

Case of white fibro-serous discharge from the thigh / by A.B. Buchanan, M.D.

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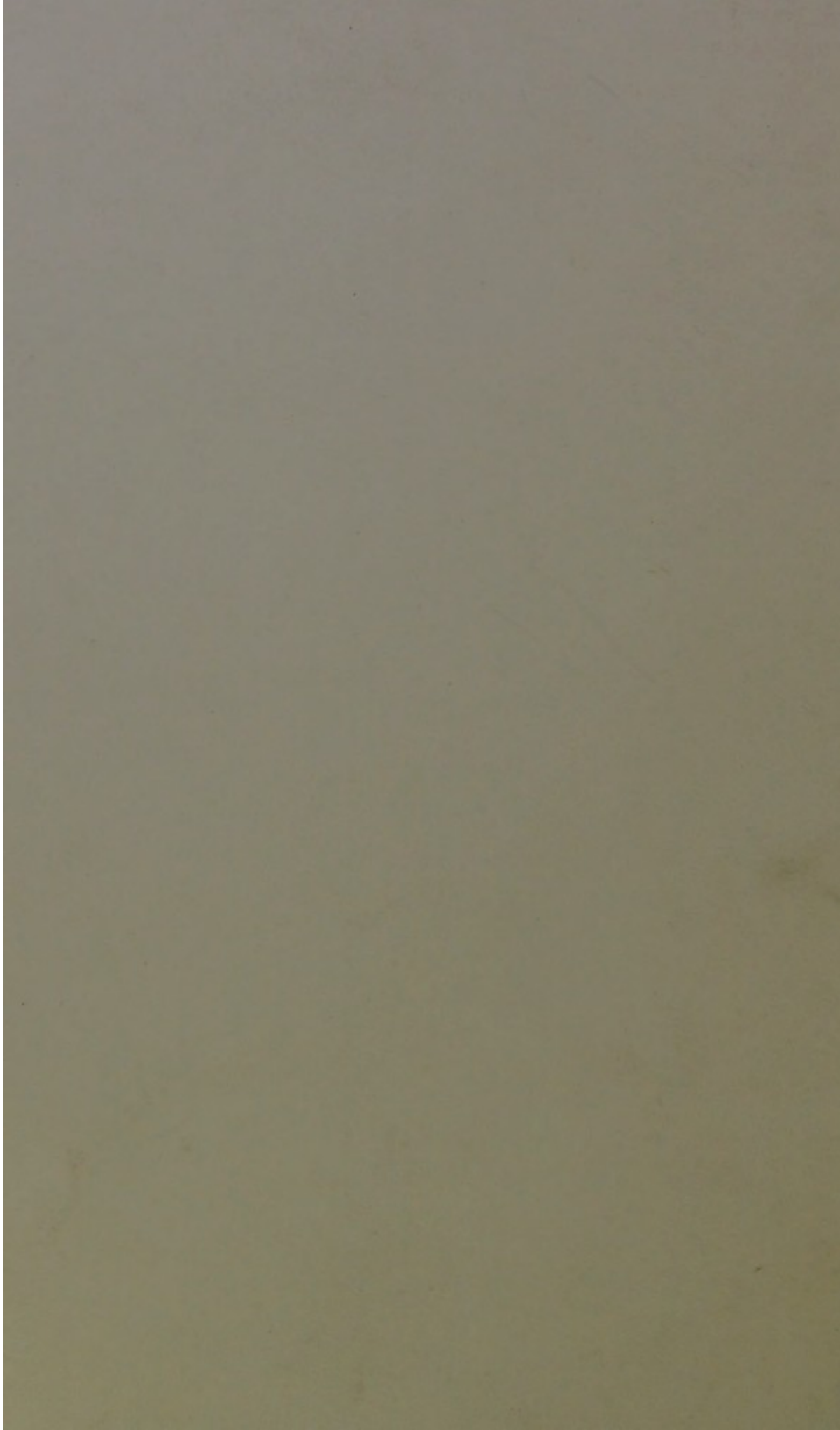
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C A S E

(24)

OF

WHITE FIBRO-SEROUS DISCHARGE
FROM THE THIGH.

BY

A. B. BUCHANAN, M.D., F.F.P.S.,

PHYSICIAN TO THE DISPENSARY FOR SKIN DISEASES, GLASGOW.

COMMUNICATED BY

E. H. SIEVEKING, M.D., HON. SEC.

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WHITE THERMOGRAPHIC PAPER

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Received Dec. 23rd, 1862.—Read Jan. 27th, 1863.

THE following remarkable case appears to me to be worthy of careful record, both on account of the great rarity of such an affection, and from the light that it seems to throw on the pathological nature of so-called *chylous* or *chylo-serous* discharges in general.

I. *Report of case.*

June 12th, 1862.—Mrs. K—, æt. 46, a woman in humble but comfortable circumstances, somewhat pale, but neither unhealthy-looking nor emaciated, applied to me for some strengthening medicine to counteract a general debility induced by an excessive discharge from the inner and posterior aspect of the left thigh. She had consulted many doctors, who vainly endeavoured to combat the symptoms by the administration of internal remedies; and had long ago abandoned all hope of getting rid of the trouble itself.

The discharge, when I first saw it, was white, like milk, and flowed from a semi-excoriated surface of the size of the palm of the hand, in the situation just described; and partly also from broken vesicles in the neighbourhood of this patch, which was nowhere sharply defined from the surrounding healthy skin. The central patch was congested, of a deep red colour when the patient was standing, and when the varicose veins of the limb beneath were distended with blood; while, when she was lying prone, the colour was paler, though still indicative of a great amount of local hyperæmia. The patch, moreover, stood out irregularly in relief, exactly like the raised map of a mountainous district; and pressure with the finger, while it momentarily dispelled the redness, left in its place a yellowish mark, such as is produced by considerable serous infiltration in the deeper epidermic layers. This area was thickly covered with vesicles, from the size of a pin's head upwards; some of them being even as large as those met with in herpes zoster. The same were also visible in some numbers on the surrounding skin, even where it was no longer either infiltrated or congested; they were, however, both smaller and more sparsely disseminated the further they lay from the centre. The white contents shone clearly through the thin epidermic pellicle that confined them, imparting to the vesicles the appearance of pearly drops of fluid, so that one was at first surprised at finding they could not be wiped away with the finger. Some vesicles were entire and perfectly dry on the surface; but from the excoriations resulting from their rupture, even when they were simply opened with the point of a lancet, a thin constant stream of milky fluid oozed forth and ran down the leg. This discharge was considerably affected by the position of the patient. It continued to flow for a long while from an excoriated point even when she was lying on her face; but it was both more copious and more persistent when she was erect and moving about. About an hour after she retired to rest it commonly ceased to run, so that the leg in the morning was quite dry, though still much infiltrated, slightly congested, and covered

