

These illustrations will, I trust, make evident what I mean by the term plasticity. Keeping this principle in view, let us consider what takes place in the production of vascularity.

At first, it is admitted that these streamlets of blood pass through mere channels in the scarcely concrete substance: there is no distinct vessel, but this in all probability is soon formed, in virtue of the same principle of coagulation at the surface. The surface of the little current becomes a tube. Where opposite currents are established in such a tube, there must be between the two currents a portion of fluid at rest, which must be favourable to the same principle of coagulation, which, by forming a septum between the two fluids, will give to each its own distinct tube, the one corresponding to the other with the most perfect accordance, precisely as we see to be the case in the most delicate membranes, when furnished with two sets of vessels. It will equally apply where one artery may have two veins.* I have entertained this speculation for some years, without being able to see any reasons tending either to refute or more fully to confirm it. Nevertheless, the existence of valves in one set of vessels and not in the other seemed to form so striking a difference between the two, that I confess that it appeared to require a more distinct mode of formation than I had been contemplating. Since my attention has been redirected to the venous and lymphatic systems, I have been led to reflect on the valves which they both possess, and to imagine that I see some little confirmation of my previous views, in the operation of the same principle as the cause of the production of valves. The valves are placed in those vessels in which the *vis a tergo* is neither sufficiently strong nor uniform to afford a guarantee against the chance of regurgitation; whilst they are absent in the arteries, to the extreme branches of which propulsion is communicated at every contraction of the ventricle, however slight. In those vessels which require valves, the very inequality of the current seems to be the cause which produces the valves which are provided to obviate any inconvenience from it. The most transient suspension of the course of the circulating fluid will not only give rise to slight differences in the quality of the fluid in different parts, but also favour a tendency to coagulation. The portion of fluid tending to advance, but not actually proceeding in its canal, must present a convexity towards the portion which it is about to push forward; and at this point coagulation, if it occurred at all, would take place, and the membranes so produced would be a sort of septum convex towards the heart; and, though it would be obliged to give way and break before the advancing fluid, the edges of the flaps would be turned towards the heart by the course of the current, and becoming a permanent structure, they would seem to form a part of the lining membrane. The diagram which I place before you will, I trust, render my meaning more intelligible than I have been able to make it verbally.

I am anxious to know the comparative condition of the venous circulation in the earliest period of fetal life, in those parts in which the veins are furnished with valves, and those in which, as in the portal system, they are not so; but this is an inquiry which seems nearly or quite impracticable. The comparison of the veins with the lymphatics is rather favourable to my view; since the valves are by far more frequent in the latter, in which the circulation is manifestly the most inconstant. It is also remarkable that in reptiles and fishes, in which the lymphatic system is nearly or quite without valves, there are special organs of propulsion to effect the flow of lymph.

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* The nucleated cell theory, which has met with universal acceptance and application, was either not in existence or not generally known when this paper was written and read. Although the formation of the vascular system has been explained by this theory, I am still disposed to adhere to views which I had previously taken; and the microscopic examination of what appeared to be vessels in process of formation in an adventitious growth has strengthened my confidence in it.

METEOROLOGICAL OBSERVATIONS ON CHOLERA.

By J. A. HINGESTON, Esq.

NO. V.

In the present paper, I shall make use of the Meteorological Observations taken at the Royal Observatory, Greenwich, and quoted weekly in the Registrar-General's Return of Births and Deaths in London, rather than my own private diary, which of course is not so trustworthy as a public record of the same kind. Occasionally, I shall avail myself of Mr. Glaisher's observations, at Lewisham, and sometimes of information derived from the daily papers. My remarks extend from the 19th of August to the 28th of October, inclusive.

The calm that prevailed throughout the worst period of the disease is denoted by the figures in columns nineteen to twenty-two in the Meteorological Observations of the Royal Observatory; on reference to which, it will be seen, that in the second week of September, when cholera was at the worst, it was represented by 195; whereas, in the last week of August, it had been 835; and in the fourth week of September, when "cholera was slowly retreating from London", it rose to 1,045. The calm was the greatest when the disease was the worst; and the disease began to decline as the wind rose. If we examine the columns denoting the pressure of wind in lbs. on the square foot, we shall find that, between August 19th and October 21st, it was, with very few exceptions, at zero. In the same space of time there were thirty-two days marked down as *calm*, which means that it was absolutely so; but if, according to my own careful observations, we were to double that number, we should scarcely be wrong in the general acceptance of the word; that is to say, nearly the whole period was a calm, or at the most only a light breeze. The exceptions to this oppressive state of the atmosphere were on Oct. 20th, 19th, and 18th, the 8th, 7th, 5th, and 4th; Sept. 23rd, when the cholera began to decline, the 20th, 19th, and 16, when there were some stiff breezes for a short time from the south-west. Except these days, amounting in all to not more than ten, all the rest of the time has been a calm, frequently a dead calm, with what sailors call *cat's paws* along the surface of the stagnant ocean.

