

SEQUEL TO A CASE
OF
ALBUMINOUS AND FATTY URINE,
PUBLISHED IN THE 'MEDICO-CHIRURGICAL TRANSACTIONS' FOR 1850,
WITH SOME ACCOUNT OF TWO OTHER CASES OF
SO-CALLED CHYLOUS URINE.

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Received Nov. 19th.—Read Dec. 14th, 1852.

IN the 'Medico-Chirurgical Transactions' for 1850, I have given a statement of the examination of the urine of a patient suffering from so-called chylous urine, from the 6th of November, 1849, to the end of the 14th of June, 1850. It ceased to be chylous on the 14th of February, 1850; and from the end of that day to the end of the 14th of June the urine was observed 625 consecutive times, and it was not once chylous.

From the 14th of June to the end of the 4th of October, 1850, the urine was passed 572 times consecutively. It was healthy, and the appearances need not be more particularly mentioned. The urine then was healthy from the 14th of February, 1850, to the end of the 4th of October, 1850. In these 232 days it was passed 1197 times.

First relapse on the 5th of October, 1850:—

Urine passed at 6.10 a.m.	was natural.
„ 9 „	natural.
„ 1 „ after breakfast,	slightly chylous.
„ 9.15 „	clear.

6th October :—

„	7	a.m.	natural.
„	9.15	„	natural.
„	11	„	natural.
„	4	p.m.	slightly chylous.
„	6.10	„	still less chylous.
„	9.50	„	natural.

One dose of 20 grains of gallic acid was taken this day.

7th.—There was no chylous appearance. The gallic acid was taken until the 27th, when it was omitted. The diet remained unchanged.

From the beginning of the 7th to the end of the 25th of December the urine was passed 442 times consecutively. It was on every occasion healthy.

December 25th.—He dined in company, and drank some spirits.

26th.—Second relapse :—

Water passed at	1.35	a.m.	natural.
„	7.50	„	natural.
„	9.15	„	natural.
„	12.20	p.m.	slightly chylous.
„	1.20	„ dinner	clear, but rather pale.
„	3.20	„	more chylous than before.
„	4.30	„	rather more chylous; passed at my house, loaded with albumen.
„	6.20	„	little chylous; 20 grains of gallic acid taken.
„	8.30	„	not so chylous.

27th :—

„	4	a.m.	still less chylous.
„	7.45	„	natural.
„	9.15	„	natural; cloudy from urate of ammonia; 20 grains of gallic acid taken.
„	10.20	„	the same.
„	12.15	p.m.	the same; 20 grains of gallic acid taken.
„	4.15	„	clear and natural; 20 grains of gallic acid.
„	8	a.m.	natural.
„	12.30	a.m.	natural.

Dec. 28th.—The urine was passed 8 times. It was natural in appearance, and contained no albumen. Two doses of gallic acid only were taken at 9 a.m. and 12.15. p.m.

29th.—Only one small dose of gallic acid was taken this morning.

Water passed at 8	a.m., natural.
„ 9	„ natural.
„ 1.20	p.m., natural.
„ 6.10	„ natural.
„ 9.30	„ rather chylous.

30th :—

„ 6.35	a.m., slightly chylous.
„ 9	„ less chylous.
„ 12	„ more chylous.
„ 4	p.m., more chylous.
„ 6	„ more chylous.
„ 10.15	„ not so chylous.

Three full doses of 20 grains of gallic acid each were taken this day. No change in the diet was made.

For the six following days—that is, to the 5th of January—45 grains of gallic acid were taken daily. The urine was passed 36 times. It was natural 24 times; chylous 12 times.

For the ten following days 60 grains of gallic acid were taken daily. The urine was passed 70 times. It was natural 41 times; chylous 29 times.

During these 16 days the urine was natural each time it was passed on the 2d, 3d, 8th, 13th, and 14th of January.

The 15th was the last of the ten days.

Urine passed at 6.40	a.m., natural.
„ 8	„ natural.
„ 12	p.m., natural.
„ 4	„ rather chylous.
„ 6	„ not so chylous.
„ 8.20	„ still less chylous.
„ 10	„ very slightly chylous.