over with unbroken vesicles, as well as with a desquamation from the excoriated surfaces of the day before. The flux recommenced about an hour after the patient rose in the morning, and increased in profusion as the day wore on, especially if she had to stand or walk much, or if there was much moisture in the air. In the after part of the day her garments were usually drenched, even through the cloths which were applied to protect them; and, on placing a basin underneath the thigh to receive the fluid that ran from it, somewhat over five ounces were collected in the course of an hour; even though the position, the patient being seated and the limb partially extended, was not the most favorable to promote an abundant flow. I believe that *ten ounces* would more nearly represent the quantity secreted when the patient was moving about. Frequently, when enfeebled by the long continuance or abundance of the discharge, she was obliged to keep to bed a day or two, and thereby recovered her strength. On again rising, after perhaps two or three days, an intolerable itching of the affected surface would supervene, inducing her to rupture the distended vesicles by scratching, on which the flux would commence afresh. In wet weather this interval of health was always very brief; but in dry or frosty weather it might last for a fortnight or even three weeks at a time. The affected thigh was considerably swollen; its girth, at the meeting of the upper and middle thirds, being as much as nineteen inches, while the opposite limb only measured sixteen inches at the same point. So far as I could judge, the swelling was not circumscribed, as it seems to have been, from her own account, at an earlier period. The varicose condition of the superficial veins of the limb generally, which was most marked in the long saphenous, and in its tributaries above and below the knee-joint, evidently offered great obstruction to the return of blood from the thigh.

Neither the inguinal nor any other lymphatic glands within reach were enlarged; and I could not ascertain that the food of the patient made any difference in the quantity

or quality of the secretion. The urine, which I tested for urea and uric acid, was perfectly limpid and normal, with a sp. gr. of 1016. According to the patient's account it was somewhat less abundant when the discharge from the thigh was flowing profusely. She also volunteered the statement that her skin was always dry; and that no amount of heat or exercise ever induced perspiration; a peculiarity to which the attention of herself and her companions had often been directed when she was a girl. I introduce this statement, along with some others, without meaning necessarily to attach any importance to it; but simply to give, in this part of my paper, as faithful and complete an account of all the symptoms as possible.

The patient, who is a married woman, and mother of six healthy children, gives the following account of her malady. Twenty-one years ago, three or four months after her second confinement, she remembers having been seized with a shivering fit, though unattended with pain or other observed symptoms at the time; but shortly afterwards she noticed, quite accidentally as she states, that "a lump" had formed on the back of her left thigh. The swelling was attended with no uneasiness, but it did not subside until the period of her third pregnancy, when it went away, or at least diminished for several months; again reappearing, however, after another shivering fit, about a fortnight subsequent to delivery. Every year, for the last twenty years, she has also suffered from at least one attack of inflammation (phlebitis?) in the affected limb; ushered in, like the simple swelling, by a shivering fit, and generally coming on in early summer. In some years lately she has had two, or even three such accidents. About fifteen years ago, between her third and fourth pregnancies, a few vesicles made their appearance, after an inflammation of this kind, somewhere near the centre of the "lump," or of the area now occupied by the eruption. The surface at this point was itchy, and a *brownish fluid* exuded from the vesicles on scratching, which continued to be secreted at remote intervals, and in small quantities, for about a year. It would run, she says,

for three or four days at a time ; and thereafter be dried up for as long as one or two months. Another inflammation having supervened, the area occupied by the vesicles extended ; when the discharge became more profuse and frequent, and also *whitish* in colour, though not absolutely milk-like. The discharge then continued, with much the same characters, for about eight years ; the affected surface, however, constantly gaining in size on each repetition of the inflammatory attack. During this period, the patient's three youngest children, the youngest now thirteen, were born. It is remarkable that both the swelling and discharge disappeared entirely while the patient was pregnant, to be re-established almost immediately after the birth of her child, although the flux, while she was suckling it, was never very copious nor long continued. As a rule, also, the symptoms during the winter months were not troublesome ; and in frosty weather she was always perfectly well.

Till about five or six years ago, the surface on which the vesicles were developed had the aspect of healthy skin ; but at this date a small congested and elevated patch, slowly extending peripherically, for the first time made its appearance. During the last six years she has noticed a constant gradual encroachment of the malady ; both of the congested central patch and of the surrounding vesicles, some of which now extend below the middle of the lower third of the thigh. She also records, as new symptoms of this period, the assumption by the discharge of a perfectly milk-white colour, and much shortening of the intervals during which she used to be free from it. The discharge has also been more copious, and the effects of it on her general health more severely felt. She states that while the discharge is going on, and particularly when she feels from the swelling of the thigh, itching of the surface, &c., that it is about to commence, she usually experiences a sensation of cold and numbness in the affected limb. Her menstrual periods still recur with regularity ; but have never appeared to her to modify her complaint, nor to be influenced by it in profusion or otherwise.

July 5th.—I paid a visit to the patient in her own house. I found her much exhausted; the weather being wet, and the discharge having been flowing abundantly for several days. She was seated on a chair, with her feet on another; and the floor below her looked as if a large bowl of milk had been newly spilled on it.

Early on the morning of July 6th, the patient was seized suddenly with a violent shivering fit, which lasted for several hours. The left inguinal region became considerably swelled, and constant lancinating pains shot from it towards the knee. The skin during the day was hot and dry. During the night an eruption of erythematous patches came out all round the knee, which, on July 7th, were brightly conspicuous on the lower surface of the thigh, especially in front and to the outside, and on the upper third of the leg. The discharge had become dried up, as it invariably did when the patient took to bed; but the veins were much distended, and the course of the saphena magna, as well as several other congested points, were tender to the touch. The skin remained very hot; but in the course of the afternoon a gentle perspiration set in, for the first time, as the patient has again and again assured me, in the course of her life. She describes it as having been a perfectly novel sensation to her. She gradually recovered in about ten days; the only medicine ordered, with the exception of a saline purge, having been half an ounce of an acidulated bitter infusion twice daily.

I shall now very briefly record the further progress and treatment of the case.

