syphilitic history or of traceable syphilitic antecedents. The period of life at which the nervous affection comes on is a great guide. In old persons—except in very obvious cases—we should arrive at a diagnosis of syphilis only after exclusion of other more common causes of disease of the nerve-centres; in young adults, syphilis would suggest itself early, unless there were heart-disease or disease of the kidneys. The chief aids in the diagnosis, in addition to evidences of syphilitic disease in other parts, which must be carefully looked for, will be the antecedent or associated symptoms, which we have learnt by experience to connect with syphilis, headache with nocturnal exacerbation, sleeplessness, and irritability. The gradual and irregular mode of access, except in the case of thrombosis, is again suggestive of syphilitic disease, and convulsions are very common.

PROGNOSIS.—In the prognosis, we have always to bear in mind the liability to relapse. Occasionally we see recoveries which are apparently complete and permanent; frequently, I think, when the symptoms have been only epileptiform attacks, and the associated nervous disturbances enumerated in speaking of syphilitic epilepsy; sometimes when there has been evidence of graver mischief; but in a large proportion of the cases the patients will enjoy immunity from similar or more serious symptoms only on condition of perseverance in the employment of the remedies.

The chief considerations which bear on the prognosis are the duration, nature, and seat of the lesion.

As to *duration*, the longer the mischief has existed the more likely are its effects to be permanent; for, although syphilitic exudations and growths are singularly amenable to the influence of remedies, if they be allowed to remain for any length of time they destroy the structures in which they are lodged. This is more particularly important in the spinal cord, in which a very limited lesion will involve the entire segment, and cut off the part below from the cerebrum. It is, however, remarkable how much relief is often afforded, even after a prolonged train of disturbances, by removal of the cause, especially when the symptoms point to an affection of the cerebral hemisphere.

As to the *nature* of the lesion, supposing it to have been determined that it is of syphilitic origin, the most important point is to distinguish between the effects of syphilitic disease in the membranes or nerve-substance, and of thrombosis from syphilitic inflammation in the arteries. As Dr. Hughlings Jackson has often insisted, the results of the blocking up of an artery will be independent of the nature of the obstruction. If a collateral supply of blood do not find its way to the part, softening is inevitable; and supposing that treatment could affect the original disease, as when a cerebral artery is included in a gumma, it would probably come too late to obviate the effects. Usually, as has been stated, thrombosis gives rise to sudden attacks without much pain.

Syphilitic epilepsy, so called, generally yields to treatment. We have here, in Dr. Jackson's language, only a "discharging" lesion, not a destructive one. In paralysis, on the other hand, there is frequently destruction; but recovery may be expected if we can exclude thrombosis and softening, and if the duration have not been too prolonged. The tumours which give rise to unilateral convulsion appear to be particularly liable to be attended with optic neuritis, and may wear out the patient's strength; but tumours at any part can sometimes be brought to a state of quiescence, and the effects of disseminated lesions are more serious than those produced by a single growth.

As to the *seat* of the lesion, I will only further add that growths from the dura mater are apparently less amenable to treatment than affections of the other membranes or of the nervous substance, probably because they are less vascular, and therefore less easily reached, and less freely acted upon by remedies.

TREATMENT.—The treatment is simple. The one remedy is iodide of potassium, or, this failing, mercury. I usually begin with doses of six grains, and always combine with it ammonia—the carbonate or aromatic spirit. Having, by one or two days' experience, ascertained that there is no special intolerance of the iodide, it may be rapidly pushed to doses of 12, 18, 24, 30, or 36 grains three times a day. Occasionally, even larger doses are necessary; and I have given a drachm every four hours. That large doses are often absolutely required, and that they succeed when moderate doses fail, I am convinced by abundant experience; and, if iodism be induced, which is very rarely the case in tertiary syphilis, it is almost always before large doses are reached. Large doses are better borne when taken after meals. Of course, iodide of potassium is more quickly taken up into the blood from an empty stomach, but it is also quickly out of the blood and in the urine; and, when a continuous action on the system is needed, which is what we require in dealing with the effects of tertiary syphilis, the indication is best met by giving so diffusible a remedy as the iodide of potassium after food.