16th.—The urine was natural, and on the 7th of
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February it was still healthy. It was observed 133 times consecutively. Sixty grains of gallic acid were taken daily until the 20th of January. On that day, and until the 26th, 45 grains were taken; on the 26th, 10 grains only; on the 27th to the 7th of February inclusive, 5 grains only. Then it was stopped.

On the 8th of February to the 9th of September inclusive the urine was healthy. It was passed 1203 times consecutively. No medicine was taken.

September 10th.—Third relapse.

Urine passed at 7	a.m., natural.
„ 9.30	„ natural.
„ 12.50	p.m., natural.
„ 4	„ rather chylous.
„ 6.30	„ not so chylous.
„ 9.45	„ not so chylous.

This chylous appearance was attributed by the patient to an over-large meal of fat mutton. He had not taken any spirits or stimulant of any kind.

11th :—

Urine passed at 5	a.m., very slightly chylous.
„ 7.30	„ natural.
„ 9.20	„ natural.
„ 1	p.m., natural.
„ 5	„ natural.
„ 9.50	„ natural.

From this day until the 27th of September the urine remained natural. It was passed 82 times. I examined it on the 27th of September, when it was healthy.

Fourth relapse on the 28th of September. He got up well and took porridge for breakfast.

Water passed at 7.30 a.m., natural.

„ 9.40	„ natural, contained no albumen.
„ 1.52	p.m., rather chylous.
„ 5.15	„ rather more chylous.
„ 9	„ not so chylous.

September 29th :—

Water passed at 5.15 a.m., very slightly chylous.

„ 8.15 „ clear, slight trace of albumen.

„ 9.20 „ rather chylous; very albuminous.

„ 11.5 „ more chylous; specific gravity 1020.6.

„ 1.15 p.m., very chylous.

„ 4.15 „ very chylous.

„ 7.45 „ rather less chylous.

„ 10.30 „ rather less chylous; albuminous; specific gravity 1010.

One drachm of gallic acid was taken this day in divided doses.

30th :—

Water passed at 6.35 a.m., no albumen; very slightly chylous; pale; specific gravity 1007; acid.

„ 8.25 „ clear; healthy colour; albuminous; specific gravity 1020.4.

„ 9.50 „ slightly chylous; very albuminous.

„ 12.15 p.m., very chylous.

„ 3.33 „ very chylous, with blood.

„ 10.30 „ very chylous.

One drachm and 20 grains of gallic acid were taken this day.

He got up at 6.40 a.m.; breakfasted at 8.20 on toast, tea, bread and butter; mutton and bread for dinner. Tea at 5 p.m.

October 1st :—

Water passed at 6.30 a.m. slightly cloudy; contained no albumen.

„ 6.50 „ slightly cloudy from chyle; contained albumen.

„ 8.15 „ rather more chylous; contained much albumen.

„ 10.30 „ still more chylous; much albumen.

„ 1.5 p.m., less chylous; little albumen.

„ 2.45 „ still less chylous; very little albumen.

„ 5 „ rather more chylous; little albumen.

„ 6.30 „ rather more chylous; rather more albumen.

„ 10.30 „ more chylous; much albumen.

He got up at 6.30 p.m., but kept quiet, resting between 10.30 and 2.45. He took one drachm and a half of gallic acid during the day.

October 2d :—

Water passed at 6.15 a.m., clear ; no albumen.

„ 8.15 „ clear ; little albumen.

„ 11 „ rather chylous ; much albumen.

„ 1 p.m., rather less chylous ; less albumen.

„ 5 „ much more chylous ; milky ; much albumen.

„ 9 „ much less chylous ; very little albumen.

He rested between 11 a.m. and 1 p.m., and between 1 and 5 p.m. Two drachms of gallic acid were taken during the day.

3d :—

Water passed at 6.25 a.m., clear ; no albumen.

„ 8.15 „ clear ; little albumen.

„ 12.30 p.m., slightly cloudy from chyle ; no albumen.

„ 4.10 „ nearly clear ; no albumen.

„ 7.10 „ more cloudy from chyle ; no albumen.

„ 9.30 „ less cloudy ; no albumen.

4th :—

Water passed at 6 a.m., clear ; healthy colour ; no albumen.