On reference to the *General Remarks* from the Royal Observatory, we find that September was ushered in with "a dense blue mist", "a thick haze", and "clouds prevalent about noon". The second, or fatal week of that month, was remarkable for "a thick fog", "a fog that prevailed during the day, and also during the night", and "fog" more or less throughout the seven days. From the 16th of the month of September to the 14th of October, we find the words "fog", "misty rain", "a thin misty rain", "fog and misty rain". According to my own observations, the distant country was, during all this time, dim and misty; small black flies were frequent; and the cocks seldom crew. Occasionally, the atmosphere was translucent, the Isle of Wight was visible from the heights, and ships upon the horizon were distorted by the mirage. The robin redbreast returned early, and the swallows were less vivacious than usual.

The aspect of the country is most peculiar during the cholera period, and cannot be forgotten by those who have had the leisure to observe it accurately. The sunshine is pale and watery, and of a sickly brightness; there is a sticky moisture pervading everything; meat putrefies quickly; and the evenings are chilly. The smell of the country has lost its freshness. The same kind of weather seems to have prevailed throughout the world. A writer in the *Times* (Aug. 8th) from the Baltic, mentions the mist incidentally, and then goes on to say that five fatal cases had happened on board the *St. Jean d'Acree*; and another writer, from Varna (Aug. 26th), says that, while the cholera was raging there, the weather was fine but overcast. That there was a great calm at the same time, there seems no reason to doubt; indeed, it is implied by the information of every corre-

spondent. As to the barometer, we find that from the 25th August to the end of September, it stood obstinately at 30, more or less—that is, fair.

The disease this year seems to have been of a peculiarly fatal description. In the Dobrukscha (*Daily News*, Oct. 2), it came on like a storm; no sooner had the rain passed than our men (*i. e.* the French) were seized in all directions. It struck them as a ball; and they threw themselves struggling on the ground, tearing their hair and clothes for two or three minutes in moaning agonies, succeeded by convulsive trembling, which left them in the distorted rigidity of death. We lost three hundred men in six hours. The appearance of the dead was horrible; their eyes were sunken, their mouths open, and a slight mucosity upon their teeth gave them the appearance of mother of pearl.

It appears to me that a specific form of indigestion has been co-existent with the epidemic throughout the entire population. I have heard many complain of the same uneasy sensations in almost the selfsame words. There is a precordial pain, together with heat, extending to the back and down the thighs, and some headache, a slight giddiness, and nausea. It is probable that this is the preliminary stage of cholera, beyond which many do not pass; and that frequently it goes off by diarrhoea, and occasionally ends in the hopeless blue stage. By early medical treatment, it may be cured. Warm aperients, the carminatives, and dilute nitric acid, seem to be the most useful remedies; conjoined with a generous diet, and a small quantity of brandy. Is it not subacute gastritis? and does it not exhibit the symptoms of poison, inhaled through the air we breathe, or swallowed with the food we eat? Be this as it may, atony is the prominent characteristic of disease at present. Dr. Babington has already described this form of indigestion; and I readily bear witness to the truth of every word he has written concerning it.

Brighton, Nov. 1, 1854.

REMARKABLE CASE OF INCONTINENCE OF URINE.

By JOHN Z. LAURENCE, Surgeon to the Farringdon Dispensary.

An old man applied to me at the dispensary in a state of great distress, from having for the last six weeks on waking in the morning, found himself drenched in urine which had escaped involuntarily from him during his sleep. This had gone on to such an extent that he was actually attacked with severe rheumatic pains down the whole of the side on which he was in the habit of lying in bed. He generally passed his water twice a day, once before retiring to rest, when he often felt a desire to micturate more than he was able. His stream of urine had always been a full one, but he had experienced latterly some pain in the small of the back whilst micturating, and his water had been rather turbid from a reddish sediment. No enlargement of the prostate could be felt by the rectum. What the incontinence depended on in this case was not very clear to me. Viewing it as being due to some loss of tonic contractility of the muscular fibres at the neck of the bladder I prescribed the following mixture.