If the iodide of potassium fail after a full and fair trial, a resort to mercury is always desirable; and the more recent the syphilis, the

earlier should this be made. In passing from the use of one to the other drug, either a certain interval should be allowed to elapse, or the mercury, if given by the mouth, should be in one of its most soluble and active forms—the bichloride or biniodide. More than once I have seen sudden and profuse salivation when this precaution has been neglected—no doubt from the mercury being converted into biniodide within the system. Sometimes I have employed mercurial inunction at the same time with the internal administration of iodide of potassium, and have frequently given the biniodide of mercury with iodide of potassium, either in the same mixture or in the form of pill at night.

One word as to the *modus operandi* of iodide of potassium. This was the subject of a beautiful explanation by Dr. Odling in his Goulstonian Lectures before the College of Physicians—hypothetical at that time, but demonstrated by experiment since. The active agent is the iodine, as is shown by the fact that other salts of potassium have not the same effect, while other combinations of iodine, such as iodide of ammonium or sodium, have. The iodine is permitted to exercise its influence on the seat of disease in virtue of the comparatively slight affinity by which it is held in union with the base; this being so feeble that, in the presence of certain forms of living protoplasm in active change, the salt is decomposed, and the iodine set free to exercise its solvent action on the organic matters. Whether this be direct, or indirect through the well known oxidising effects of free iodine, is not so certain.

In conclusion, I have only to offer to the Society my sincere thanks for the kind and patient attention to these lectures, which have not been all I could have wished, but which, I am already assured, have answered one great purpose I had in view—namely, that of calling more general attention to the subject of Syphilitic Affections of the Nervous System.

ON THE VARIOUS PREPARATIONS OF KOUMISS, AND THEIR USE IN MEDICINE.

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[Concluded from page 231 of number for February 21st.]

THE two following analyses, one of mare's-milk koumiss, made by Hartier, a chemist of Moscow, and the other of E. Chapman's medium cow's koumiss in London, made by Wanklyn, may be compared.

	Mare's Koumiss.	Medium Cow's Koumiss.
Alcohol . . .	1.65 per cent.	1.60 per cent.
Fat . . .	2.05 "	0.30 "
Milk-Sugar . . .	2.20 "	4.85 "
Lactic Acid . . .	1.15 "	1.08 "
Caseine and Albumen . . .	1.12 "	1.07 "
Ashes or Salts . . .	0.28 "	0.75 "
Carbonic Acid . . .	0.785 "	1.50 "

Thus we see that the caseine in both kinds of koumiss is the same to a fraction; much less is the butter or fat in the medium koumiss, for the simple reason that it is not advisable to send out the koumiss *à longue course* with all the fat contained in the milk, as it decomposes too quickly into butyric acid, which is deleterious to the digestive organs. Further, the lactic acid and alcohol show no difference worth considering; but the lactose in the medium koumiss is twice as much as in mare's koumiss, if Hartier's analysis deserve full credit for correctness, as Wanklyn's does, whose reputation as an analytical chemist is undeniable.

The *Whey Koumiss* (C) is derived from cow's milk completely freed from its butter and caseine, so that it merely contains some albumen, lactose, lactic acid, alcohol, and the salts. It affords the best proof of showing how wrong all the theories were which proclaimed the caseine or even the butter as being indispensable for koumiss-making, and may prove useful as a beverage in disease with even a strong febrile reaction, with copious or excessive expectoration, perspiration, or diarrhoea, either in plethoric or in strong constitutions, which do not require an increase of weight, or in patients with inflammation or fever. We must, however, not forget that in the latter case the treatment becomes more difficult and complicated; and we have to use all our skill to abate the fever by antipyretics, to calm the pain by sedatives and narcotics, and to prevent local inflammations from spreading, etc., according to the nature of the localised disease. According to the more recent school of medicine, whey is only of limited value, as it supplies the body with slight nourishment; and it is obvious that, on this account, whey can never take the place of the highly nutritious milk, and therefore can never be applied to the purpose of a proper plastic treatment. The

they koumiss, however, promotes decidedly the appetite and digestion, and, as a cooling and refreshing dietetic remedy, calming irritation. The "sparkling bland", a diluted and still more pleasant form of whey koumiss, may, in febrile disease, be used as a refreshing drink, and prove more convenient, as bland will keep for a long time, and is agreeably flavoured with ginger, lemon, or orange, etc.

