Cases of syphilitic affection of the third nerve, producing mydriasis, with and without ptosis / by Victor de Méric.

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WITH AND WITHOUT PTOSIS.

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CASES OF SYPHILITIC AFFECTION OF THE THIRD NERVE PRODUCING MYDRIASIS, WITH AND WITHOUT PTOSIS.*

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I CONSIDER that surgeons engaged in special practice do good service in placing upon record cases of this kind, especially when the latter present peculiar features; but even in the absence of such, it is our duty to swell the number of well-ascertained facts. These, of course, are the sure basis upon which our knowledge of syphilitic affections of the nervous system should mainly rest.

CASE I.—*Syphilitic Mydriasis on the Left Side; no Ptosis or other Ocular Paralysis.*—A gentleman from abroad, engaged in mercantile pursuits, and about 30 years of age, first consulted me, Jan. 19th, 1868. He had very slight blennorrhœa. On the nape of the neck and forehead were small copper-coloured papules. He was of ordinary size, well built, but rather pale. His functions were in a tolerably healthy condition.

Five years before the present visit, he had had a chancre on the glans, followed, in a few weeks, by a general eruption. Mercurial treatment, though not well borne, was kept up in London, after having been begun abroad. The patient was subsequently put upon iodide of potassium and sarsaparilla, with which he persevered for some months, and had not perceived, since that period, any syphilitic symptoms.

For the urethral discharge, a tannin injection was used; and iodide of potassium given in small doses, in view of the syphilitic taint which might keep up the discharge. The patient then went on a journey to the south of Europe, and returned to London in May, after having consulted abroad several medical men both as to the blennorrhœa and the former syphilis. The symptoms of the latter consisted merely in a few scattered papules on the face and nape of the neck. The blennorrhœa was persistent. We now tried bismuth injection, and continued the iodide of potassium. A few days after this, the patient mentioned a confused state of vision, and I perceived a marked dilatation of the pupil on the left side; he had the usual amblyopia when attempting to read with both eyes, but no diplopia. There was perfect vision with the right eye alone. He had no ptosis, nor paralysis of any of the recti or oblique muscles. There was no

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pain in the head, nor derangement of general health. Five grains of iodide of potassium were ordered to be taken three times a day, a blister to be applied behind the ear, and a compress with lead-lotion over the eye. As no improvement was obtained, and the pupil, against a strong light, was, in the left eye, almost three times the size of the pupil of the right or sound eye, I introduced a little disk, prepared with extract of the Calabar bean, under the lower lid of the left eye, increased the dose of the iodide, and desired a fresh disk to be used every morning. The pupil contracted energetically with the Calabar bean, but the paralysis of the circular fibres usually returned in the evening, with all the amblyopic symptoms. I was now anxious to examine the fundus of the eye, and obtained the able assistance of my friend Mr. Wordsworth. The retina was sound; there was slight congestion of the choroid. No amblyopia through a small perforation; but imperfect vision of the left eye, probably depending on paralysis of accommodation. He was ordered to continue the Calabar bean and the iodide of potassium, and to avoid straining the eyes.

This treatment was steadily continued up to August; viz., for three months; the iris then began to act a little better, when, for a trial, the Calabar bean disk was not used. The dose of the iodide had been carried to sixty grains daily. At last, in November, six months after the mydriatic attack, the pupils acted equally on both sides, and the iodide was replaced by steel and quinine. At this period, a large tubercle appeared on the nose; and I judged that a permanent blister on the left arm would be of use. This was kept up for some time, and finally allowed to heal up.

It may then be said that the treatment lasted six months. I saw the patient about a year after the first onset of the mydriasis; he remained well, but stated that, after reading for some time at night, the letters became indistinct. There was no reappearance of any syphilitic symptom.

Case II.—*Syphilitic Mydriasis of the Left Eye: Ptosis: no other Ocular Paralysis.*—A French gentleman, about 32 years of age, engaged in the City, brought a young lady to my consulting-room in October 1867. He wished me to give her some advice touching an eruption on her face. This consisted in several rings of psoriasis of a copper colour. I immediately had my suspicions, and found, when alone with the patient, that the vulva and thighs were thickly set with mucous tubercles. I was, of course, obliged to give an account of this state of things; and the consequence was that I sent the patient to the Royal Free Hospital, where all the symptoms took more and more development. The treatment lasted over four months, during which time she had a miscarriage. The mucous tubercles, which had grown into large vegetations, had to be removed with the knife, and the patient left in good condition.