℞ Tinct. ferri sesquichloridi ʒii,
Balsami copaibæ ʒi,
Strychniæ gr. i,
Infusi quassiæ ʒxii. M.

Fiat mistura, cujus sumatur ʒi ter die.

To my surprise, the next time I saw the man he informed me that after taking two doses of the medicine the same day, he had no incontinence that night, and had not been troubled since. I certainly expected some effect from the remedies, but a cure so sudden and so permanent was as remarkable as it was gratifying.

30, Devonshire Street, Portland Place, Nov. 1854.

REPORTS OF SOCIETIES.

MEDICAL SOCIETY OF LONDON.

SATURDAY, NOVEMBER 4TH, 1854.

EDWARD HEADLAND, Esq., President, in the Chair.

SYPHILITIC DISEASE OF THE PLACENTA.

BY F. W. MACKENZIE, M.D.

Dr. MACKENZIE exhibited a placenta which had undergone remarkable morbid changes as the result of syphilis. It was below the average size, felt firmer and denser than natural, and had generally a dingy red or coppery appearance. The fetal surface, immediately below the membranes, was extensively covered with a thick deposit of a white fatty-looking substance, which, upon careful examination, was found to consist almost entirely of fibrin. The villi were not affected with fatty degeneration; but the membranes had a somewhat opaque fatty appearance in places, which was dependent upon an accumulation of loose epithelial scales, closely resembling those of the epidermis, and derived from one of the membranes, most probably the chorion. The umbilical cord had a mottled appearance, and the darker portions had a copperish hue. The dependence of this morbid condition of the placenta upon syphilis was proved by the fact that the infant was born unmistakably syphilitic. Its skin had a copperish tint; the integuments of the neck were scurfy; several small pustules were seated upon the scalp; a muco-purulent discharge issued from the vagina; and its body generally was attenuated and shrivelled. It moreover appeared that the mother had three times contracted syphilis within the last eleven years, and, during that time, had frequently aborted and given birth to syphilitic children. During the six weeks she had been under observation before labour, she had no appearance of having syphilis, but, on the other hand, looked clean, healthy, and strong; and, with the exception of a sore throat three years previously, had had no sign or symptom of constitutional syphilis. The facts of this case appeared to Dr. Mackenzie to warrant the following conclusions: 1. That extensive fibroid disease of the placenta is proved to be not merely the result of a normal degeneration of portions of the organ whose functional activity has ceased to be required, but is in some cases, at least, specifically dependent upon an abnormal action. 2. That these morbid conditions of the placenta sometimes arise from certain constitutional taints or causes, of which syphilis was undoubtedly one. 3. Looking to the copper-coloured tint of portions of the placenta and cord, we might almost assume that this peculiar characteristic of syphilitic eruptions depends less upon any specific inflammatory action of the vessels of the skin than upon an altered condition of the colouring constituents of the blood. 4. That the uterine organs separately and specifically suffer from the constitutional action of syphilis upon the female economy—a doctrine which he (Dr. Mackenzie) had endeavoured to establish, in a paper submitted to the Royal Medical and Chirurgical Society during the last session. The author was convinced that the further prosecution of this subject would conclusively show that a numerous class of uterine ailments had their origin in this cause—one which, although often latent, was yet very widely spread in its operation.

EPILEPSY AND DELIRIUM TREMENS IN THE SAME PERSON.

BY G. D. GIBB, M.D.

On September 5th, Dr. GIBB was called to see a young man, who had had an epileptic fit on the previous day. On the 10th, delirium tremens set in; and the patient died on Sept. 13th. He had altogether seven fits from the time of being attacked; but none on the last three days of his life. He had been employed in the cellar of a publican, but was not addicted to drinking, only taking some porter occasionally. His father had been epileptic; and Dr. Gibb thought it probable that the fumes to which he was exposed had determined the attack. Dr. Gibb had seen only one other case in which these diseases were combined; but thought that their coincidence was perhaps not so rare as is usually imagined.

PIECE OF TOBACCO-PIPE REMOVED FROM A CHILD.

BY HENRY SMITH, ESQ.

A child, eight years old, was brought by his mother to Mr. SMITH, with a swelling of the size of an egg behind the ramus of the lower jaw, regarding which the following history was ascertained:—Two years and a half ago, the child fell down with a pipe, and broke it in his mouth; but it was imagined that he had spat out all the fragments. He remained appa-