28th.—After an absence of twenty-two days, the discharge was again re-established. Ordered—R Tinct. Muriat. Ferri, Ac. Nitr. dil. utr. $\mathfrak{z}\text{j}$; a drachm in half a tumbler of water morning and evening. Next morning the surface was quite dry, and no more moisture flowed from it for a week, during which interval patient declared that she felt stronger and walked about more than she had done for years.

Aug. 4th.—The skin, after the lapse of a week, was still

dry, but numerous distended vesicles were disseminated over it, some of which I observed were within a shorter distance of the knee than before the inflammatory attack, indicating a continued extension of the affection downwards. On rupturing one of these, a large drop of milky fluid escaped, and a thin stream continued to run from the excoriated point for some five or ten minutes, till I stopped it with a compress. The following morning the discharge was again copious, and continued to flow abundantly during the next three days. The use of the iron and acid was still persevered with; so that its first good effects were probably merely on the general health of the patient, by strengthening the digestive and nervous functions impaired by the shock of the inflammatory attack.

7th.—Discharge abundant. Ordered to apply to the affected surface, under a compress, a powder composed of equal parts of oxide of zinc and tannic acid; and over this to wear, during the day, an accurately fitting elastic stocking reaching to the top of the thigh. The use of the stocking, which had been previously prepared, was commenced on the morning of the 8th; but the dry powder and compress were soon discontinued, no moisture making its appearance while the stocking was being worn.

17th.—No return. Health of patient excellent. The appearance of the affected surface much changed; only a few crusts and squamæ, with one or two minute vesicles, being now scattered over a nearly level skin on the site of the previously infiltrated patches. Ordered to omit the use of the elastic stocking.

Sept. 1st.—Patient called to show that the vesicles were now again both numerous and distended, though the elevated patches had as yet only partially reappeared. The weather was fine, and she had been taking much exercise in the open air; but confidently anticipated that the first wet day would bring back the discharge as before. Her expectations were realised the very next day (September 2nd), which was wet; the flow recommencing gradually in the afternoon, and on the day following being again extremely copious.

I did not interfere for a day or two, and had a specimen of the discharge analysed.

9th.—Patient recommenced wearing the elastic stocking during the day.

October 30th.—There has never been any return of the discharge. The patient's health has never been better; the only peculiar symptoms she has observed being a sensation of fulness and tension, and a slight œdematous swelling of the mammæ on wet days, which produced some little inconvenience for about a month, but which has latterly almost ceased to recur. She has menstruated twice as usual. She expresses herself surprised to find that on taking exercise, or getting warm in bed, her skin becomes now frequently moist with perspiration. On the affected surface there is still an insignificant pityriasis, but no infiltrated patches or vesicles.

November 13th.—Patient returned to-day to show me that the discharge, after an interval of about two months, had again recommenced. It seems that, about a week before, she had been forced to discontinue the use of the elastic stocking during the day, owing to severe lancinating pains in the affected limb, coupled with tension and swelling of the breasts extending upwards towards the axillæ, in which, however, I failed to detect the slightest enlargement of the lymphatic glands. The discharge on this first day of its reappearance was rather serous, or opalescent, than milky.

14th.—Next morning the discharge commenced as usual, and had regained its usual milk-white aspect. The patient eat nothing all morning, but about noon partook of two fat ham sandwiches thickly spread with butter, and drank a tumbler of milk. I examined the fluid after three hours, but no difference was perceptible in its physical appearance; and both the morning and afternoon specimens threw to the surface, on standing for an hour or two, an equally abundant creamy layer. Patient feels confident that she will for the future be able to control the discharge, so long as her constitutional symptoms do not intervene to prevent

the stocking being worn. She was ordered to resume it next day, with the powder of oxide of zinc and tannic acid, if required.

20th.—Has been much troubled for some days past with swelling of the mammæ, on which account she only wore the stocking one day since the last report, for fear of a metastasis of her malady to a more inconvenient situation. This forenoon her attention was directed to a feeling of moisture on the surface of the breasts; and she came to me, in some alarm, to point out that drops of milky fluid could be squeezed from both nipples, but in greater abundance from the left. The fluid, on being squeezed out, resembled thick, brownish-yellow pus, and exhibited, when examined with the microscope, multitudes of minute oil-globules, with a few well-marked colostrum-corpuscles.

December 18th.—Patient much the same as at date of last report. Use of elastic stocking not resumed. The discharge not been troublesome, but usually flows a little on the afternoons of rainy days. Numerous vesicles, some of large size, on the posterior surface of the affected limb, which is for the time dry. Breasts still somewhat full, but no fluid comes from them spontaneously.

II. *Characters of discharge.*

With regard to the physical appearance of the discharge, it is sometimes more milk-like, sometimes more serous and opalescent. When it first begins to flow after a period of repose, it is never so white as when it has been running in some quantity for several days. Its colour, and even its smell, are then absolutely indistinguishable from those of pure new milk. I gave a small portion to a cat, which commenced greedily to lick it up, but suddenly stopped short after having fairly tasted it. A little while after being passed it coagulates throughout, the amount and aspect of the coagulum being much the same whatever be the characters of the fluid for the time. The coagulum

consists essentially of an extremely delicate network of fibrin, enclosing the milky molecules in its meshes. It is broken down on the least agitation, leaving a comparatively slight filamentous residuum. The specific gravity of several perfectly milky specimens ranged from 1011 to 1015.

Microscopical examination at once put an end to any notion of the fluid being milk. Numerous cells and nuclei were entangled in the fibrinous clot, with one or two oil-globules; and a very few elements quite similar to these remained floating in the surrounding fluid (see Fig. 2). The cells, which closely resembled white blood-cells, were nucleated, with granular contents, and with a diameter ranging from $\frac{1}{2000}$ " to $\frac{1}{4000}$ ". The cells varied in comparative size much more than the nuclei, the diameter of which—about $\frac{1}{5000}$ "—was pretty constant. They became more distinct on the addition of acetic acid, and some of them appeared to be free. The oil-globules were not numerous; but one or two of large size occurred now and then, both in the clot and floating in the fluid. There was also a "molecular basis," not unlike that met with in chyle, extremely difficult to distinguish when the fluid was merely opalescent, but when it was milky perfectly distinct throughout. The molecules were not the result of standing, being visible in specimens when quite fresh, and evidently determining the colour of the exudation. They exhibited very lively Brunonian movements, which were arrested on the addition of a drop of sulphuric ether, when they ran into oily globules.