„ 8.15 „ clear „ no albumen.

„ 8.45 „ clear „ no albumen.

„ 10.10 „ clear „ no albumen.

„ 1 p.m., clear „ no albumen.

„ 3.10 „ clear „ no albumen.

„ 7.15 „ clear „ no albumen.

„ 9.30 „ clear „ no albumen.

„ 12.30 „ clear „ no albumen.

Got up at 8 a.m., and by 9 a.m. had taken one drachm and 20 grains of gallic acid.

5th :—

Water passed at 7 a.m., clear ; no albumen.

„ 9 „ clear ; no albumen.

„ 10.20 „ clear ; no albumen.

Water passed at 1.30 p.m., slightly chylous; much albumen.

„ 5.15 „ more chylous; much albumen.

„ 7.6 „ very chylous; very much albumen.

„ 10.45 „ very slightly chylous; very little albumen.

No gallic acid at all was taken from the morning of the 4th to 4 p.m. on the 5th. Then 40 grains were taken. The morning of the 6th, 80 grains of gallic acid were taken; and in the afternoon 40 grains more were taken.

October 6th:—

Water passed at 6 a.m., clear; no albumen.

„ 8.30 „ clear; no albumen.

„ 1 p.m., chylous; very albuminous.

„ 4.45 „ chylous; very albuminous.

„ 7.45 „ very chylous; very albuminous.

„ 10.50 „ very chylous; very albuminous.

7th:—

Water passed at 4.45 a.m., slightly cloudy from chyle; very slightly albuminous.

„ 6 „ clear; no albumen.

„ 8.45 „ very slightly cloudy from chyle: much albumen.

„ 10.10 „ slightly cloudy; much albumen.

„ 5.45 „ very chylous; very albuminous.

Two drachms of gallic acid were taken in the course of the day.

From this day to the 10th of November the gallic acid was continued in doses of two drachms daily. On the 31st of October the urine was slightly cloudy once. On the 1st of November it was perfectly healthy. All the other days it was more or less cloudy from chyle. The urine was passed 218 times. It was free from chyle 58 times; chylous in different degrees 160 times.

On the 10th of November the gallic acid was omitted and tannic acid was given, the first day only 20 grains. The four following days 60 grains. And then for seven days 90 grains. In all nearly 15 drachms in 12 days. The urine was passed 69 times in the 12 days. It was clear 6 times only; more or less chylous 63 times. The patient com-

plained much of the medicine, saying it caused much uneasiness of the stomach, and much pain in the head. He was exceedingly unwilling to continue it.

Solution of acetate of lead in acetic acid was then tried, two grains three times each day. It had no effect on the urine, which was passed 32 times. It was clear 4 times; more or less chylous 28 times. The acetate of lead was taken only five days, being omitted on the 27th of October, as he complained of pain in the bowels.

November 27th.—Nitrate of silver was tried in 2-grain doses three times each day. The pills were continued for four days.

The urine was passed 22 times. It was clear, natural twice, chylous in different degrees 20 times.

December 1st.—The gallic acid was resumed; two drachms daily, divided into three doses.

No remarkable change occurred, though the same dose of medicine was continued until—

January 22d, 1852.—The urine from December 1st up to this day was passed 175 times. It was clear 21 times; more or less chylous, 154 times.

This day at	7	a.m.,	very slightly cloudy with chyle.
"	9	"	rather loaded with chyle.
"	12	"	rather chylous.
"	4	"	very chylous, with a deposit of blood.
"	10	"	brown blood.
"	10.15	"	red blood: plenty of blood-globules.
"	11.15	"	few blood-globules.
"	11.30	"	clear, watery.

23d :—

"	7	a.m.,	clear, natural.
"	9	"	rather loaded with chyle.
"	12	"	much loaded with chyle.
"	5.20	"	rather chylous, with a brown deposit.
"	8.30	"	rather chylous, with blood.
"	10.15	"	rather chylous, with blood.

January 24th:—

Water passed at	7	a.m.,	rather loaded with chyle.
"	9	"	much loaded with blood and brown deposit.
"	9.30	"	slightly loaded, with blood.
"	10.15	"	clear and more natural.
"	12	"	very slightly loaded with chyle.
"	3.50	p.m.,	very slightly cloudy with chyle.
"	8	"	slightly chylous.
"	10.15	"	again less chylous.