The *Diabetic Koumiss* (D) contains, according to Wanklyn's analysis, 1.6 per cent. of alcohol, 1.1 per cent. of lactic acid, and not more than 1.0 per cent. of lactose. It is particularly suitable for the treatment of that disorder, to increase weight, to allay thirst, to excite the action of the skin, and to check the loss of sugar and the abundant flow of urine, although it appears to me less important how much urine and sugar are excreted, as long as the patient's weight and strength are increasing; and the confidence created in the remedy is also of much consequence in such a distressing condition. According to Stahlberg, koumiss is, in the treatment of diabetes, of greater value than even Vichy or Carlsbad water; and we need not restrict the diet in the usual severe way. If the skimmed-milk treatment, the buttermilk cure, or Professor Cantani's lactic acid treatment, has given such good results, I do believe that koumiss is of still more value, as it acts as a ferment in decomposing within the body all saccharine matter, and as an easily absorbable and strength-giving plastic nourishment; otherwise I cannot explain its beneficial effects on this disease, even as *ultima ratio*, when the tongue appears parched, and the patient seems skin and bone, and thoroughly exhausted. The complication with lung-disease appears a forcible indication for its immediate use, as the life will be prolonged under this treatment.

Muscular exercise in open air, regularly continued every day, is of the greatest importance in the treatment with koumiss generally, but especially during the use of diabetic koumiss, which ought to be about a week old, sour, and well sparkling. It contains fermenting caseine in the most favourable condition for digestion and nutrition, and a larger amount of lactic acid than even buttermilk, of which Dr. L. Brunton has spoken highly as a remedy in diabetes in this JOURNAL. Further, the carbonic acid and alcohol in this diabetic koumiss must not be disregarded as powerful remedial agents in the treatment of diabetes. In fact, diabetic koumiss is buttermilk in the state of alcoholic fermentation. It ought to be made the principal or exclusive beverage of a diabetic patient, as soon as he has acquired a taste for it. He may also take it with his meals, chiefly consisting of meat-diet. Why Dr. Brunton has so entirely excluded koumiss from his experiments and observations, I do not know; and I sincerely regret it, because his lectures on the subject of diabetes appear to me a *chef d'œuvre de science*. If glycerine be of any value in this disease, as recommended by Schultzen, it may more advantageously be given with koumiss instead of with water (four pints per day); and, as glycerine is fermentable, according to Berthelot, it may be prescribed as an addition to koumiss, or better in koumiss, in order to prevent nausea and diarrhoea from glycerine. When given at the dose of about an ounce and a half, I feel sure that the combination of glycerine and lactic acid in koumiss, along with the proper diet, will yield the most satisfactory results.

As to my own experience in the general use of koumiss, I have observed that it exerts a striking remedial power in chronic gastro-catarrh arising from any cause, but especially from the abuse of alcoholic drinks, the use of tonic astringents, styptics, and sialagogues, or the habitual taking of opium. It stimulates digestion without affecting the head—a fact noticed and expressed to me by patients with the utmost satisfaction and joy. Some extolled its peculiar influence on the brain, it leaving the head clear for brain-work, and generally strengthening memory and intellectual power. In many of the secondary symptoms of diseases such as dyspnoea, cough, weakness, emaciation, etc., even where they are so strong as not to correspond with the topical process of the malady, koumiss is a prompt and powerful check to development of the morbid process; and many other cases of debility, in consequence of excessive or protracted copious secretion of mucopurulent matter or severe hæmorrhages from any organs, or after operations, childbed, and lactation, find a comforting restorative.

In lung-consumption (chronic form), the first stages are most benefited by koumiss. Through an improvement of the digestive functions, the regulation of the nutrition, and its particular healing effect on all relaxed mucous membranes, the cough subsides, shortness of breath improves, night-sweats disappear, and sleep is induced, and coincidently weight and strength and plumpness of the body augment. But I must repeat, in this connection, that full koumiss, like other nourishing diet, is contraindicated in the febrile phases of phthisis, and should be replaced by whey koumiss, bland, salines, etc. On the other hand, so long as the bodily temperature is still above normal, or so long as a high temperature may fluctuate several degrees between morning and evening, there is reason to use the koumiss, and expect good effects

from it. If in eight or ten days the body do not begin to gain weight, the temperature do not show a declining tendency, the tongue do not clear, the appetite do not improve, then the koumiss will be of as much or as little use as any other treatment or medicine, because the prognosis will have turned out *pessima*.