With regard to chemical characters, the fluid remaining after its fibrin was deposited was perfectly neutral in reaction to litmus and turmeric. An abundant coagulum formed on heating, and on adding hydrochloric acid, but none on adding acetic acid. The *creamy layer*, described as rising to the surface, was white, without even a tinge of yellow, and in a two-ounce phial, after twelve hours' repose, about $\frac{1}{4}$ " in thickness. It consisted of an aggregation of the molecules permeating the whole liquid, densely packed together, and engaged in molecular movements. Oily globules were formed on addition of ether, which could be

seen slowly extending themselves at the expense of the granules round them; and when a drop was added to a little ether in a test-tube, it was wholly dissolved. I tested for *milk-sugar*, with every precaution, but found no trace of it. I owe the following analysis of a pure milky specimen to the kindness of Professor Anderson. Opposite are placed some results of an analysis by Dr. Beale, of a case of "chylous urine"—white fibro-serous discharge from the kidneys—which, as will presently appear, I am inclined to regard as the same disease in another situation.

	Discharge from the skin.	Discharge from the kidneys.
Solid matter	5·43	5·26
Water	94·57	94·74
Fatty matters	·71	1·39
Albumen	2·88	1·3
Other organic matters	·6	1·94
Ash	1·24	·63
	100·00	100·00

III. Cases of the same affection.

So far as I can ascertain, chronic white fibro-serous discharges from the cutaneous surface are extremely rare; indeed, I can only find three examples on record as occurring in temperate latitudes, a summary of which cannot, therefore, be without interest, for the sake of comparison with the present case.

1. The first case, "*De lactis e femore fluxu*," occurred in a male subject, in Germany, during the seventeenth century, and is recorded at considerable length by Dr. L. Sigismund Grass¹. The following are the principal features of his description.—"*Monstra dari in medicina monstrat monstrosissimus affectus qui sequitur.*" A working-man, forty-nine years of age, was seized in the autumn of 1669 with an

¹ '*Ephemerides Germaniæ*,' decur. i, ann. ix et x, Vratislaviæ et Bregæ, 1860.

erysipelatous attack (phlebitis?). It left behind, on subsiding, a quasi-œdematous tumour of the thigh, occupied, in the first instance, by three red, prominent tubercles (*exanthematibus*: probably equivalent to what I have described in my own case as 'infiltrated patches'). One night, some time afterwards, while the patient was sleeping, after having undergone the fatigue of a journey, the uppermost of these tubercles, that nearest the groin, gave way with so copious a discharge that, on waking, he thought he had wet the bed, contrary to his wont; while feeling, nevertheless, a desire to empty his bladder. He soon found out, however, that the discharge was not urinary, but milky; and that the swelling of the thigh had somewhat abated, with a decided sense of relief. For nine years afterwards he was subject to accidents of the same kind. The thigh was not only the seat of a constant swelling, with frequent eruption of tubercles, but was attacked from time to time by an erysipelas, attended with shivering and yawning, and recurring at almost monthly periods. The swelling was, however, diminished in the morning from the effect of position; and even the *lactifluous* tubercles would then almost disappear, or, at all events, be reduced to mere macules. Under the use of popular remedies, among which he ascribed especial efficacy to chalk and parsley, the discharge disappeared for almost ten months, so that he entertained good hopes of effecting a cure. Meanwhile, however, it was replaced by other symptoms—to wit, *strangury*; a *sense of internal cold* in the affected thigh, so that the patient could scarcely keep it warm enough by his clothing during the day, nor by bed-coverings at night, even although to the touch the temperature of the foot was not deficient. There was, moreover, a paralysis, or rather a spasmodic and painful rigidity of the joints, which laid up the patient for nineteen weeks together, so that he sometimes could not leave his bed. . .

“The patient presently began to complain of a sense of weight and oppression of the chest, which impeded his respiration in no slight degree, so that he could not lie with comfort on his back if one of the periodical discharges did

not supervene to relieve him. If this symptom grew urgent, and no spontaneous flux occurred, he was in the habit of seeking relief from it, and of reducing the swelling of the thigh, by the aid of a needle. The puncture of even a single tubercle produced, in my own presence, so copious a flow of this milky liquid that more than *twenty ounces* of it were collected in the space of an hour. To check the discharge he used to bind the part with a bandage, and stated that, in a short time, the little wound would close without any other interference. Part of the fluid collected coagulated into a pale jelly, of the same consistence as that usually derived from extravasated blood. This floated in the midst of a serum, not yellowish, but milky, so that any one would pronounce it without hesitation to be the serum, not of blood, but of milk.

“To pursue this history in all its curious details, I advised the patient, in August, 1676, to submit to scarification. A cupping-glass was applied, with incisions, to the outside of the thigh, where he stated that he had never observed any eruption, and from this surface pure blood was extracted. To the internal part of the thigh, over which tubercles were scattered here and there, though nowhere in greater numbers than behind the knee, a second cupping-glass was applied, so as to cover one of the tubercles. Both this tubercle and the neighbouring parts were scarified; and from the tubercle, which was opened with a single stroke of the scalpel, as well as from the two incisions near it, although a blood-coloured exudation was the first result, a pure milky fluid presently began to issue. From all the more remote incisions there came nothing but blood. At length, on removing the cupping-glass, the discharge of blood ceased of its own accord; the milky discharge, on the other hand, continued to flow, the drops becoming more abundant on gentle motion. According to his own statement, this discharge was so obstinate that, unless he had controlled it with bandages, it would have gone on until he had fainted. On being asked whether he felt uneasiness in his leg, he stated that the sense of cold in that situation was not less

than in the thigh, but that it was never affected with any swelling or tubercles, or consequently with surfaces yielding a milky secretion. He was quite satisfied that he had prevented the swelling from descending further by means of a bandage very tightly applied from time to time below the knee, for he dreaded much lest the same affection from which his thigh suffered should also deprive him of the use of his foot.

"In the month of June, 1678, he was bled, by my advice, in the arm of the affected side. I designed this, not only to protect him against more frequently recurring attacks of erysipelas, but also that I might examine the condition of the blood in the upper parts of the body. Nothing, however, unusual or worthy of remark was observed. . . ."

