

is just the kind of thing many donors would like to give. An ambulance station is just the kind of thing many would like to endow, its benefit being to them daily visible. From my observation, where the system is oldest I believe that, if put on a voluntary basis, it would by its popularity probably elicit enough to support itself, and do more than all things else combined to augment the hospital fund besides.

7th. *The expediency of attempted complete organisation at the outset, or of allowing gradual development?*—This question, confronted in its entirety, it must be admitted, promises no easy achievement. The hospital modifications, the police and telephonic arrangements, the harmonising of these with the heterogeneous and parochial administrations, like the obstacles which, but incomparably greater, were surmounted by the railway telegraphic and fire brigade systems, may not and should not be accomplished in a moment. The work as initiated by the London Hospital is, considering its importance, strikingly simple and easy. The neighbouring hospitals assuming a similar work for their respective districts, a fair proportion of the metropolitan area would, as shown in the diagram, be provided for, and the ultimate system or systems without delay might be determined by gradual development.

8th. *The authority by which the ultimate hospital and accident ambulance system for London shall be controlled.*—This must remain a question until, sooner or later, the time has fully come for the answer. The necessary integral position of the police department in such system is suggestive. Of this I should venture to say there can be little doubt that, however successfully different districts may be separately worked, in order to the highest success the entire organisation will ultimately be under one authority, so complete and absolute as to ensure corresponding responsibility and accountability in every subordinate whatsoever.

SOME OF THE RESULTS AND ADVANTAGES WHICH, FROM THE EXPERIENCE IN OTHER CITIES, MAY BE REASONABLY ANTICIPATED FROM A METROPOLITAN HOSPITAL AND ACCIDENT AMBULANCE SYSTEM IN LONDON.

1. Quickest possible medical aid, and best form of transportation to the home, or to hospital, in street accidents and other emergencies.

2. A sense of security which by the knowledge of this provision will be imparted to every rank and class throughout the entire community.

3. A more personal interest, a deeper sympathy, and a closer relation will be induced between the subscribing class and such hospitals as by their ambulance service shall manifestly include this class within their most important provisions.

4. The sense of public obligation thus induced, and of which the ambulance carriages as they pass will be a daily reminder, should sensibly augment the hospital revenues, both by multiplying contributions and by promoting endowments.

5. As a substitute for the much-discussed redistribution of hospitals it offers a simple form of hospital extension; the ambulance bringing the hospital to the spot, however distant, where the patient is.

From personal observation, in nearly every city where an ambulance system exists, I should say that in every one of them the ambulance department for the saving of life has come now to be deemed almost as important as the more expensive fire department for the saving of property; that now to abolish the one would be as difficult as to abolish the other.

One of the earlier results of the "Hospital and Accident Ambulance Service of London" which I venture to predict, is a general expression of surprise it was not adopted before.

LIVERPOOL ROYAL INFIRMARY.—The annual meeting of the trustees and subscribers to this institution was held in the Law Association Rooms, Liverpool, on the 30th ult. The report stated the finances to be very unsatisfactory, the subscriptions having fallen off notwithstanding the increased expenditure. It was proposed that the infirmary should be entirely reconstructed and largely rebuilt on its present site, the existing accommodation being most inadequate. The report was adopted. Various speakers made an urgent appeal for increased public support.

A MALTESE cross, fifteen feet high, has just been erected in Allenville in memory of the late Dr. James Simpson, of Aberdeen.

OPHTHALMIC MEGRIM:

AN AFFECTION OF THE VASO-MOTOR NERVES OF THE RETINA AND RETINAL CENTRE WHICH MAY END IN A THROMBOSIS.¹

By DR. XAVIER GALEZOWSKI.

WHEN I read a paper on the subject of ophthalmic megrim before the Congress of Genoa in 1877 I had already seen no fewer than seventy-six cases of this curious disease, and had included it amongst the affections of the fifth nerve, and of the vaso-motor nerves of the retinal centre. In my opinion ophthalmic megrim is an affection of that part of the fifth pair which supplies vaso-motor nerves either to the visual centres, such as the corpora quadrigemina, the corpora geniculata of the optic thalami and the chiasma, or to the parts lying more peripherally, such as the optic nerves and the retina. But all nervous diseases, as Professor Charcot justly observes, may be said to be associated with more or less material lesion, and an apparently purely nervous affection may assume at any moment the characters of an organic disease. Ophthalmic megrim affords an additional evidence of the truth of this statement, for amongst the numerous cases that have occurred in my practice I have already met with two cases of thrombosis of the retinal vessels—one case of thrombosis, with rupture of the vessels; and one case of partial atrophy of one optic disc—which I am disposed to ascribe to thrombosis of some cerebral vessel.