Koumiss is an admirable succedaneum for purely drug substances, and even for cod-liver oil, in cases where the stomach has assumed an aversion to such medicines. At the same time, there are critical phases of disease in which a judicious association of drug-treatment is indispensable; and of this the attending physician will be best able to give proper directions. In all cases of koumiss-treatment, the dinner-hour should be about 1 o'clock, and, after dinner, a repose of two hours before recommencing to take the koumiss. The doses should also be discontinued about 7 or 8 o'clock P.M. The presence of albumen in the urine is no indication that the koumiss-treatment should be interfered with by any drug-treatment for that symptom till the general health of the patient has improved; but, as long as the patient has to keep to his bed, the total consumption ought never to exceed two or three pints *per diem*. When the patient becomes able to take active exercise without fatigue, he may increase his doses advantageously according to his appetite.

In chronic pharyngitis, laryngitis, bronchitis, No. 2 or No. 3 koumiss will be found to act beneficially, even when relaxation and general weakness are great; but in ulceration, No. 1 or fresh No. 2 is more advisable. I have found it far superior even to Ems water in those complaints, when accompanied by copious expectoration and emaciation, and in large vomics; and this corroborates Stahlberg's dictum that "koumiss has the properties of Ems water *plus* a great nutritious power." As to diseases of the mucous membranes of the urinary system, I can say, from my own experience, that its use proved successful in cases of renal colic with sandy deposit in the urine, and also with hæmaturia but principally in catarrh of the bladder with copious mucous, or even mucopurulent, sediment. For vaginal and urethral discharges, Nos. 2 and 3 will be found very useful. It is a physiological property of koumiss to lessen all discharges, but to stimulate the secretion of the urine, and to render it clear; often a kind of pressure or contraction of the bladder is produced, especially at the beginning, which, however, ceases in a few days, when, also, all cloudy, turbid, or dark appearances of the urine gives way to a heavy limpid state; during the warmer season, diaphoresis takes the place of diuresis.

When the koumiss is taken only in small quantities, the appetite is always keen, but larger quantities are more satisfying, and preclude the necessity of solid food. For general use, the No. 2 state of the koumiss is to be preferred, as it is neither astringent nor aperient. In relaxation of the mucous membranes, and more particularly in chronic diarrhoea, No. 3 koumiss is indicated. On the other hand, when the secretory functions are impaired, as is often the case in constipation, No. 1 full koumiss must be employed, because of its mild aperient effect. I must note here, however, that this aperient effect can be imparted to the other properties of both Nos. 2 and 3 koumiss by mixing them with one fourth or one-half of fresh milk at the moment of drinking. The use of bran-bread with salt will also sometimes neutralise the astringent effect of No. 3 koumiss and counteract nausea. In warm weather, koumiss runs through all the changes very rapidly, and the No. 3 koumiss spoils then sooner. As a general rule, fresh koumiss retains its No. 1 condition for two or three days in summer when kept cool immediately after it is bottled; from that time to the eighth day, it is No. 2 koumiss; beyond that period, it is No. 3 koumiss, and retains its soundness for several months if kept cold. In the treatment of chronic cases, the use of koumiss should extend from six to eight weeks, *à peu près*. If there should be a recurrence of any of the symptoms, they may be checked at once by a repetition of a shorter course, or even a few bottles only. Previously to commencing the koumiss treatment, the patient should be carefully weighed. A patient on two quart bottles a day appropriates so much nourishing matter, that his increase of flesh and weight cannot fail to be perceptible. Of course, there is an increase of weight corresponding to the more or less emaciated state of the patient, even if the koumiss be administered in very small doses; but the most surprising effect can always be observed when emaciation and prostration have been greatest (without fever). Even when the patient remains in bed, a pint bottle a day has shown a rapid increase of strength. The average increase of weight during a course I can state at six pounds, more or less; although, in some cases, twenty pounds and more are on record in eight weeks, or eight to eighteen ounces per day during the first ten days. In cases, however, where the increase of weight has been less marked, a great improvement in the patient's strength, spirits, and appearance will be noticed. Thus, we perceive that where the process of digestion and nutrition has been improved, the consequences are very soon apparent upon the system of circulation by an improved heart's action, better

pulse, and freer capillary circulation, especially noticeable in the peripheral parts of the body. Here it produces a pleasant feeling of warmth all over, a healthy action of the skin, when the pores open, the vessels expand, and a healthy moisture and colour reappear. As a general rule, all other drinks, oily, pickled, salted, and smoked food, and all strong condiments, should be avoided during its use.