Before concluding this rapid account of her case, I should add that I saw the patient about a year after she had left the hospital, as she sought my advice for epileptic symptoms, which I could not help connecting with her former syphilis.

I return to the gentleman, whose case offers interesting features, and on whom our attention is to be principally fixed. Up to the time when he brought the lady to me, he had not perceived any morbid symptoms upon himself; but he came the next day to show me a very slight psoriasis palmaris on both hands. None but a practised eye could have detected it. On the mucous reflexion of the prepuce was a still slighter, scarcely perceptible, scaly redness. A few inguinal glands were some-

what enlarged; but they were always so, according to the patient's statement. The occipital glands were very distinct; and one gland, of the size of a pea, could be felt near the left elbow. The patient was extremely careful of himself, scrupulously clean, and maintained that he had never perceived the slightest primary symptom about the parts of generation or elsewhere. He was ordered to take one grain of iodide of mercury every night, and to apply mercurial ointment to the hands. The treatment was carried out for three months, during which time the hands quite recovered; but papules appeared on the hairy scalp, and the tonsils enlarged considerably. A few very slight relapses had to be combated for a few months afterwards; but the patient soon recovered his usual health.

In January 1869, seventeen months after he had first been attacked with syphilis, the patient came to complain about the sight of the left eye. I perceived some epiphora and a slight dilatation of the pupil. He stated that vision was perfect on the right side, but indistinct on the left. There was much confusion when both eyes were used, but no actual diplopia nor ptosis. A blister was applied behind the left ear, and spirit-lotion to the eyes. As the ptosis some days afterwards had increased, I judged, considering the history, that a course of mercury was advisable: this was at once begun, and the blister repeated. In a few days the ptosis was more decided, but the movements of the globe were free; there was no strabismus. I now commenced the use of the Calabar bean disks; and, with the kind assistance of Mr. Wordsworth, we ascertained the state of the deeper portions of the eye on February 3rd, about three weeks after the eye was first affected. The deep structures of the eyes were quite sound; there was no paralysis of the recti or oblique muscles. The levator palpebræ was feeble. There was confused vision for want of power of accommodation. The left eye could distinguish objects well through a perforation on a card. The use of the Calabar bean produced some myopia. A favourable prognosis was given; and it was decided to persevere in the use of the Calabar bean, increase the doses of the iodide of potassium, and keep open the blister; to try spectacles with ground glass on the affected side; and eventually to use the electric current on the face and brow. This treatment, save the use of the spectacles, was regularly carried out, the patient introducing the disks himself with great ease, thereby obtaining a pupillary contraction which allowed him for several hours to attend to his mercantile books. I applied the current myself two and three times a week, with the simple rotatory machine, the patient holding one pole, and the operator touching various portions of the orbit with the other. No current was applied to the globe itself. As the improvement was very slow, and as the psoriasis palmaris reappeared, I substituted iodide of mercury for the iodide of potassium. The effect was very satisfactory; the metal was well borne, and the ptosis became less and less marked. The disks were now intermitted; and on the days when they were not used, the circular fibres of the iris were seen to regain some energy. The treatment was thus continued to the end of May, the electricity being applied by the patient himself; and, about five months after the first onset of the eye-affection, the two pupils were of the same size, or thereabouts, and they acted with equal energy. Still the patient, at that period, experienced some fatigue after reading for a couple of hours. All evident symptoms of syphilis had disappeared.

