic condition involving also the muscles of the left side. A fortnight afterwards, she was admitted to hospital, complaining that she could not shut her eyes, and that she could not open her mouth when she laughed.

The face presented the peculiarities which have attracted the attention of all observers of this disease; a smooth expressionless aspect, which has been likened to a mask; a watery tearful appearance of the eyes, which the patient was unable to close; a partially collapsed condition of the alæ nasi, and the lips parted, the patient being unable either to close them or to open them widely. When she laughed, which she did readily enough, a strange disagreeable chuckling sound was produced, which was not in the slightest degree suggestive of merriment, and which showed not only how much of the pleasurable effect of laughter depends on facial expression, but also how much the character of laughter is modified by the lips. Sensibility was quite perfect; there was no embarrassment in mastication, except that caused by the alimentary materials getting between the cheek and the jaw, and requiring to be pushed between the jaws. The saliva escaped from the mouth when the head was bent forward. Deglutition was quite unimpaired, the appetite was good, and the general health excellent. There were no symptoms pointing to any cerebral lesions.

When the head was bent forward, on investigating the less obvious phenomena, it was found that the velum palati hung down in a more perpendicular and less arched manner than usual, and that the uvula was flaccid and moveless. The tongue could be protruded without difficulty, but not in a horizontal direction. When asked to put it far out,

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