ON A NEW SYMPTOM IN WHOOPING-COUGH.*

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I DO not know whether the ulcer of the frænum linguæ, specimens of which I have had the honour of submitting this evening to the Society, has already been distinctly recognised anywhere as a symptom of whooping-cough; but I have for some time suspected it to be so, and I have availed myself of the recent prevalence of the disease to collect some observations which, meagre and imperfect as they are, will, I trust, suffice to satisfy you on this point.

The under surface of the tongue is a part of the body at which we very seldom look (and which is not, indeed, very readily examined in young children); and ulcers there might, for aught I knew, be common in a variety of conditions. My first step was, therefore, to carefully examine the frænum linguæ in one hundred consecutive cases, met with in dispensary and private practice, of which seventy-eight were children, and a good proportion suffering from stomatitis, sore throat, scarlatina, measles, diphtheria, syphilis, coughs of various kinds, and dentition, so that they afforded a fair basis of comparison. In only two cases did I find an ulcer of the frænum; and in one of these there was a doubt whether the case was not one of pertussis, while the other was a case of very peculiar cough, which had originally arisen out of whooping-cough. I then examined, in the same way, every case of whooping-cough which came in my way, and, thanks to the epidemic which is now prevailing, I have been able to make observations on eighty-one cases, and have found well marked ulcers in thirty-three, or nearly 41 per cent.

This result is in itself sufficiently striking, but it by no means represents the true proportion of cases in which an ulcer exists. Cases of whooping-cough are very difficult to follow up, especially in dispensary practice, and even in private practice slight cases cannot be kept under continuous observation. Some few died before there was time for an ulcer to develop, others did not come under observation till it might have healed, some were only seen once; and I have no doubt whatever that, if all the cases could have been properly watched for an adequate time, more than 50 per cent. would have presented the symptom. Out of those which I did observe pretty continuously, numbering forty-one, an ulcer was found in twenty-five, or 61 per cent.; while only in nineteen, less than one-fourth, did I satisfy myself by anything approaching to continuous observation that it never appeared.

Of the thirty-three cases in which an ulcer was found, one was first observed in the first week of the disease (according to the parents' estimation, which—unsatisfactory as it is—it is necessary in most cases to accept), 9 were first seen in the second, 11 in the third, 7 in the fourth, 2 in the fifth, 1 in the sixth, 1 in the seventh, and 1 in the eighth; this last being a case where the absence of the ulcer had been noted in the sixth week.

In twenty-two cases, or more than two-thirds of those which had ulcers, it was present in the period comprising the third, fourth, and fifth weeks, which we may therefore term that of its greatest prevalence. The longest period during which it was observed in any one case was seven weeks, from the second to the eighth inclusive.

It may, therefore, I think, be regarded as proved that a small white ulcer of the frænum linguæ, either round or forming a transverse furrow, is a symptom characteristic of whooping-cough, which is observed in fully half the cases, being found most frequently during the third, fourth, and fifth weeks, but occasionally appearing as early as the first or as late as the eighth week.

I regret I am not able to describe any definite series of appearances attending the development of the ulcer. All I have to say on this point is, that the slightest and probably most recent examples have seemed to me to have rather a transverse outline; while I suspect, but only suspect, that some slight pale transverse linear thickenings of the frænum, which I have sometimes seen when I expected to find ulcer, may be in reality early stages of the lesion.

My object to-night being simply to establish the existence of this symptom in whooping-cough, I shall say very little as to its significance or connection with the other phenomena of the disease. Indeed, I have next to nothing to say. My first idea was that it arose from tension of the frænum over the lower incisors in coughing; but I doubt if there be any such tension, and I have seen the ulcer in a child with no teeth. I do not think it has any relation either to the severity

of the cough, or the age or sex of the child. As to the former, I can adduce nothing but an opinion, the grounds of which cannot be represented statistically; as to the latter, the proportion of cases which showed an ulcer was, as regards sex, forty-seven females to thirty-four males, and at the various ages as follows: In the first year of life, 2 out of 11; in the second year, 10 out of 16; in the third, 9 out of 21; in the fourth, 4 out of 10; in the fifth, 6 out of 12; in the sixth, 2 out of 7; in the seventh, neither of 2; in the eighth, neither of 2.