Case III.—*Tertiary Syphilis: Necrosis of Bone in the Orbit: Mydriasis: Immobility of the Eye-ball: no Ptosis.*—This patient was a

German baker, about 34 years of age, who had passed through very distressing symptoms of syphilis, and suffered, in the last place, from the consequences of paralysis of almost all the branches of the third nerve on the right side. The man was admitted into the ward set apart for venereal complaints in the German Hospital, in July 1868. The evident ravages of syphilis (which began five years before admission) then were: a deep depression on the forehead from loss of bone; falling in of the nose from necrosis of the vomer; a large perforation over the hard palate towards its posterior part, and almost complete loss of the velum palati. The disease had begun by an indurated chancre on the glans, and the patient had several times been under treatment at the German and Royal Free Hospitals. At one time, his condition was very precarious; but his general health was restored by means of good diet, tonics, and iodide of potassium.

On admission, there was considerable swelling of the soft parts around the right eye, with a fluctuating tumour towards the inner canthus. He had severe pain; vision was confused; the pupil and the movements of the globe were normal. On the bursting of the abscess, extensive caries was detected within a radius of an inch of the inner canthus, and several pieces of bone were gradually cast off, coming from the ascending process of the superior maxilla and the os unguis. As this elimination was going on, the movements of the globe became imperfect, the pupil gradually dilated and became insensible, and finally the eye was perfectly fixed, though the upper lid did not fall. Movements of the globe upwards were impossible, but the levator palpebræ retained its free action, as the lid could be raised when, by the orbicular muscle, both lids had been brought together. The treatment consisted principally, ever since the patient had been admitted, in large doses of iodide of potassium with bark, generous diet, and detergent lotions to the mouth and eye. When the affection of the pupil had become evident, the Calabar bean extract, in solution, was freely used, and always had the effect of contracting the pupil for several hours. But the paralysis of the recti and obliqui was not in any degree influenced by the treatment, the eye remaining fixed, and vision extremely imperfect. The appearance of such an immovable mydriatic eye is extremely unpleasant. The ophthalmoscope was, on several occasions, used with the assistance of Dr. Burger, then house-physician, and well practised in the use of the instrument. No very marked pathological change was observed in the deeper structures of the affected eye. The patient was kept in hospital between three and four months, and derived much benefit as to his general health; but (as might be expected in so inveterate a case) the different losses of substance remained unaltered, and the eye fixed and mydriatic. He was recommended to apply to Mr. Ramsay, of Queen Anne Street, who kindly furnished him, gratuitously, with a plate to cover the gap in the hard and soft palate. On leaving the Hospital, the following memorandum of the state of the patient was drawn up by Dr. Burger.

"The right orbit is larger than the left, the enlargement referring to the inner half, and being caused by the loss of the lacrymal bone and portion of the ascending process of the superior maxilla. The globe on the right side sinks, in the vertical direction, two lines behind the left, and is fixed in the orbit; the only slight movement possible is upwards, and also very feebly downwards. The pupil is dilated to the maximum, is not influenced by light, but contracts energetically by the use of the extract of Calabar bean, the action of the extract stretching over about forty-eight hours, and then ceasing. The transparent media

of the eye are clear; the point of emergence of the optic nerve is of a whitish grey, and the sides less marked. The central vein and its retinic branches are, in the right eye, thicker than in the left, and assume a serpentine course. The field of vision is not much impeded, and the patient sees fingers at fifteen and twenty feet distance. With the affected eye, when the pupil has been made to contract by Calabar bean, he can read Jäger No. 20."

CASE IV.—*Destructive Primary Symptoms: Generalised Syphilis: Severe Manifestations: Eventual Affection of the Third Nerve with Ptosis: Scrofula: Syphilitic Engorgement of Cervical Glands.*—The patient was a clerk in a commercial house, about 32 years of age, short, and of rather spare make. He was admitted into the German Hospital September 22nd, 1865, with inflammatory phimosis, passing into gangrene of the prepuce. He previously never had any ulcerations about the parts of generation, and could only remember very slight gonorrhœal discharge. Gross mismanagement had brought him to his present weak state; and, when I slit open the phimosed prepuce, through the opening of which a sanious discharge, mixed with blood, was issuing, I found the glans half destroyed by sloughing phagedæna. The body was covered with large patches of psoriasis, and the state of health very lamentable. In spite of the most active treatment, the phagedenic action continued, and destroyed the organ up to the pubes. The secondary symptoms became, meanwhile, more aggravated, and were eventually subdued by the use of a mercurial course. The patient stayed about three months in the Hospital, and left in tolerable condition, after having suffered for awhile from severe inflammation of the right knee.