It would here be out of place to enter at length on the speculations of the author as to the nature of the foregoing discharge. After denying it "the honour of the name of milk," chiefly on account of its colour not being precisely similar, "but more pale, and shading slightly into yellow;" and after showing, from its coagulating and other circumstances, that it could not possibly be purulent, he goes on to demonstrate that the discharge is not likely to be derived from the veins, arteries, or lymphatic vessels. He finally concludes, as most probable, that it is a "*succus nutritius*," distributed by means of the nerves; and after defending this view, he introduces, before the conclusion of his article, the following remarkable sentence:—"The physical characters of the *succus nutritius* offer no opposition. For it is 'extremely similar to the albumen of an egg, after this has been somewhat liquefied by the warmth of the hen's body during incubation (Charleton, exercit. i, p. 12; and v, p. 78).' This form and appearance are exactly reproduced, so that one egg cannot be liker another, both by the fluid exuding from the thigh, *and also by that which is not rarely copiously discharged in admixture with the urine.*" This was one of the first ideas which struck me, quite independently, in connection with my own case.

2. The second recorded example of chronic white serous

effusion from the skin, in this case from a female subject, occurred in the north of France. It is referred to by Haller, in his 'Physiology.' The description by Dr. Bourdon being short, may be translated in full.¹

"I have met, in the course of my practice, with a young woman twenty years of age, from the upper part of whose left thigh as much milk is discharged by small pustules over the pubes, and even upon the labia vulvæ, as a nurse could supply from her breasts. This milk yields butter, curd, and serum, like cow's milk, from which it only differs by a sensible acrimony perceived by the tongue in tasting it. The thigh from which it flows is much swollen, and the œdema, which is unaccompanied with pain, is relieved and diminished in proportion to the amount of the discharge. Sometimes it runs so profusely that the patient has to keep the part bandaged, with firm compresses over the pustules, in order to check it, inasmuch as the abundant loss proves extremely exhausting. The patient is well formed, with a sufficient amount of *embonpoint*, and with her breasts proportionately developed. At seven years white menstrual discharges made their appearance, and have since continued regular, both in quantity and quality. But for the last seven or eight months, if I mistake not, since this milk has begun to flow, she has not menstruated. Except for the exhaustion which has been mentioned, her health is good."

3. A somewhat similar case, not, however, said to have been chronic, and of which the history is very imperfect, is mentioned by Dr. Rommel.² A woman who was nursing twins began to complain, a few days after the death of one of them, of a sense of dull pain and tension beneath the ribs on the right side of the abdomen, and over the umbilicus. This feeling was succeeded by itching, the itching by scratching, and the scratching by an exudation of fluid from the skin, the colour, taste, and consistence of which

¹ "Extrait d'une Lettre à M. Lemery, par M. le Dr. Bourdon à Cambrai, contenant quelque chose de fort singulier;" 'Journal de Sçavans,' June 5, 1684.

² 'Ephem. Germ.,' decur. ii, ann. viii.

were identical with those of milk, and which yielded a true butter on agitation.

4. In addition to these examples recorded in our own latitude, I think it highly probable that a much greater number may be found to occur in the tropics, in countries where "chylous urine" (as it is called) is a far from uncommon affection. Thus, two cases were recently reported from Canton,¹ in both of which the discharge was from the scrotum. Of one it is stated "that the scrotum was hypertrophied and pendulous, and covered with a large number of follicles;" and further on, "that the follicles were not developed till a year after the fluid had made its appearance by direct transudation through the skin; and that the scrotum, whatever minute changes it might then be undergoing, was then unchanged in size and general appearance; consequently the follicles and hypertrophied skin could not be regarded as the causes of morbid secretion." Now, whatever *follicles* may mean, this account distinctly points to the transudation of the fluid without the formation of vesicles, an occurrence which I shall presently show to be perfectly consistent with the view I entertain of the pathology of the affection. The case cited derives further interest from the circumstance of the skin of the anterior surface of the scrotum having been removed by the knife for its cure; the former symptoms, however, beginning to return in the neighbourhood of the same spot about a month after the operation. The Society may also be reminded of a late communication read before it from Dr. Carter, of Bombay,² in which two cases were cited, presenting many points of similarity with those of which we have been speaking.

IV. *Affections essentially or apparently similar.*

Under this head a few remarks may be made on discharges from epithelial surfaces, apparently of the same

¹ 'Edinburgh Med. Journal,' January, 1860.

² 'Medico-Chirurgical Transactions,' vol. xlv, p. 189.

nature, physically and chemically, and so far pathologically, as the foregoing discharge from the surface of the skin. The most common of such affections is, no doubt, what is known as *chylous*, or *chylo-serous urine*, a name unfortunately chosen, as seeming to imply a connection with the lymphatic system, which has never been demonstrated. Without entering on a subject which would lead too far, it may yet be right to direct attention to the numerous points of resemblance between cases of white fibro-serous discharge from the urinary or genito-urinary mucous membrane on the one hand, and from the skin on the other. In both cases the discharge is milk-white, deriving its colour from extremely minute molecules, which require high magnifying powers to reveal their presence. In both fluids a coagulum is formed, the greater part of which may be dissipated with ease on agitation; and this coagulum entangles in its meshes cellular elements seemingly identical in character. Both maladies are chronic, and the discharge, though sometimes very copious, does not appear in either of them seriously to implicate the health of the patient. No researches into the morbid anatomy of cases of white fibro-serous urine have as yet had any result; and the completeness with which, on appropriate treatment, the lesions attending a similar evacuation from the skin disappear, renders the existence of any serious alteration of cutaneous structure extremely improbable. Moreover, in one of Dr. Carter's cases, the symptoms of white serous urine and of white serous discharge from the skin were actually coincident in the same individual. Altogether, the analogy between the two forms of affection is very close; the pathology of both is probably similar; and if it can be shown that the chyle, as such, has nothing to do with the production of one form, it would be unscientific to assume, without actual proof, that it takes a part in the production of the other.

Numerous cases of so-called "milky discharges" recorded by old authors are evidently merely copious and perhaps somewhat modified, purulent secretions. Most of them belong to the day when metastasis was a favorite doctrine

of the schools; and whenever a woman suckling her infant had an abscess in any situation, there was a tendency to imagine that it might possibly contain milk. If, at the same time, the secretion from the mammæ was suddenly suspended or diminished, a not unlikely result of inflammatory fever attending suppuration, little further doubt of metastasis remained.

The diagnosis was, of course, firmly established if the purulent secretion chanced to be abundant, thin, and of long continuance. An extensive list of such dubious cases might be enumerated, taking place from wounds;¹ fistulous communications, with cold abscesses or deep-seated suppurating glands;² from the surfaces of the peritoneum³ and pleura; from the uterus⁴ and tunica vaginalis;⁵ from the mucous membrane of the nose;⁶ as a *ptyalismus lacteus* from the salivary glands;⁷ as an *epiphora lactea* from the eyes;⁸ and even, according to the statement of some writers, from the whole surface of the body at once.⁹ I would merely direct the attention of those interested to by far the most remarkable of these cases, recorded by Hoffmann⁹ as occurring from the pleural cavity, after puncturing the thorax for empyema. The case is much too long to cite; but it is not at all improbable that it was an illustration of a regular white serous discharge, emanating from some portion of the pleural surface.