A much longer series of cases, more uniformly kept under observation, would be required to warrant any positive statement as to frequency in relation to age; but the figures just given afford, I think, sufficient grounds for my negative conclusion. A probable hypothesis, which I shall merely indicate, seems to be that the ulcer is a result of reflex action; and certainly there is no lack of nervous communication through which the lung-irritation and laryngeal spasm, which are the essential features of the disease, might be reflected upon the tongue, and produce interference with normal nutrition. Were it not that this symptom is absent in so large a proportion of cases, I might be seduced by the too tempting hypothesis that we have here a central and leading phenomenon, analogous to the false membrane of diphtheria, or the rash of an exanthem, or the tubercles of plague or of leprosy, or even the lesions of fungus-foot. I am not so sanguine as to expect that the *materies morbi* of this erratic member of the zymotic group will be found in these ulcers; but I may suggest that inoculation-experiments would be safer here than in some similar questions, as the disease, although fatal in the first years of life, is comparatively free from danger in later years.

In conclusion, if it be asked of what practical use is the recognition of this symptom, I must reply, "of none at present", except (as I have more than once been enabled to do) to complete the diagnosis in an early or doubtful case of whooping-cough, which it is sometimes—in view of infection—important to do. A new fact, however, seldom remains entirely barren of results, and often becomes fruitful in wholly unexpected ways; and the acquisition of even so small a one as this is a distinct and permanent gain.

OCULAR CASES.

By J. H. ARBUCKLE, M.D. and C.M.,

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CASE I. *Paresis of the Retina*.—April 26th, 1873, Miss S. complained of pain in her left eye for a week; the pain, however, was not constant nor very severe. Two days ago, she observed that the sight of that eye was failing, and she could not see to read with it; while this morning, when she shut her right eye only, she could not see the bright flames of the fire in the room. The eyes looked quite healthy to all appearance, both pupils were equal, regular, and active; the tension of both eyeballs was normal, but slight pain was complained of in the left eyeball when it was pressed. She could read No. 1 Jäger's test type with the right eye at eighteen or twenty inches distance; but with her left she could not see No. 24 Jäger. It was quite blind. Ophthalmoscopic observation revealed nothing. Both eyes were in the same condition, the media were clear; the retina, choroid, and disc in both eyes were quite normal, and looked the same in each eye by comparison. There were no hæmorrhages, nor exudations, nor cupping of the disc in the left eye to account for the serious loss of vision. She was perfectly well in every other respect, and could not account for the blindness, and thought her right eye was failing a little too; but, on being questioned, she owned that for some time back she had been working at point-lace, especially in the evenings, with gaslight. She was ordered to stop work entirely, to take as much open-air exercise as possible, to wear a green veil when she went out in the sunlight, and to go early to bed. A few drops of solution of sulphate of atropine were instilled into the left eye, and the alternative ordered to be taken internally.

R Hydrarg. bichloridi gr. j; potassii iodidi ʒj; infusi gentianæ co. ʒviij. Half an ounce to be taken three times a day.

May 1st. She could see a little with the left eye; and could read No. 24 Jäger.

May 8th. She could read No. 2 Jäger with the left eye. She thought she saw hazily with it yet—probably from the atropine that was used on the first visit. The ophthalmoscopic examination still showed nothing abnormal. She was ordered to discontinue the medicine, still to take plenty of out-door exercise, and not to read or sew for another week.

May 15th. She was cured; her vision was perfect; her sight has remained good since.