In February 1866, two months after leaving the hospital, his whole face became covered with rupial crusts, and the left eye presented symptoms of affection of the third nerve. There were mydriasis, ptosis, and paralysis of some of the recti muscles, as proved by the inability of the patient to overcome the powerful action of the external rectus. His face was really most repulsive with the rupial crusts, the fallen lid, and the iris almost lodged in the external canthus. The poor fellow was now treated as an out-patient, after the deeper portions of the globe had, as in the other cases, been examined by Dr. Burger and myself with the same results. The Calabar bean was not used in this instance; but we relied principally on blistering behind the ear and the administration of large doses of iodide of potassium. Vision was, in this case, not only amblyopic, but decidedly diplopic; which latter circumstance must be attributed to the dragging of the globe by the external rectus.

By means of the treatment adopted, the ptosis gradually diminished, and the pupil began to act a little; but now came another complication, in the shape of enormously swollen glands in the anterior and posterior cervical regions. This complication I have observed in other rather weak subjects affected with syphilis, and shall publish the cases shortly. We now desired the patient to re-enter the hospital; where, in pursuing the line of treatment above indicated, the rupial crusts fell, and the integrity of the third nerve became re-established. The glandular masses around the neck, which were of the size of several fists placed side by side, resisted, however; and the patient was advised to seek the air of his own country.

I saw him again in December 1868, three years after he was first seized with the primary symptom. He was then quite well, and had been so for at least one year. The affection of the eye required a treatment of fully six months.

CASE V. *Tertiary Syphilis: Affection of the Third Nerve: Mydriasis: Ptosis.*—In July 1865, I admitted into the Royal Free Hospital a man, aged about thirty, a native of France, whose whole body was covered with tertiary ulcers. The primary symptom had appeared full three years before, and the succession of manifestations had been of the ordinary kind.

As happens in the case of debilitated patients, there was here a large suppurating bubo on the right side. This being freely laid open, and the numerous ulcers treated by red precipitate ointment, there was, in about six weeks, great improvement. The internal treatment consisted principally of iodide of potassium in large doses, and the liberal administration of tonics and stimulants.

The patient was discharged after six weeks' stay in the hospital, and called upon me about one month afterwards, complaining of pains in his head. He also stated that he saw double; and I perceived that the upper lid of the left eye had fallen. On examination, I found mydriasis of the same eye; but the globe moved pretty freely, and followed the fingers in various directions. The patient wished to return to Paris, where he probably underwent an appropriate treatment. When I saw him again, accidentally, some months afterwards, the ptosis had disappeared.

CASE VI. *Affection of the Third Nerve: Mydriasis: Ptosis.*—This case refers to a lady, aged about forty, of a very nervous temperament, and is mentioned, not because a distinct syphilitic history could be made out, but on account of the rapid improvement obtained by the use of mercury.

The patient requested my advice in July 1866. She had been married fifteen years, and had no family. Once famous in the artistic world, she still possessed attractive features, and had enjoyed good health, save the numerous discomforts connected with a highly susceptible nervous system. After fits of vomiting for several days, the patient became somnolent and listless, speaking slowly and with some effort. Appropriate remedies did not improve her state; and, after about a month had elapsed, I found the left eyelid drooping, and the pupil dilated. On inquiry, the amblyopia described in the preceding cases was complained of. I of course suspected some cerebral mischief, and ordered blistering on the nape of the neck, and rather large doses of iodide of potassium. The listlessness and somnolence diminished considerably; and, though anxious to know more of the history, I did not feel called upon to make very minute inquiries into the past. The eye moved freely in all directions, save upwards; the dilatation of the pupil was considerable, and not affected by a strong light. The deeper portions of the eye were not examined in this case. I now determined to bring the patient under the influence of mercury; and succeeded, by means of calomel (though not dropping the iodide of potassium, nor allowing the blisters to heal), to affect the gums to a rather high degree. From this moment the improvement began; and the joy of the patient on recovering power over the upper lid, the ugly effects of ptosis having been deeply deplored, was very great. The circular fibres of the iris gradually recovered their tone, and the eye was quite restored six weeks after the calomel had been first administered.

