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STRUMOUS OPHTHALMIA.[1]

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STRUMOUS OPHTHALMIA is used as a convenient name under which to group a large number of cases of inflammation of the conjunctiva characterised by the presence of one or more white-topped papules. The disease is known also as phlyctenular or pustular conjunctivitis, eczema of the conjunctiva, conjunctivitis lymphatica, or, from the frequency with which the cornea is involved, phlyctenular keratitis.

It is essentially a children's disease, for in adults it is almost never seen except in those who have suffered from it in their early years. It sometimes appears during the period of dentition, and is most frequent during the first decade of life. It attacks girls oftener than boys, and in them occasionally comes on for the first time just before menstruation is established. Both eyes are usually affected, one in that case much more severely than the other; and as relapse is very apt to occur, a case may last for many months. Though strumous ophthalmia occurs in children of all classes, it is naturally much more common among the poor, and especially among those who from their earliest infancy have been improperly fed and scantily clothed; at one time unduly exposed to the vicissitudes of the weather, and at another confined in small and badly ventilated rooms. It frequently follows one or other of the exanthemata, more particularly measles.

Photophobia is one of the most characteristic and most distressing symptoms. The child generally sits on its mother's lap with its face pressed closely against her body, and every

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attempt at examination is met by struggles and screams, entreaties to have the light kept off, and efforts to shield the eyes with hands and arms. After the hands have been drawn away, the eyelids are kept tightly pressed together, and their separation is most strenuously resisted. When at length they are partly opened, there is a gush of tears, and a violent fit of sneezing expels muco-purulent discharge from the nostrils.

If the disease has existed for a lengthened period, the eyelids, nose, and upper lip are markedly swollen, and in all probability the face is covered by an eczematous eruption. The excoriation of the skin leads to the formation at the outer canthus of a fissure, which, on any rough separation of the lids, bleeds and causes a great deal of pain. When after much trouble the balls are at last exposed, one is often surprised to find how slight the local lesions really are. Even when photophobia is very distressing, and when the upper eyelids are swollen and their surface marbled by large congested veins, there may be hardly a trace of redness over the sclerotic. In most cases, however, there are localised congestions, and the ocular conjunctiva is traversed by a leash of blood vessels running towards a minute phlycten, situated on the surface of the cornea, often right over the centre of the pupil, which, as a result of the irritation of the corneal nerves, is always greatly contracted.

The phlycten is the most characteristic objective feature of this disease. It may be of large size and solitary, or there may be a group of small pustules, but in either case the situation is on the surface of the globe, for the most part on the limbus corneæ. These pustular elevations vary greatly in size, are of a yellowish grey colour, and in most instances disappear after a few days, leaving no trace. At other times, however, their appearance marks the beginning of ulceration of the cornea. Up to this stage there has been no real pain, except when the eyes have been exposed to light. There is no complaint if the patient be only left alone in a dark corner of a room, or with the face buried in a pillow; but whenever ulceration begins there is more or less active suffering, and pain is very apt to come on violently during the night, and cause the child to start up screaming from its sleep. Such ulcers are always slow in healing, and at times, even after the surrounding infiltration has all cleared up, there remains a transparent dimple which may not disappear for weeks or even months. Sometimes a leash of newly developed blood vessels spreads from the corneo-scleral margin to the ulcer, which then, becoming vascular, appears as a red speck, which may persist for a long time. Occasionally the greater part of the cornea becomes vascular—pannus scrofulosus. In unhealthy children these phlyctenular ulcers are prone to suppurate, and then pus collects between the layers of the cornea, and accumulates in the anterior chamber. In these severe cases perforation is apt to occur, and

to be followed by a prolapse of iris so large that the eyeball is irretrievably damaged — a condition that may give rise to sympathetic inflammation of the other eye.

Although there is, in a typical case of strumous ophthalmia, always profuse lachrymation, there is no sticky muco-purulent discharge, unless the inflammation has spread from the bulbar to the palpebral conjunctiva. Whenever that occurs catarrhal symptoms are present, and the whole conjunctiva becomes injected. In most cases there is also injection of the lymphatics.

Ophthalmia may be the earliest indication of a strumous diathesis, and in cases where the conjunctival lesions are slight, severe subjective phenomena may arise from a source of irritation elsewhere than in the eye, *e.g.* in the stomach or bowels. It is by no means unusual for the conjunctivitis to alternate with suppuration of the middle ear, or with eczematous eruptions on the head or other parts of the body. Nutrition is seriously interfered with, and the coated tongue studded with large red papillæ shows the irritable condition of the mucous membrane of the whole intestinal tract. There is sometimes a constant craving for food, and almost invariably more is eaten than can be digested; fermentation results, the belly is distended, and the alvine secretions have an offensive smell and an unnatural appearance. The urine is high-coloured, deposits urates, and often contains traces of sugar. The skin is pale and rough, the flesh hangs loosely on the bones, the hands and feet readily become cold, and the head perspires freely, and often swarms with pediculi. The joints, both large and small, are very frequently destroyed by tubercular inflammation of their synovial membrane and caries and necrosis of the bones. Severe ectropion—causing hideous disfigurement—will arise if the bone necrosis occur in the neighbourhood of the orbit; and indelible scars invariably result if there be suppuration of the lymphatic glands in the neck or elsewhere.