Two drachms of gallic acid were still continued, divided into three doses.

25th:—

Water passed at	7.30	a.m.,	clear and natural.
"	9.20	"	same.
"	2.40	p.m.,	very slightly loaded with chyle.
"	7	"	the same.
"	10.15	"	clear, but rather pale.

26th:—

Water passed at	7.15	a.m.,	clear and natural.
"	9.20	"	the same, but rather pale.
"	12	"	the same.
"	2.30	p.m.,	very slightly loaded with chyle.
"	7	"	the same.
"	10	"	rather more loaded with chyle.

27th:—

Water passed at	1.15	a.m.,	clear, but rather pale.
"	7	"	clear and more natural.
"	9	"	the same.
"	12.30	p.m.,	very slightly cloudy, with chyle.
"	2.45	"	rather more cloudy, with chyle.
"	7	"	still more chylous.
"	9.30	"	not so chylous.

28th:—

Water passed at	7	a.m.,	clear, but rather pale.
"	9.50	"	clear and natural.
"	12.30	p.m.,	very slightly cloudy, with chyle.
"	4	"	rather chylous.
"	7	"	not so chylous.
"	10.15	"	still less chylous.

January 29th:—

Water passed at	5.30	a.m.,	clear, but rather pale.
"	8	"	clear, but natural.

Water passed at 9.15 a.m., clear, but rather pale.
 „ 12 „ very slightly cloudy, with chyle.
 „ 4 p.m., rather more cloudy.
 „ 7.30 „ much more chylous than any since 4 p.m.,
 January 22.
 „ 10 „ much less chylous.

30th :—

Water passed at 7.10 a.m., clear, but rather pale.
 „ 10 „ clear, but natural.
 „ 12.30 p.m., very slightly cloudy, with chyle.
 „ 4 „ rather more cloudy.
 „ 7 „ less cloudy.
 „ 10.10 „ the same.

31st :—

Water passed at 5.45 a.m., very slightly cloudy, with chyle.
 „ 9 „ clear and natural.
 „ 12.15 p.m., very slightly cloudy, with chyle.
 „ 4 „ the same.
 „ 8 „ rather more cloudy.
 „ 10 „ clear and natural.

Thus this fourth relapse lasted from the 28th of September, 1851.

On February 1st, the water was free from chyle or albumen. The gallic acid was continued in 2-drachm doses until the 10th, when it was reduced to 1 drachm daily. On the 17th of February only 20 grains of gallic acid were taken daily. On the 1st of March 15 grains only were taken. This quantity was continued until the 3d of April.

From the 1st of February to the 29th of September the urine was passed 1290 times consecutively. It was not once chylous. On the 30th of September he sailed for the West Indies.¹

The original paper, and this sequel together, constitute an abstract of the uninterrupted daily record of the state of the urine each time that it has been passed for nearly three years, from the 6th of November, 1849, to the 30th of September, 1852.

¹ He remained away seven months. At the end of this time I again saw him, and he told me the urine had remained perfectly free from chyle; and it continued healthy on the 20th of July, 1853. From the 1st of October, 1852, to the 20th of July, 1853, it was passed 1503 times.

The original paper appeared strongly in favour of the efficacy of gallic acid in the treatment of this disorder. The urine had been chylous for upwards of one year; and then, after the gallic acid had been taken for two days, it became healthy, and remained so for 232 days, the gallic acid being continued nearly two months. The urine was passed 1197 times free from any chylous appearance.

After this, as is seen in this sequel, the first relapse occurred. For two days a little albumen and fatty matter appeared in the urine. Twenty grains of gallic acid were taken, after which the urine remained healthy for 80 days, from the 7th of October to the 25th of December, 1850. The gallic acid was not omitted until the 27th of October, by which time 7 drachms more had been taken.