REMARKS.—On first consideration, it seems odd that the one eye

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should be so very seriously affected, while the other remained comparatively well; but, in other cases of duplicate organs, one may give way from overstrain or disease, and leave the other for a time relatively uninjured.

As the patient saw well with one eye, the failure in the other remained for a time unnoticed; if she had only had one eye and allowed it to get impaired by overwork, she would, in all likelihood, have applied for advice before she had quite lost its power, or been forced to give up work until it had recovered.

It is very seldom indeed that a case is met with where anaesthesia of the retina is the first symptom to inform the patient that he or she has been overdoing it; in this instance, the paresis was fortunately only of temporary duration and might be called functional. Functional defects in other organs are usually temporary, but they may be supplemented in course of time by organic changes. So in this case, if she had neglected the warning and wrought away heedlessly at the fine work till her powers of vision were exhausted, most likely some structural or organic change would have resulted and been possibly revealed by the ophthalmoscope. Usually a sense of fatigue makes one stop when overexerting the eyes; but, if persisted in, catarrh of the conjunctiva may even further remind him that the warning is not to be neglected advisedly.

It is in the constant use of the microscope, studying manuscript, designing, engraving, fine white seam-sewing, and such work, when the greatest strain is put on the visual powers for the longest time, that the sight is most apt to fail. Almost in every case of amblyopia from failure of the retina, or in the accommodation from overwork, the first question asked by the patient is, "Would spectacles not do good?" Were they granted, the eyes would not get the rest which they absolutely require, but the patient would be aided in doing his best to go on overtaking his eyes till the condition would probably be reached, when no rest or treatment could restore them to their former normal state.

Eyes in which there is the slightest tendency to myopia or hypermetropia are, when overtaxed, most ready to give way; and, when it does happen, the greatest amount of rest possible should be given to them for sometime to allow them to recover somewhat before the myopia or hypermetropia that may remain is counteracted by the use of suitable spectacles.

A fortnight ago, a law-student consulted me, who found lately that, during his close application to his books, his right eye had become quite short-sighted, while his left still remained well. The left eye was found to be sound, but the right, on ophthalmoscopic examination, showed posterior staphyloma commencing, while the existing myopia required a ten-inch concave lens to neutralise it. He had got from an optician spectacles with one glass plain and the other concave, which suited correctly; he was advised to economise his eyesight, to read as little as possible by artificial light, and to use the spectacles for distant objects, so as to give least strain to the weak staphylomatous eye. There is organic change in this right eye with a tendency to get worse, which can only be retarded by nursing his sight and constantly preventing overstrain.

CASE II. *Traumatic Catarrh of Conjunctiva.*—A gas-work labourer, while making ammonia sulphates, got some drops of vitriol splashed into his right eye, causing intense pain, lacrymation, and congestion of conjunctiva. The eye was well bathed with cold water, and a stream of it allowed to pass in between the lids; a few drops of solution of atropia sulphate (four grains to an ounce of water) were instilled into the eye as an anodyne, and a collyrium of a drachm of chloride of ammonium in eight ounces of water ordered to be used every three hours. In three days the eye had quite recovered, and he resumed work.

In simple catarrhal ophthalmia as met with in seamen when they have to keep their faces to bad or dirty weather, or in persons watching at night, I find the foregoing collyrium of ammonium chloride to give better results than any other. One tablespoonful is to be diluted with as much lukewarm water, and the eyes to be bathed three or four times a day.

A patient with a superficial burn on the cornea from a piece of tobacco blown from a pipe into his eye, was cured in two or three days by a few drops of the above solution of atropine.

A mechanic, while chipping metal, was hit on the eye with a sharp piece which stuck in the inner canthus, and divided both the upper and lower canaliculi between the puncta and the sac; the wound healed kindly with water-dressing, but the scar obliterated the passage of the tears and left the condition of epiphora. The canaliculi were not slit up, but a sharp-pointed probe was passed through the lower punctum and forced into the sac; larger probes were passed every two or three days for a fortnight, when the epiphora was cured and has kept so.