In conclusion, koumiss, though not a specific for any disease, is a benign agent in medicine, which merits serious consideration and study in both private and hospital practice. By its use, the digestive organs are roused into activity, fat is deposited in the subcutaneous cellular tissue, the flesh becomes plump, and the complexion assumes freshness and colour, the dull eye assumes expression, and the depression of spirits gives way to animation; the respiration acquires more depth and regularity, as has been determined by the spirometer. Large doses have the effect of promoting a feeling of laziness and even sleep; but this sleep is of a most refreshing kind.

To give a list of diseases for which the koumiss treatment is applicable, appears to me quite irrational, as I should otherwise be compelled to name almost all diseases, because, generally speaking, nearly every disease may reduce, more or less, nutrition, and in such a condition koumiss is indicated; and, more than this, it would even sound quite paradoxical to prescribe koumiss in a fracture of the thigh, although this is quite possible when such a fracture is accompanied or followed by anæmia, loss of flesh, or has become complicated by catarrh of lungs, stomach, etc.

These hints may suffice to show that koumiss is neither a specific nor a panacea, although rationally or logically, and practically or empirically, its use is a very extended and general one.

In order to prepare koumiss in an uniform state of excellence, the place of its manufacture must be quite to itself, so that the tendency of milk to absorb foreign odours and emanations may be free from the least encouragement. Moreover, the operative manager of the process should be a man of experience in the work, and always on the spot, to insure its proper progress. It is, therefore, not possible for a dispensing druggist to make its manufacture a branch of his pharmaceutical business. At the same time, there is no reason why hospitals, requiring large and fresh supplies daily, should not have a special apartment for its preparation, under the constant supervision of a duly qualified *employé*.

CASES WHERE DEATH HAS FOLLOWED THE INJECTION OF THE PERCHLORIDE OF IRON INTO THE UTERUS TO ARREST POST PARTUM HÆMORRHAGE.

By T. SNOW BECK, M.D.Lond., F.R.S.

[Concluded from p. 269 of last number.]

CASE III.—Mrs. J. H., aged 23, of rather small stature, of fair complexion, blue eyes, and light hair, was taken with lingering pains on the evening of May 19th, 1872. Her husband had left her some time previously. She was very desponding; did not care what became of her; complained of a general feeling of lassitude; had pains in the limbs, headache, and no appetite. Her urine was thick, high coloured, and small in quantity. The pains continued much the same till the evening of the 21st, when they became stronger, and the orifice was dilated to the size of a florin. She slept pretty well during the night. In the morning the pains increased, and the membranes broke; after this the pains became strong and rapid, and the child was born about noon on the 23rd. The vagina was hot and tender. It was necessary to introduce the catheter. A good deal of blood was lost, and the placenta did not come away; after waiting about half-an-hour, the hand was introduced; the orifice was not contracted, and the placenta was situated at the upper part of the cavity; the uterus did not contract strongly in the hand, and some blood was lost in withdrawing the placenta. The pulse was very quick, about 130. A binder was applied. After about half-an-hour, the patient was observed looking very pale; and, on inquiry, said "something warm seemed to be running away." On examination, considerable hæmorrhage of a bright red colour was taking place from the vagina. Firm pressure was now made by grasping the uterus; cloths dipped in cold water were applied to the vulva, and flapped on the abdomen; ice could not be procured. The hæmorrhage lessened, but still continued; the patient became very faint, and the respiration sighing; cold water was now injected into the uterus. As the blood still continued to flow, about half-a-pint of solution of perchloride of iron, one part of strong solution to six parts of water, was injected into the cavity of the uterus. The hæmorrhage was very soon stopped; the faintness passed away, and the binder was reapplied. Everything

seemed doing very well until the evening of the 26th, the third day, when she complained of feeling very ill; an extra blanket was put on the bed; a dose of chloric ether, compound spirit of ammonia, and lavender was given. The patient became warmer; perspired freely, and slightly delirious in the night. About 4 A.M., a very black clot came away.