¹ Schurig, 'Parthenologia,' Dresden et Lips., 1729.

² "A Milky Discharge at a small Orifice in the Groin," by Mr. John Patch; 'Med. Essays and Observ., by a Society in Edinburgh,' vol. v, part i, p. 328, Ed., 1747.

³ Chomel, 'Mémoire, Acad. des Sciences,' 1728.

⁴ Dolaëus, 'Ephem. Germ.,' decur. ii, ann. vi, obs. 76.

⁵ 'Madras Quarterly Journal of Med. Science,' vol. i, p. 180.

⁶ Richter, 'Med. and Surg. Observations,' Translation, Ed., 1744.

⁷ Nuck, 'Sialographia,' p. 50.

⁸ Rommel, 'Ephem. Germ.,' decur. ii, ann. viii.

⁹ "Disquisitio circa affectum pectoris rarissimum, perpetui succi nutritii ex thorace stillicidii;" 'Frid. Hoffmanni Opera,' suppl. ii, pars ii, p. 434.

V. *Pathological remarks.*

The ascertained pathology of one disease often throws light on that of another. If we acknowledge, as I find no difficulty in doing, the pathological identity of white serous discharges from the skin, and of similar discharges from the genito-urinary mucous membrane, several theories that have been propounded in explanation of one or other of these affections, and, among others, the notion of "a leakage from the lacteal tract," may be discarded, as being as unnecessary as they remain unproved. According to different theories, the fluid has been regarded as milk, chyle, or modified lymph. I am disposed, for my own part, to look on it as *chyliform*, but not *chylous*; as more nearly equivalent to white liquor sanguinis, with certain modifications inseparable from the mode of its secretion.

1. The secretion is evidently not *milk*, as the older authors, naturally enough, supposed. It resembles milk in its general appearance only, while its microscopical and chemical characters are quite different.

2. If the secretion be not milk, the next idea suggested by its aspect is that it may possibly be *chyle*. This chyle must find its way to the secreting surface by a retrograde movement, in the manner suggested by Dr. Darwin in his 'Theory of Dropsy.'¹ That it should get to the kidneys by means of such a movement is difficult enough to believe; but that it should get to the back of the thigh, or, as in Grass's case, to the popliteal region, seems to me perfectly incredible. To do this, it must first be assumed that the lymphatic vessels have been laid open on the excoriated surfaces to permit the passage of their cellular elements; and then that the valves of these vessels, of which there are several in the course of every inch, are insufficient over long tracts, while the flow through them takes place in the wrong direction. The cells in chyle are both larger and more abund-

¹ Good's 'Study of Medicine,' London, 1840, vol. iv, p. 271.

ant than those in white serous secretions, which would probably, however, be explained by their being intercepted by the lymphatic glands in passing back, and by the elements of the glands themselves taking their place. Dr. Carter is a strenuous advocate of this view; and, after all, the only *fact* he can adduce in support of it is, that in his cases the lymphatic glands of the groin were enlarged. Now, I think that, in a case of copious discharge from and irritation of the scrotum, the lymphatic glands would very likely be affected *sympathetically*, or, perhaps, as is not unusual in cachectic subjects, to an extent as great as figured by Dr. Carter, from other causes that may have nothing to do with the discharge. Certainly, in my own case, I could detect nothing of the kind, except a slight swelling during a transient attack of phlebitis, in which, perhaps, the lymphatics participated. That the milky discharge was, in Dr. Carter's cases, more milky than usual after meals, is far from necessitating the assumption of the lacteals as the source of it, inasmuch as the whole serum of the blood is affected after meals in a similar manner. The theory is anatomically impossible, and pathologically unnecessary; in which circumstances the onus of proving its truth, which has yet to be done, lies with its supporters.

3. If not chyle, the secretion may be *modified lymph*, an idea which would have been much more acceptable, it would appear, to the mind of Soemmering than the wild hypothesis just dismissed. "At least," he writes,¹ "after being acquainted with the true nature and properties of the lymphatic system, we will never suffer ourselves to be led to seek, with Darwin, the cause of the metastasis of chyle, milk, urine, or pus, in a retrograde motion of the lymph itself. For all such phenomena can be explained with the greatest ease, in a manner in perfect accordance with nature, and not in utter contradiction to and violation of it." The colour of the secretion in question, however, has no resemblance to that of lymph. The presence of cellular elements could only be accounted

¹ Soemmering, 'De morbis vasorum absorbentium,' 1795.

for on the supposition that the lymphatic vessels were actually ruptured. And finally, in my own case at any rate, there was no evidence of the lymphatic system being affected at all; whereas the state of the venous system was obviously far from healthy, whether we are to regard that as a mere complication or as a more essential condition of the disease.

4. The liquid may also be supposed to represent the white serum of the blood, it having been fully ascertained, by numerous observations on blood drawn after meals of various quality, that after every meal yielding milky chyle the serum of the blood assumes a milky colour.¹ Whatever arguments derived from the qualities of the discharge suggest the idea of the presence of chyle, the same may be used with equal force in favour of this hypothesis, without the insuperable anatomical objections which beset the supposition of a direct origin from the chylous vessels. If the white liquor sanguinis were supposed to transude through the capillaries of the affected part, an explanation would be afforded of the qualities of the discharged fluid, of the presence of the white molecules, of the fibrin, and of the albumen. Only the cellular elements could not be due to such a source. White blood-corpuscles they cannot be; for if we suppose the capillaries ruptured, the red blood-discs would in that case appear as well; and if not ruptured, the white corpuscles could not be conceived as making their exit. The cells and nuclei must, therefore, be epithelial elements, produced in small numbers from the sudoriparous glands, or perhaps occasionally secreted by the rete mucosum of excoriated surfaces.