The following are the observations which seem to possess special interest:—

CASE 1. *Ophthalmic megrim; thrombosis of the central artery.*—General S—, aged sixty-seven, consulted me on February 1st, 1881, complaining of sudden loss of vision in the right eye, which had occurred five days previously. He stated that for more than twenty years he had suffered from periodical visual trouble in the right eye, in the form of hemiopia or of scotoma, with zigzag lightning, lasting for a few minutes. This was succeeded by violent pain on one side of the head, and vertigo. These phenomena all disappeared in the course of two or three hours. They recurred every month or every week, and even during several successive days. The last crisis was followed by permanent loss of vision. On ophthalmoscopic examination a thrombosis of the arteria centralis retinae of the right eye was diagnosed, with a few spots of hæmorrhage. The affected eye was entirely blind, except that there was slight quantitative perception of light in the outer part of the field. The disc was white, slightly infiltrated in its outer half; the arteries were filiform, and some light whitish patches of infiltration were visible along the temporo-frontal branch. On compressing the globe, pulsation could be easily induced in the central part of the artery. The examination of the heart made by the physician in attendance on the family and by myself showed that the valves were free from disease.

CASE 2. *Thrombosis of the central artery of the retina consequent upon a succession of attacks of ophthalmic megrim.*—Miss X—, aged fifteen, living with her parents in the south of France, was sent to me by Professor Jaumes, of Montpellier. She had been subject from the age of seven or eight to ophthalmic megrim. The attacks supervened frequently, and without any apparent cause. They were characterised by headache, preceded or followed by disturbance of vision in one eye, and sometimes in both eyes. This disturbance consisted of dimness and lightnings in the form of a rain of fire or of zigzag flashes. Occasionally her vision was entirely lost for a period of ten or fifteen minutes, and was then perfectly restored. These phenomena recurred at different intervals, sometimes every two or three months, and sometimes every week for several successive weeks. During the last year the visual troubles had been so frequent that no day passed without her feeling them more or less distinctly, the left eye being almost always the one affected. The remarkable feature of the case was that as soon as the attacks had passed no visual trouble remained, and the patient could work, read, or write without the least difficulty. On Dec. 25th, 1880, she had an attack of megrim accompanied by dimness and impairment of sight, and a few

¹ A paper read before the Biological Society, at a meeting held on Nov. 26th, 1881.

minutes afterwards the vision of the left eye was found to be entirely lost. The headache which followed the fit lasted twenty-four hours, and partial recovery of vision took place in the course of two or three days. The various plans of treatment to which she had been subjected were without result, and she was in this condition when her parents brought her to me (Feb. 8th, 1881). The note then taken was to the effect that no change is observable on external examination of the eye, except that the movements of the iris are sluggish. Miss X— can see to read No. 2 test type, though she experiences some pain in doing so; $S = \frac{3}{5}$. The inferior half of the field of vision is lost. Examination of the fundus by means of the ophthalmoscope shows that the optic disc is white, with a light serous effusion around it. A whitish infiltration affects a great part of the region of the macula. The appearance of the retina and of the disc exactly resembles that presented in embolism of the central artery of the retina, and in point of fact the fronto-temporal and fronto-nasal arteries are obliterated and surrounded by a perivascular sclerosis for a space equal to about twice the diameter of the disc. The same condition, though in a less marked degree, is presented by the inferior arteries. The calibre of these arteries is materially diminished, and on compressing the globe with the finger no pulsation can be observed. The veins are relatively of larger size than the arteries, but as compared with those of a healthy eye are decidedly lessened in calibre. Our regretted *confrère* Dr. Raynaud, who had been consulted on the young patient's health, met me in consultation on her. From the cases I instanced, and after my description to him of the processes which appeared to demonstrate embolism of the vessels, we made a very careful examination of the heart, but nothing was found indicating in the slightest degree the presence of hypertrophy of the heart, or, indeed, of any other cardiac affection. At most an *anæmic* murmur was audible in the carotids. Dr. Raynaud therefore stated in his written account of the case that the retinal affection was the result of an autochthonous or spontaneous thrombosis. What, then, we may ask, was the cause of this thrombosis? The girl had always enjoyed good health, she looked strong and had apparently a good constitution. She complained only of ophthalmic megrim from which she had suffered on three occasions in the affected eye, and once in the other eye during the five weeks of her stay in Paris. We may add further that her father is very liable to megrim, and in his childhood suffered twice from the affection. He is of a gouty constitution, and it is not therefore surprising that the child of a father subject to gout and megrim should be predisposed to alterations in the vessels which, under the influence of the spasms of megrim, are at a certain moment exhausted. I think there may be a direct and immediate correlation of these ocular nervous troubles with the thrombosis of the retinal vessels; and if the spasms of the vessels are the initial cause of the megrim, we may comprehend in some measure that prolonged contraction of the arteries, the internal or lining membrane of which is somewhat rigid, may at length cause obliteration of their calibre. Professor Charcot has advanced a very sound opinion, which Feré has supported in his last work, that the symptoms in any case of megrim may assume definitive and permanent characters. In fact, I have had an opportunity of observing with this eminent master a case of central scotoma which had become definitive. M. Charcot has seen a case of aphasia associated with megrim which became permanent. Perhaps in all these cases, which, however, are of rare occurrence, the same pathological processes are induced by the spasm. Changes similar to those observed in the retina probably also occur in the brain, if we may draw any conclusion from the following case, which fell under my notice. A young woman affected for many years with periodical troubles of vision associated with megrim suddenly lost the sight of the right eye, and, notwithstanding some improvement, the vision remained permanently impaired, and after the lapse of some time atrophy of the disc occurred in this eye similar to that which is found in cerebral and spinal affections. The following are the details of the case:—