In the afternoon of the 27th, the fourth day, the pulse was very small, and so quick it could not be counted. She lay on the back, with the knees drawn up. The abdomen was full and tender. Light nourishment, with milk, was given; warm fomentations, with turpentine, were applied to the abdomen; and an enema with castor-oil and turpentine was administered.

On the 28th, she was much better. The abdomen was not so distended; the enema brought away much flatus. On the two following days she was not so well.

I saw her on May 31st, the eighth day. She was lying on the back, with the knees drawn up; the face was slightly flushed, the expression anxious. The eyes were hollow, and surrounded by dark areolæ. She was quite conscious, but, the nurse said, wandered and talked all night. There was slight pain at the top of the forehead; the skin was warm and dry; the pulse small, 140, slightly wiry; the abdomen much distended, smooth, tympanitic; there was considerable tenderness all over, but more so at the hypogastrium and left iliac region. She could not extend the legs, on account of the pain, nor turn on either side. The lips were dry; the tongue was coated with thin yellow fur. She was very thirsty; had no sickness; the bowels were moved twice, the stools being loose, very black, but not offensive; much flatus passed from the bowels, and the lochia were free and of a dark brown colour. She was taking light nourishment—beef-tea and milk. Five grains of carbonate of ammonia were given in infusion of calumba every four hours; and turpentine stupes were applied to the abdomen.

I saw her again on June 3rd, the eleventh day. She had been getting worse. She was lying on her back, with the shoulders low and the knees drawn up. Respiration quick, 42 in the minute; pulse 135, very small; skin warm, dry; face slightly flushed. She did not notice anything, yet could be roused; apparently dosing, muttering, and talking, occasionally giving a deep sigh and crying out. She took any drink when offered, but did not ask for anything. There was no sickness. The bowels were moved into the bed, the stools being fluid, and very black. The abdomen was greatly distended; it was apparently tender, as she cried out when it was pressed. The upper part of both arms was swollen, and appeared to be tender when pressed.

She continued in much the same state, becoming more difficult to rouse, appearing to lie in a dosing, muttering, delirious state, occasionally crying out, and quietly died on the morning of June 7th, the fifteenth day after her confinement.

The body was examined on the afternoon of the following day, June 8th. The weather was rather warm. There were no signs of decomposition. The abdomen was much distended, tympanitic; the arms were swollen, and the veins near the chest full. The intestines were much distended with flatus, especially the small intestines; their coats were thin, not injected. The stomach was apparently natural. Only a little brownish-yellow fluid was found in the abdomen; there was no exudation of lymph anywhere in the peritoneum. The uterus lay in the pelvis; it was removed for examination. The blood which flowed from the pelvic veins when divided was of a deep brown colour. The lungs, heart, liver, and kidneys were all apparently healthy, but were only superficially examined.

The uterus was large and doughy; it measured nearly 5 inches long by $4\frac{3}{4}$ inches broad at the fundus. There was some slight leaden marking at each side; the veins were not much congested. The Fallopian tubes and ovaries were apparently healthy. On cutting through the posterior walls of the uterus, different sinuses were divided, which contained a thin, opaque, ink-blackish fluid. The inner surface of the organ was covered with dark brown mucous secretion; the tissue beneath was of a deep reddish brown colour mottled with black. When washed with a stream of water, the surface was uniform, with the usual reticulated appearances of the inner portion of the contractile tissue. Studded over the previous situation of the placenta were numerous larger and smaller round black spots, which proved to be the orifices of the sinuses, containing a similar opaque ink-blackish fluid. Incisions made into the substance of the walls, at and near the seat of the placenta, divided several sinuses, all containing more or less of a similar opaque ink-blackish fluid. No remains of any coagula were anywhere observed. Some of the arteries were picked up with the fine point of a needle, and were found to be open, free, and without any appearance of coagula in their canals.

CASE IV.—In the afternoon of October 2nd, 1872, I received a small box, by railway, from a medical friend in Yorkshire, containing the