The second relapse lasted for 21 days, from the 26th of December to the 15th of January, 1851, inclusive. The urine was chylous for 15 days; free from chyle 6 days. During this time about two and a half ounces of gallic acid were taken. The urine then became healthy, and remained so for 237 days; that is, from the 16th of January to the 9th of September, inclusive. The gallic acid was continued from the 16th of January to the 7th of February, during which time $9\frac{1}{2}$ drachms of gallic acid were taken.

The third relapse lasted only two days. No gallic acid was taken. After this for 16 days (that is, from the 12th to the 27th of September, inclusive,) the urine was healthy.

Then the fourth and most serious relapse occurred. It lasted 34 days, from the 28th of September to the 31st of October, during which time 2 drachms of gallic acid were taken daily. On the 1st of November the urine was healthy. The next day it was again chylous; and, as it continued so on the 10th, tannic acid was tried in doses of a drachm and a drachm and a half daily. This acid was continued for 12 days with no success. Then acetate of lead was tried for 5 days; after this nitrate of silver was given for 4 days. These remedies failing, gallic acid in two drachms daily was again tried. It was taken from December 1st to January 31st, 1852. The urine was chylous every

day. So that this 4th relapse lasted 126 days, from the 28th of September, 1851, to the 31st of January, 1852, during which time about twenty-five ounces and a half of gallic acid, and nearly two ounces of tannic acid, were taken.

From the 1st of February the urine became healthy, and it was so on the 3d of April; that is, for 63 days. The gallic acid was continued in the following doses:—for 10 days, two drachms daily; for 6 days, one drachm daily; then 20 grains; and lastly, 15 grains daily. Thus nearly four ounces and seven drachms more were taken. In all, above 30 ounces of gallic acid were taken during this relapse.

From the 3d of April to the 29th of September; that is, for 179 days, the urine remained free from any appearance of fatty matter.¹

The following table gives the duration of the chylous urine, and of the healthy state:

After the original attack had existed more than ten months, the

Urine was found to be chylous for	101 days.
It then became healthy, after gallic acid, for	232 „
Then, in the 1st relapse, the urine was chylous for	2 „
It then became healthy, after gallic acid, for	80 „
Then, in the 2d relapse, the urine was 6 days clear, chylous for	15 „
It then became healthy, after gallic acid, for	237 „
Then, in the 3d relapse, the urine was chylous for	2 „
It then became healthy after no gallic acid for	16 „
Then, in the 4th relapse, the urine was 1 day clear, chylous for	125 „
It then became healthy, after gallic acid, for ¹	242 „

During and after the original attack the quantity of

		gallic acid taken was about		5 ounces	
„	„	1st relapse	„	„	7 drachms.
„	„	2d relapse	„	„	3 „ 5½ „
„	„	3d relapse	„	„	none.
„	„	4th relapse	„	„	30 „ 3 „

Total amount of gallic acid taken, nearly 40 ounces.

¹ It continued healthy at the end of 292 days more—from the 1st of October to the 20th of July.

This enormous amount of gallic acid is sufficient evidence that it is no specific for so-called chylous urine. Its beneficial action as an astringent is, however, sufficiently evident, although it by no means acted so well and so quickly as it did when it was first prescribed.

It is interesting to mark the difference between the action of the gallic and tannic acids, the latter causing much more nausea than the former, and much more headache. Much larger doses of gallic acid could be taken than of tannic acid. Generally the dose of the latter should be one fourth or sixth of the former acid.

The effect of rest and exercise is also very evident throughout the sequel of this case, but this has been sufficiently dwelt on in the original paper.

The following case also illustrates the action of gallic and tannic acids, and shows the effect of rest and exercise on the appearance of the so-called chyle in the urine.

A gentleman, æt. 40, married, having four children, consulted me on the 11th of May, 1852. He said that he was born in Bermuda, and had passed his life in the West Indies, except during six years, when at different periods he came to England.

In 1842, when in Bermuda, he first found that the urine was milky. He had had the yellow fever four years previously, and had taken much calomel. He attributes the state of the urine to heat and cold. This milkiness of the urine lasted eight weeks, and went away without treatment.

In 1847, the disease returned. He passed clots, and semi-solid masses with some difficulty. The attack lasted two or three months. Alum did some good. The attack had almost subsided when he came to England, and consulted Dr. Prout, who in May, 1848, said that there was not the most remote sign of the complaint. He remained in England, well, until November, 1849.