CASE 3. *Ophthalmic megrim, with consecutive atrophy of the left disc.*—Madame V—, aged twenty-nine, living at Montmartre, had suffered from occasional attacks in her youth, but had of late years been entirely free from them. Four years ago, after her last confinement, she began to experience violent periodical headaches, which she attributed to fits of megrim. At the same time she began to be troubled with transient dimness of vision. Both eyes

filled with tears, then a mistiness was felt, lasting for half an hour, which was again followed by headache lasting for one or two hours, and accompanied by nausea and vomiting. As long as the mist lasted the patient constantly saw zigzags, which were very vivid and of various colours. The mist always affected both eyes. She never suffered from hemiopia, but vision was always obstructed by a black scotoma obscuring any object that was looked at near the point of fixation. It is interesting to remark that for the past four years she has never ceased to see zigzags and luminous spangles, which even in the intervals of the attacks are constantly passing before the right eye. Sometimes the photopsia presents itself as a round and notched plate of the size of, or less than, a threepenny piece that moves before the eye. During the past year the fits of megrim have been accompanied with pain occurring simultaneously in the right leg and arm, and she occasionally feels darting pains like those of rheumatism in her left arm. The visual acuteness of the right eye is normal, but that of the left is reduced to bare perception of the letters of No. 5 test type. The field of vision is diminished concentrically in the left eye for colours and for objects. The disc is white, and the vessels of the left eye are contracted. It is obvious that we have here a case of atrophy similar to that observed in cerebro-spinal disease, and the lesion consequently ought to have its seat in the left visual centre.

In a still more recent case I have substantiated the existence of neuro-retinitis, with a vascular thrombosis, affecting the eye of a patient who had suffered for many years from ophthalmic megrim. The particulars I subjoin.

CASE 4. *Ophthalmic megrim, with neuro-retinitis and capillary thrombosis.*—Madame J—, aged fifty-two. Has always enjoyed good health, and is of sound constitution. Four years ago she had an attack, for the first time, of ophthalmic megrim which seriously alarmed her, for she found she was unable to see the left side of objects, and of the faces of persons at whom she looked. She at the same time felt such vertigo that she was obliged to seek shelter in a warehouse. This disturbance of vision was accompanied by luminous phenomena of zigzags, characteristic of this form of megrim. Headache was then experienced in the left side of the head, which lasted for several days; since this date headache and vertigo have frequently recurred, but the ocular troubles have only been felt two or three times a year, and have then always been accompanied with hemiopia. Three years ago, during an attack of megrim, amnesia supervened. She was unable to find the proper words to express her ideas, or she confounded one word with another. This attack lasted only five or eight minutes, but since that date the same symptom has recurred three times, the last one in April, 1881, but no symptoms were felt in the arms or legs. In 1880 she consulted M. Wecker, who discovered a retinal hæmorrhage, from the effects of which she soon recovered. Three days ago she had another attack of ophthalmic megrim with a left hemiopic headache and vertigo, and the crisis having passed the vision has remained dim. On examination Madame J— is found to be hypermetropic to the extent of 4 D. The acuteness of vision of the right eye is normal, but that of the left is reduced to $\frac{3}{8}$, and she experiences difficulty in reading with 4 D. The field of vision is perfect. On November 23rd an ophthalmoscopic examination showed that neuro-retinitis existed on the left side, with thrombosis of some capillaries, together with a few spots of hæmorrhage. The other eye was healthy. The catamenia had ceased for fifteen months, and there is hence every reason for believing that the disease is really a thrombosis caused by the frequent contraction of the retinal vessels, and that these vessels under the influence of congestion, induced by the menopause, have undergone obliteration.

In conclusion, then, we may deduce from the four cases I have recorded this very important point—that ophthalmic megrim, which has hitherto been considered as a mere nervous symptom, may occasionally lead to organic changes in the retina or retinal vessels.

ROYAL COLLEGE OF SURGEONS.—It is stated that the rather unusual number of five essays have been sent in for the Jacksonian Prize on the Pathology and Surgical Treatment of Diseases of the Hip-joint. The following is the subject announced for the present year—viz., "Wounds and other Injuries of Nerves, their Symptoms, Pathology, and Treatment."