A year ago, a farmer came to me with a small wound, from being

pierced with a thorn, in his right eye, at the lower edge of the cornea at its junction with the sclerotic. It was in an extremely angry condition, the conjunctiva intensely injected, profuse lacrymation, photophobia, and great circumorbital pain; the pupil was irregular and fixed, the media were so hazy that no view of the fundus could be had. It had been treated with irritating lotions, and latterly he got no rest at night with it. The other eye, he said, was beginning to fail, and was painful. He was in such an irritable condition that the spring-speculum had to be used to see the injury, when it was observed that a small portion of bark of the thorn still remained in the wound. It was removed with fine forceps, and unintentionally the whole of the aqueous humour was evacuated. A few drops of atropine were instilled, and two leeches were ordered to be applied to the lower lid, with the following—

R Hydrarg. bichloridi gr. ij; ammoniæ muriatis ʒj; atropiæ sulphatis gr. xij; aquæ ʒiv—

to be dropped into the eye thrice daily, and his bowels freely opened with blue and colocynth pill. Two days afterwards, when he called, the eye was quiet and almost free from pain, and he had rested well and was in capital spirits. The eye recovered rapidly, and, a month afterwards, he was considered cured. The left eye was normal; the pupils of both eyes were equal and active; a small capsular cataract of the right lens existed, that prevented reading newspaper type, but allowed considerable vision, and may clear still further. I anticipated that the right eyeball would have to be removed to save the sight of the left when I first saw it, and attribute the good recovery to the very active treatment.

SURGICAL MEMORANDA.

TELEGRAPH WIRE SPLINTS.

IN the JOURNAL of May 27th, Mr. Porter makes some suggestions as to the utilisation of telegraph wire for the manufacture of splints in field practice, the idea having been suggested by the enormous amount of telegraph wire he saw destroyed five years ago along the railway lines in France. As he was not fortunate in requiring the use of such appliances, he may be interested in learning that they were freely used in the Dutch-Geneva ambulance, also in the Ambulance de la Presse, and also in the Anglo-American ambulance, I believe, during the battles around Sedan; but in the latter case I am uncertain. They are now mentioned in every course of lectures in the military school of Val-de-Grâce in Paris, and have been so since 1871. Further, I am afraid Mr. Porter will find the scissors rather weak for the purpose intended, if not useless; as to bend the wires and secure them in an efficient manner, all instruments except the large pincers in the ambulance tool-chest, were found wholly inadequate.

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CLINICAL MEMORANDA.

THE MOLYBDIC ACID TEST FOR ALCOHOL.

IN the issue of the JOURNAL for February 27th, I called attention to the fallacy of Anstie's bichromate of potassium test for the presence of alcohol in the urine; the fallacy consisting in reduction into the green oxide, not by alcohol singly, but by some agent present in the urine of persons who were total abstainers from alcohol, unless the urine be distilled, when, if the test be applied to the distillate, in the case of alcohol having been taken in sufficient quantity to permit of its excretion in an unchanged form, the test will pertain, but not otherwise. The same objection holds good for the molybdic acid test, proposed at the Irish Royal Society Meeting, during the week ending May 27th, by Dr. Davy. When applied to the urine of persons, abstainers or otherwise, a purple colouration was produced, and the intensity of the colouration appeared to bear no relation to the fact of indulgence, but was most intense in the urine of the greater specific gravity in either case; but the urine of those who had recently partaken of alcohol could be distinguished by the diagnostic reaction on the addition of the test to the distillate. Alcohol is the only substance present in the distillate that gave the reaction. Acetic acid does not give it, apart from the detection of alcohol in urine. Molybdic acid is not diagnostic of alcohol, as many substances—as sulphurous acid—will reduce it, and produce the purple colour. The test fluid is made by dissolving one part by weight of molybdic acid in ten parts of strong sulphuric acid, by the aid of heat.

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