There is no evidence of the syphilitic nature of the affection of the third nerve in this case; and it is reported merely to prove the power of mercurial action. This action is frequently so maligned, that I am anxious not to lose an opportunity of giving it a good word.

REMARKS.—In reviewing the facts mentioned in the preceding cases,

we find that the patients all recovered, if not a completely normal, at least a very good, use of the affected eye. Hence we may, in such cases, offer a rather favourable prognosis. The result was not so satisfactory in Case III; but, when we consider the amount of disease of bone with which the orbit became involved, it is surprising that the eye did not suffer more. In this same case, there was hardly any confusion of vision when both eyes were used—probably because the globe was quite fixed on the affected side. Nor could it be asserted that, in this case, the third nerve will not in time, in the absence of debilitating causes, recover a portion of its integrity.

We all know that the motor oculi nerve may, in otherwise healthy individuals, have its functions disturbed by inflammation, the pressure of tumours, abscesses, or clots, or through the rheumatic diathesis. Such cases as have just been related prove that syphilis may act in the same manner. A certain amount of doubt might be thrown on the first case, for the evidence of a syphilitic taint is not very decisive. Still we may, without straining, admit the etiological explanation which I have offered, as the eruption was decidedly of a syphilitic nature. I do not mean to deny, however, that in this case, and even in other cases where the existence of the syphilitic poison is evident, such causes as rheumatism or cold air may lie at the bottom of the mischief. It is, however, fair to conclude, from the facts mentioned in Cases II, III, IV, and V, that generalised syphilis was the cause of the phenomena about the motor oculi. In these four cases, there is no doubt concerning the syphilitic contamination of the organism; and the diagnosis may be legitimately settled in the manner I have done. Some cases of this kind have been put upon record; but it is worthy of remark that, as a general rule, they are rare. In a special public and private practice of twenty-three years, I have not been able to collect more than the five I have mentioned. I exclude the sixth, as there is no positive evidence of syphilis. I have, however, in my notes, one more case of the syphilitic kind; but I have not included it, because the mydriasis depended more on retinitis than on a *bonâ fide* affection of the third nerve.

It will be noticed that, in Cases I and III, there was no ptosis. In the first, in fact, it would seem that the mischief lay principally in the lenticular ganglion. I may here quote Mr. Wharton Jones's own words. "When dilatation of the pupil occurs, unaccompanied by ptosis and incapacity to turn the eye except outwards and a little downwards, it is owing to paralysis of that branch only of the nerve of the third pair which goes to the lenticular ganglion." In this first case, there was simply mydriasis, and no affection whatever of any muscles which move the globe of the eye; so that we are inclined to suppose that the short ciliary nerves, arising from the fore part of the ganglion, were exclusively affected. It is not clear, in the third case, how the levator palpebræ escaped paralysis, whilst all the other muscles supplied by the third pair had lost their contractility.

From the facts elicited by the five cases which I have put upon record, we may infer that the third nerve may be affected as well in very slight as in aggravated cases of syphilis. The first and second cases were extremely mild, whilst the three others were very severe. The latter were in the *bonâ fide* tertiary stage; the former, in the secondary period of the disease.

I have already said that the prognosis is favourable, this opinion being based on my cases, and on some others which have been published; but it may also be asked on which therapeutic agent we should rely in the treatment. Now I must state that I have not, like some of my pro-

fessional brethren, lost all faith in remedies; and I shall ever be ready, when the syphilitic nature of the affection of the third nerve is clearly made out, to advise the use either of mercury or of iodide of potassium, according to the stage of the disease on which the patient has entered. Indeed, it may be seen by the sixth case how beneficially mercury does act, even where the complaint is not proved to have its origin in the syphilitic taint.