In June, 1851, in Jamaica, the disease returned, and has continued ever since, with the exception of an interval of three weeks at the end of March and beginning of April,

1852. He left the West Indies in the middle of January, 1852.

Now the urine is cloudy; clears with æther; contains much albumen; some blood-globules; no fibrinous casts; is acid. Specific gravity 1025.

He thinks that bodily or mental exertion, even preaching on a Sunday, produces the most white water. Usually, the urine is thick on going to bed. Clear in the morning until an hour after breakfast, the whiteness then increases according to the exercise or exertion which he takes. He dines at 1, and then with rest the urine is clear, until he takes his afternoon walk, when the whiteness returns. He has tried all kinds of tonics, buchu, and iron. He has taken gallic acid, on this and the previous occasion, without advantage.

There was slight roughness with the first sound of the heart over the base towards the left clavicle. He has no pain in the loins. The bowels are regular, and the appetite very good.

May 12, water passed 4 a.m.; specific gravity 1018·5, contained the slightest trace of albumen.

„ „ 8 „ specific gravity 1021·0, no albumen, by heat or acid.

„ „ 11 „ urine whiter than usual, attributes this to exercise.

Acidi Gallici, 3j, quotidie; Ext. Colocynth. comp. Pil. Rhei, comp. ãã gr. ijss, hora somni.

	Morning.	Noon.	Afternoon.	Bedtime.
May 13, water passed,	clear	turbid	turbid	turbid
„ 14 „ „	„	„	„	thick
„ 15 „ „	„	thick	thick	„
„ 16 „ „	„	„	white	„
„ 17 „ „	„	„	„	„
„ 18 „ „	„	white	„	„
„ 19 „ „	„	„	„	white

During the week, the drachm of gallic acid was taken in three portions. The diet was nutritious, without stimulants. The exercise was very little. The urine became more white,

¹ By thick is meant that the urine when passed is of a dirty whitish-brown appearance, and untransparent.

with pain and uneasiness about the loins. The bowels became very confined, never acting without the pill; a drachm and a half of gallic acid each day was prescribed.

		Morning.	Noon.	Afternoon.	Bedtime.
May 20,	water passed,	clear	white	white	white
„ 21	„	„	turbid	turbid	thick
„ 22	„	„	„	thick	white
„ 23	„	„	white	„	thick
„ 24	„	„	turbid	white	„
„ 25	„	„	clear	clear	clear
„ 26	„	„	„	„	„

In consequence of headache during the last two days, great quietness was observed, the patient remaining in an easy recumbent position. Two drachms of gallic acid to be taken daily.

		Morning.	Noon.	Afternoon.	Bedtime.
May 27,	water passed,	clear	clear	clear	clear
„ 28	„	„	„	„	„
„ 29	„	„	„	„	„
„ 30	„	„	white	white	thick
„ 31	„	„	turbid	„	„

The improvement in the urine continued until the 30th, when on returning from church, it was found quite white, “showing thereby its close connection with fatigue.” The forenoon of the 31st, it was also turbid.

		Morning.	Noon.	Afternoon.	Bedtime.
June 1,	water passed,	clear	turbid	white	white
„ 2	„	„	thick	„	„
„ 3	„	„	„	„	thick
„ 4	„	„	turbid	„	white
„ 5	„	„	thick	„	„
„ 6	„	„	„	„	„
„ 7	„	„	„	„	„
„ 8	„	„	„	turbid	„
„ 9	„	„	turbid	white	„
„ 10	„	„	thick	„	thick
„ 11	„	„	turbid	„	„
„ 12	„	„	„	turbid	„
„ 13	„	„	white	„	turbid
„ 14	„	„	clear	clear	clear

		Morning.	Noon.	Afternoon.	Bedtime.
June 15,	water passed,	clear	clear	clear	clear
" 16	"	"	"	"	thick
" 17	"	"	"	"	clear
" 18	"	"	"	"	"
" 19	"	"	thick	thick	thick
" 20	"	"	white	white	white

The urine became clear on the 14th, but in consequence of a journey to London, or some other cause, it became cloudy on the 19th. The gallic acid was continued in two drachms daily up to the 15th, when it was omitted, and has not been resumed since. The bowels have been very confined, and there has been some giddiness of the head, not amounting to headache. Has had a little nausea. To resume the gallic acid in two drachms daily.