I think it will be generally conceded that the molecular base of the discharge is derived from the blood. This being granted, and fatty matter having to pass *from* the blood *through* the walls of the vessels, it follows—either (1) *that*

¹ See a paper by Professor A. Buchanan, "On the White or Opaque Serum of the Blood;" and also, "Further Observations on the State of the Blood after taking Food;" 'Transactions of the Glasgow Philosophical Society,' March, 1844, and March, 1845.

the whole serum of the blood must be constantly milky while the discharge is flowing, or (2) that there must be some special determination of the fatty matter of the blood towards the secreting surface. Now, I think it may safely be assumed that the serum of the blood, while the discharge is flowing, is *not* continuously and intensely milk white, as it would require to be to account for the colour of the discharge, on the supposition that this filters directly through the walls of the vessels. The serum of the blood has been examined in cases of white serous urine, without having been found in any degree milky from excess of chyle. Nor can I well imagine that it was milky in my own case; at least the normal periodical milkiness of the serum of the blood could scarcely be expected to persist from thirteen to fourteen hours after a meal, at which time I have seen the discharge flowing with a colour quite characteristic.

That this, then, is a simple filtration of minute molecules through a membrane is not readily conceivable. Something there must be to account for an immense determination of fatty matter towards the secreting surface, and the only satisfactory explanation that I can think of refers it to the morbid activity of multitudes of epithelial cells, the function of which has become perverted. As the epithelial cells of the small intestine filter fatty matters from the chyme into the lacteals, is it not conceivable that epithelial cells in other situations may contribute, by a perverted action, to the elimination of fat from the general current of the blood, in which, from time to time, when the serum is milky, it is present in large, though unequal, quantities? The cells, having become gorged with this material, would then separate it, much as a gland separates the principle of its peculiar secretion, *along with* water, albumen, &c., coming directly from the blood, and, of course, independently of the quantity of fatty matter in the blood for the time being. This would explain the circumstance of the discharge being always milk-white, except just on beginning to flow after a period of repose; and it would not be necessary to assume the continual presence of an intensely milky serum in the

blood itself. Dr. Beale's opinion is (l. c.) "that, in true cases of chylous urine, the fatty matter, in a molecular state, filters through the walls of the vessels, and escapes at once into the urine; while in those instances in which actual globules are observed the fatty matter is absorbed into the interior of the cells, where it remains a sufficient time to become converted into distinct oil-globules." In my own case the oil-globules, though, few in number, were sometimes so large that they could not have originated in the interior of cells, but must have arisen from the subsequent confluence of smaller globules or of aggregations of molecules, a mode of formation the probability of which Dr. Beale also admits. The smaller globules, in all likelihood, originated in cells; but the presence of fatty matter in cells is, at the same time, not inconsistent with the preservation of the molecular form. The elimination of it, in such a form, through the medium of epithelial cells, appears to me the only hypothesis fully reconcileable with the phenomena observed.

The next question is as to the cells through which the fatty molecules most probably pass, and I think it is most natural to conceive them as eliminated through the medium of the glandular apparatus of the skin. Though not by any means denying that a perverted function of the rete mucosum may contribute to a serous flux, I still think that the sudoriparous glands, as excretory organs, would probably take a chief part in any such process. This view is not invalidated by the presence of vesicles, since these form, though perhaps not always, in connection with glandular orifices. On the other hand, according to it, vesicles would not be *essential*, as they would be if we supposed the Malpighian layer of the skin to be the organ of secretion. And in one of the cases above cited attention was directed to the circumstance that the discharge at first made its appearance *without vesicles*, flowing from the surface of apparently normal epidermis. Moreover, the analogy between the pathology of a white serous discharge from the skin, and of one from the kidneys, or any other glandular

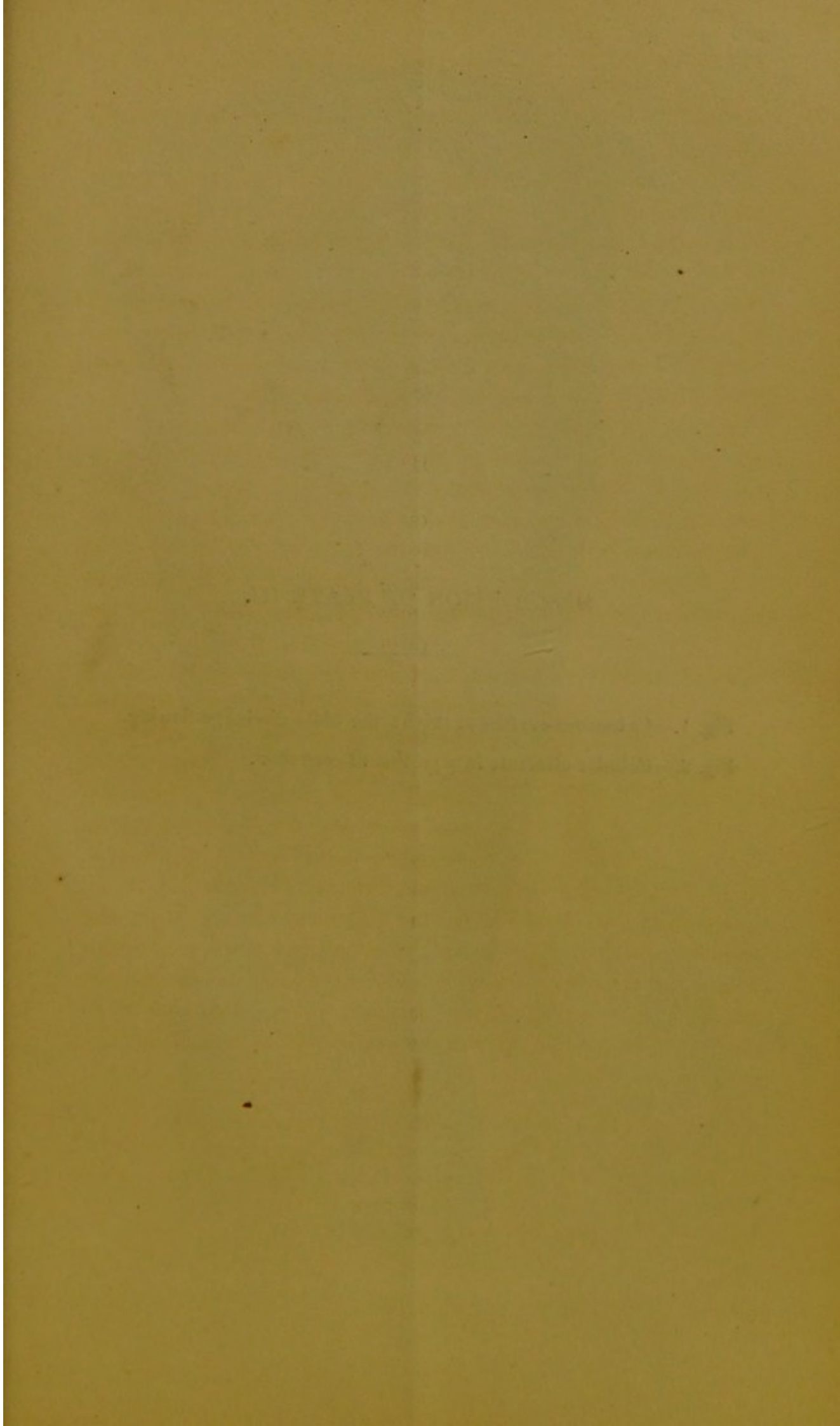
surface, would, on such a view, become almost as perfect as the products are similar.