It is but seldom that we have opportunities of ascertaining the exact pathology of this nervous complication by autopsies. There is, however, a very instructive *post mortem* examination mentioned in Gros and Lancereaux's book on *Syphilitic Nervous Affections* (Case 121, p. 242). There was, however, hemiplegia in that case; and the affection of the third pair was only a slight consequence of extensive ventricular effusion and meningeal exudations, which had given rise to other and very formidable symptoms. I am rather inclined to suppose that the *sheath* of the nerve suffers in syphilis, as it is by Mr. Soelberg Wells supposed to suffer in rheumatism. Permanent exudations, pressure from tumours, are hardly likely to have any share in the mischief. It is, in all probability, the sheath of the nerve which becomes thickened in the syphilitic diathesis, as happens with other fibrous textures under the influence of the same disease. It has been doubted by some ophthalmologists whether the Calabar bean should be used in these cases; but the favourable results which I have obtained will show that there is some advantage in exciting the circular fibres of the iris, were it merely for the sake of keeping them engaged whilst we hope, by internal means, to favour the absorption of such adventitious structures which may thicken the sheath, or perchance press upon the nerve. I was glad to be supported in my view by so eminent an ophthalmologist as Mr. Wordsworth.

I have every reason to be satisfied with the results obtained by the electric current; the improvement was very evident, and acknowledged by the patient himself. I regret that it was not used with the other patients; and I hope that the cases just related, and the remarks which I have ventured to offer, will prove of some use in the practice of our art.

Since reading the above paper at the Leeds meeting, I have been favoured with the following case by Mr. Soelberg Wells; and I am happy to quote so able an ophthalmologist.

Last January, the patient had a very severe attack of neuralgia in the left side of the head; but sight remained quite unaffected. The attack lasted for about fourteen days. In March he contracted syphilis, and two months afterwards he was troubled with *muscæ volitantes,* his vision becoming somewhat impaired and misty, although he could still see small print. At this time the pupil was also somewhat dilated. The patient never saw double, so that in all probability none of the muscles of the eyeball were affected: they were certainly quite free from any paralysis in September last. The pupil of the left eye was then somewhat dilated (to a medium extent), and almost immovable. The patient could see small print, showing that the ciliary muscle had escaped. Mr. Wells prescribed iodide of potassium and a blister behind the ear, upon which there was some improvement, although the left pupil is still larger than the right, the dilatation becoming particularly marked at night. He does not remember having caught a severe cold just before he noticed the dilatation, so that mydriasis is most probably due to syphilis.

Mr. Lawson Tait, of Wakefield, has kindly placed in my hands a case bearing upon the subject of my paper. Here, it would appear that

the syphilitic taint had the effect, not of paralysing the iris, but, on the contrary, of producing myosis, the patient not having had any attack of iritis.

Harriet E., aged 30, came to Mr. Tait July 22nd, 1869, for a tumour on the clavicle: this he recognised as a node, and, on inquiry, obtained the following history.

Eleven years ago her husband contracted a chancre and communicated the disease to his wife. A few weeks after she felt the sore, she was covered with a roseola rash, and had sore throat, with periosteal pains. These lasted a long time, and she underwent no treatment. Within four years after the disappearance of the rash, she had five consecutive miscarriages, varying in period from the third to the sixth months. Three years ago, she suffered severely from photophobia, which did not appear to have been iritic, as there were no adhesions. The left pupil was much smaller than the right, and was very sluggish in action, whilst the right was not so. The right eye was moderate in size; the left was affected with ptosis, the patient saying that the latter affection had been in existence since midsummer 1868. In January last she suffered from severe neuralgia of the malar branch of the left ophthalmic nerve, which was relieved by hypodermic injection of morphia, the syphilitic history not having been elicited by the medical man who then had charge of her.

Mr. Tait ordered ten grains of iodide of potassium three times a day. On August 6th, there was slight improvement of the ptosis, the node of the clavicle, and the nocturnal pains.

August 27th. The improvement continued, but there was no alteration in the relative sizes of the pupils.

September 3rd. Atropine paper was put into both eyes; the two pupils dilated freely and regularly, but the left still remained less in diameter than the right. Ophthalmoscopic examination showed that the fundus was normal in both eyes. A blister was applied on the left temple.

September 17th. The effect of the atropine had gone off, and the left pupil had again resumed its myotic condition; the ptosis was much less; the clavicular node had disappeared; and the general health was much improved.

October 7th. The myosis had given way, and the patient was now perfectly well. She was ordered to report herself once a month.

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