		Morning.	Noon.	Afternoon.	Bedtime.
June 21,	water passed,	clear	thick	white	white
" 22	"	"	"	"	"
" 23	"	"	"	"	"
" 24	"	"	"	"	"
" 25	"	"	turbid	"	"
" 26	"	"	"	"	"
" 27	"	"	thick	"	"
" 28	"	"	turbid	"	"
" 29	"	"	"	"	"
" 30	"	"	thick	"	"
July 1	"	"	clear	clear	clear
" 2	"	"	"	"	"
" 3	"	"	"	"	"
" 4	"	"	"	"	"
" 5	"	"	"	"	"
" 6	"	"	"	white	thick
" 7	"	"	turbid	thick	"
" 8	"	"	thick	white	white
" 9	"	"	"	"	"
" 10	{ 3 drachms of } gal. acid daily "		"	"	"
" 11	"	"	"	"	"
" 12	"	"	"	"	turbid
" 13	"	"	"	"	thick
" 14	"	"	"	"	white
" 15	"	"	clear	thick	"
" 16	"	clear	thick	white	white

		Morning.	Noon.	Afternoon.	Bedtime.
July 17,	water passed,	"	"	"	"
" 18	"	"	"	"	"
" 19	"	"	"	"	"
" 20	"	"	"	"	"
" 21	"	"	"	"	"
" 22	"	"	"	thick	turbid
" 23	"	"	turbid	turbid	"
" 24	"	"	"	white	white
" 25	"	"	"	"	"
" 26	"	"	"	"	"
" 27	"	"	"	"	"
" 28	"	"	thick	"	"
" 29	"	"	"	"	"
" 30	"	"	"	"	"
" 31	"	"	"	"	"
Aug. 1 to 22	{ when gallic acid stopped }	"	"	"	"
" 23	{ tannic acid begun, one drachm daily }	"	thick	white	white
" 24	"	"	clear	clear	clear
" 25,	can only take half a drachm daily, the full quantity caused painful sickness of the stomach and very uncomfortable feelings.				
	water passed,	clear	clear	clear	clear
" 26	"	"	"	"	"
" 27	"	"	"	"	"
" 28	"	"	"	"	"
" 29	"	"	"	"	"
" 30	"	"	"	"	"
" 31	"	"	"	"	"
Sept. 1 to 8	"	"	"	"	"

9th.—My patient wrote to me, "The tannic acid makes me uncomfortable, by producing a sensation of nausea immediately after swallowing it, and I am compelled to lie on my back in order to retain it on my stomach. So violent was the vomiting produced by the third of a full dose (20 grains), that I was obliged to reduce the quantity to one half (10 grains). I cannot retain it when taken on an empty stomach, either in a large or small dose. The day after I commenced it the urine became clear, and with the exception of being turbid at midday on Sunday, the 5th,

has continued clear. The gallic acid only produced an unpleasant taste in the mouth, which soon went off. The action of the bowels was rather more free with the gallic acid."

	Morning.	Noon.	Afternoon.	Bedtime.
Sept. 10 to 22, water passed,	clear	clear	clear	clear.

September 22d.—"The urine has continued clear, with the exception of Sunday the 12th and yesterday the 21st, when there were interruptions of a few hours each. On the 12th, I was very quiet at church; on the 21st, I had taken a little more exercise than usual. The medicine is as nauseous as ever."

	Morning.	Noon.	Afternoon.	Bedtime.
Oct. 10, water passed,	clear	clear	clear	clear
" 11 " "	whitish	whitish	whitish	whitish
" 12 " "	"	"	"	"
" 13 " "	"	"	"	"

The quantity of tannin was increased again to 30 grains, which "is as much as I can retain on my stomach without sickness."

	Morning.	Noon.	Afternoon.	Bedtime.
Oct. 14, water passed,	clear	whitish	whitish	whitish
" 15 " "	"	"	"	"
" 16 " "	"	"	"	"
" 17 " "	"	"	"	"
" 18 " "	"	"	"	"
" 19 " "	"	"	"	"

The tannic acid was left off, and the gallic acid was taken in drachm doses, three times, daily.