As to the *fibrin*, the origin of it in this case will probably be determined differently by different individuals, in accordance with their general pathological views. It may thus exude from the vessels directly, or it may be secreted by the cells. The phenomenon of its coagulation depends, in all likelihood, on the influence of the cells in the secretion, without which fibrin never coagulates in a serous fluid, and around which the coagulum is deposited.¹

Finally, I consider the disease to be "a rare functional affection of the glandular apparatus of the skin," accompanied, as eczema so often is, and probably inseparably connected with, a retarded capillary circulation, from the varicose condition of the veins of the limb.

Attacks of white fibro-serous discharge from the kidneys come and go; the symptoms may be even absent for years, but yet return. On their pathological nature I will leave others, more familiar with them, to pronounce; but a knowledge of the fact just mentioned renders the prognosis of the present case of discharge from the skin extremely doubtful to my own mind. Even the turn of life, which my patient has not yet passed, seems to have as little connection with the symptoms as it has been proved to be without influence in cases of white serous urine. I propose, at present, to limit my treatment to perseverance, as far as practicable, in the use of the elastic stocking, with the local application, if necessary, of astringent powders, and an occasional recourse to tonics. At the same time I shall be happy to receive any suggestion as to therapeutics, or as to any other points, in connection with this rare and curious malady.

¹ "Contributions to the Physiology and Pathology of the Animal Fluids," by Dr. A. Buchanan; 'London Med. Gazette,' Session 1835-36, Nos. 28, 29, 30. "On the Coagulation of the Blood and other Fibriniferous Liquids," by Professor A. Buchanan; 'Transactions of Glasgow Philosophical Society,' February, 1845.



DESCRIPTION OF PLATE III.

Fig. 1.—Cutaneous surface of thigh: the white discharge flowing.

Fig. 2.—Cellular elements in a portion of coagulum.

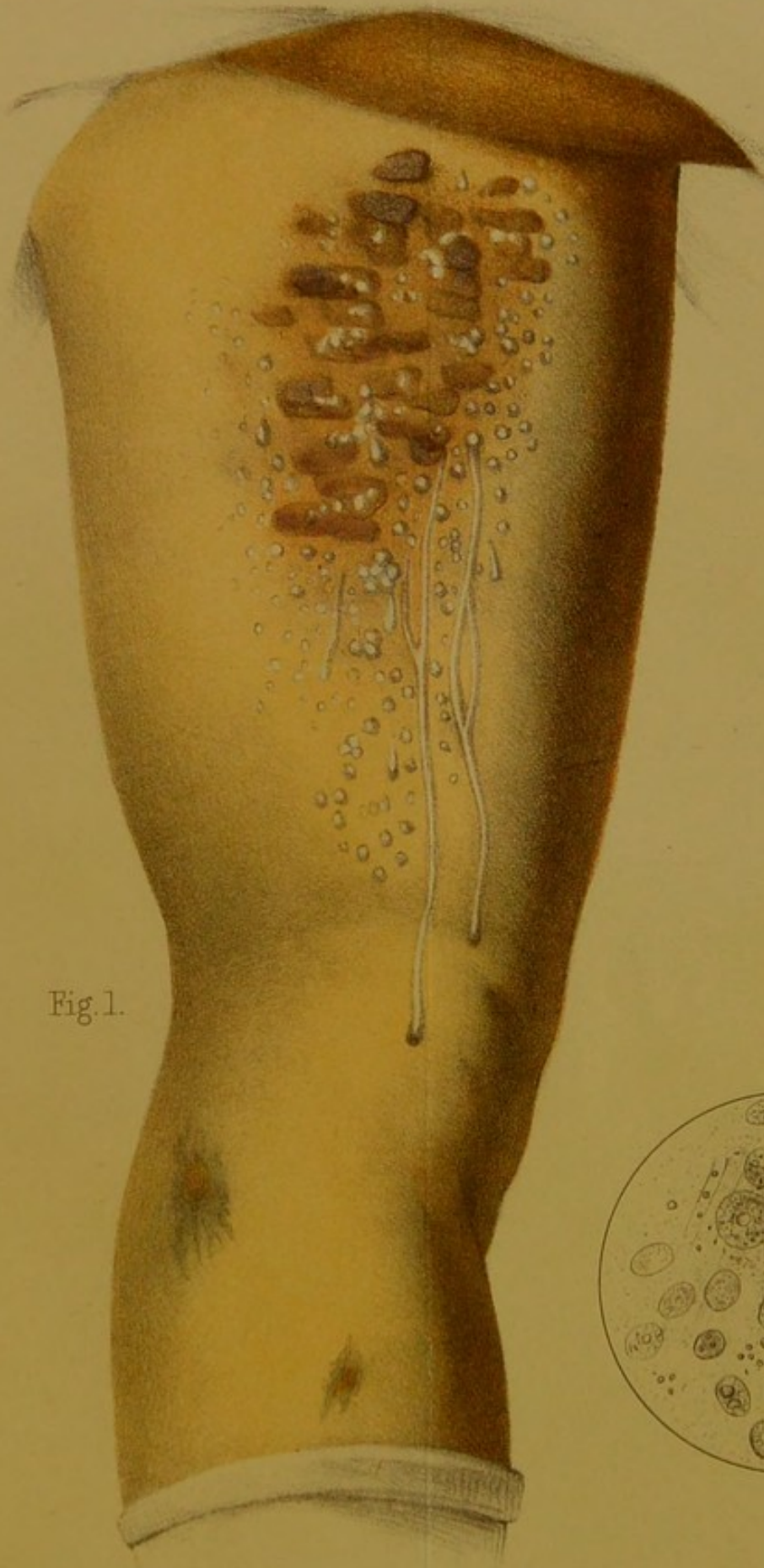


Fig. 1.

Fig. 2.