Oct. 25th.—Not the slightest change produced in the appearance of the urine. The pain in the back very distressing.

	Morning.	Noon.	Afternoon.	Bedtime.
Oct. 26, water passed,	clear	whitish	whitish	whitish
" 27 " "	"	"	"	rather clearer
" 28 " "	"	"	"	"
" 29 " "	"	"	"	"
" 30 " "	"	clear	clear	thick
" 31 " "	"	very thick	thick	"

November 1st.—The gallic acid was left off, and instead, tannate of alumina, with very dilute sulphuric acid, was ordered. This was soon changed for tannin, with sulphate of alumina.

		Morning.	Noon.	Afternoon.	Bedtime.
Nov. 1,	the urine	was clear	thick ¹	thick	thick
" 2	"	"	"	"	"
" 3	"	"	"	"	"
" 4	"	"	"	"	"
" 5	"	"	"	not quite clear	not quite clear
" 6	"	"	"	"	"
" 7	"	"	"	"	"
" 8	"	"	"	rather thick	"
" 9	"	"	clear	clear	clear
" 10	"	"	"	"	"

On the 19th of February, 1853, the medicine was diminished, and in a fortnight more it was altogether omitted. The urine remained perfectly free from chyle, and it continued so up to the time of his last visit to me, on the 10th of August.

The following case shows that this disease is not necessarily serious. It has lasted, off and on, more or less for a quarter of a century, and has caused so little inconvenience, that the patient is unwilling to try any remedy for its cure.

In the third edition of Dr. Prout's work on 'Stomach and Urinary Disease,' 1840, p. 116, writing on chylo-serous urine, he says: "In one case which I attended, and in which acute inflammation of the liver, with phlogistic fever, took place, the urine during the continuance of the acute symptoms lost entirely its chylous character. The same remarkable disappearance of the chylous symptoms also subsequently occurred in the same patient during the presence of severe ptyalism from mercury. But as soon as the inflammatory action and the mercurial excitement had ceased, the chylous condition of the urine returned even worse than before." At page 115 the same case I have every reason to believe is mentioned. Dr. Prout says: "I had an opportunity of examining the urine passed in the morning and after dinner within a few weeks after the disease in its worse form had been apparently arrested by medical treatment, and to my surprise I found both specimens perfectly free from albuminous matter, and, as far as

¹ "Thick, means less transparent than turbid, and of a more dirty colour. It does not become thicker on cooling."

I could determine, quite natural." In a note to the fifth edition of 1848 he says the lady whose case is here alluded to, a native of the East Indies, and in whom the disease first occurred twenty-one years ago, was recently alive and in good health.

I was requested by Dr. Mac Loughlin to see this lady on the 3d of December, 1851. Her age was then 57, and she weighed 14 stone.

She told me that the urine became chylous in 1827; that it remained so for two years; and that she considers it became clear from bathing; that it remained perfectly healthy for 13 years, part of which time she was in India; that the white appearance returned after bleeding and salivation in 1843; that it remained until 1845, when, after strong mental emotion, it disappeared, and was absent six months. It returned in consequence of over-exercise, and it has remained ever since. No clear water at all has been seen since 1846, excepting once, when she thinks the water was made clear for one night in consequence of some opium which she took.

I saw the urine which was passed during the night, after breakfast, after dinner, and after exercise. It was quite milky, and contained some clots, which I was told occasionally appear as if moulded into the form of the urinary passage.

A good deal of pain in the back over the region of the kidneys was complained of. Otherwise, the health was very good, and exercise in walking was generally taken for two hours each day. No medicine whatever was taken, and the patient has ceased to expect that any change will occur in the state of the urine.

I advised the trial of gallic acid in ten given doses two or three times a day. She took only one dose; said that it caused some unpleasant feelings in the head and tingling in the fingers; and she refused to take any more gallic acid.

I again visited this lady in February, 1853, and I examined the urine, which was still chylous; and in July Dr. Mac Loughlin informed me that she remained in the same state as at the time of my visit.