Owing to the intense blepharospasm, it is always a difficult matter to examine the eyes of children suffering from strumous ophthalmia. Every care ought to be taken not to hurt the child unnecessarily, and its eyes may be best examined by placing the head between the surgeon's knees while the nurse holds the arms against the body. After cocaine has been instilled, it is easy to depress the lower and raise the upper lid gently by means of retractors, but, as the child persists in rolling the eyes upwards, it is often difficult to obtain a good view of the cornea. The condition of the cornea must, however, be accurately determined before any treatment is begun, and in very bad cases it may be necessary, before making the first examination, to administer a general anæsthetic.

The treatment of strumous ophthalmia must be constitutional as well as local. It is necessary always to bear in mind that the

very essence of the disease lies in the mal-assimilation of food, and that most, if not all, cases arise as a result of improper dieting. You may be told that the child eats very sparingly, and that may be quite true as far as the regular meals are concerned; but by careful inquiry you will usually discover that the small appetite at the proper times for eating generally arises from the patient's having been, in response to cries for "a piece," supplied liberally between meals with bread and butter, sweets, fruits, or any other eatable which may have chanced to be at hand. Instead, therefore, of eating too little, these children eat too much; and although they may appear ill-nourished, the mal-nutrition is due to mal-assimilation rather than to insufficiency of food. The first thing to be done, therefore, in treating a case of strumous ophthalmia, is to give particular directions regarding the diet. The child must not be allowed to eat whenever it cries for food, but ought to be fed at regular intervals; nor must it get what is among the poor popularly called "the run of the house," but should have meals specially prepared, and in quantity and quality of such a kind as not to overtax the powers of digestion. Sugar in every shape and form, fruits, pastries, potatoes, etc., must be rigidly excluded from the dietary, and it is usually advisable to confine the patient wholly to milk and water for the first forty-eight hours of the treatment, and then to add gradually meat-soups, eggs, fish, fowl, rice, etc., as the tongue becomes clean. Simultaneously with the cleaning of the tongue the intolerance of light begins to pass off, and the child opens its eyes, and interests itself in its surroundings. The fretfulness and unnatural irritability both become less, and the necessary treatment is, in consequence, much more willingly submitted to.

In addition to the careful supervision of diet, the free elimination of the toxins, which, as a result of mal-assimilation, have accumulated in the blood, must in every way be promoted. This is to be accomplished by stimulating the action of the kidneys, the bowels, and the skin—more especially the last. Hence the importance of the hot bath, which the child should have every night at bedtime, diaphoresis being further encouraged by the wearing of a warm flannel nightgown. It is usually advisable first of all to administer a dose of castor-oil; but it should be borne in mind that many of these children do not bear purgatives well, as the intestinal mucous membrane is so irritable that troublesome diarrhœa is easily induced.

Of drugs, none is so useful as tartar emetic, which should be given in slightly nauseating doses. Its chief virtue depends on its diaphoretic action, and its efficacy is greatly increased when it is administered with a laxative, *e.g.* powdered rhubarb. If the tongue be brown, a few grains of grey powder may be added, with advantage, to the rhubarb and antimony combination. Under this treatment it is wonderful how soon the whole appearance of the

patient changes. As the power of digestion becomes greater, the skin improves in colour, the hands and feet keep warmer; and the child, instead of lying with its face buried in a pillow, and fretting and crying when spoken to, is now quite good-tempered, and runs about the ward and amuses itself with its playthings. Any indiscretion in diet will, however, promptly bring on a relapse, for in these cases the conjunctiva reflects the condition of the gastro-intestinal mucous membrane even more quickly than the tongue. Intolerance of light, blepharospasm, and increased lachrymation speedily show themselves after some forbidden food has been eaten, while the tongue may not become furred till the second or even the third day. The fear of relapse makes it imperative, therefore, that the treatment be continued for at least a fortnight after the recovery seems complete. Apart from simple digestive agents, such as pepsin, pancreatin, etc., no medicines are, as a rule, necessary, but most of the patients are benefited by quinine, which, either alone, or in combination with an acid, seems to exercise a favourable influence after the acute symptoms have subsided. Cod-liver oil, compound syrup of the phosphates, syrup of the iodide of iron, etc., are also very valuable remedies, but they should never be prescribed in the early stages, for they then simply add to the difficulties by still further overtaxing the digestive powers. When, however, all feverishness has disappeared, and the tongue is clean, they are decidedly helpful in improving the general nutrition, and promoting the repair of any local lesions in the eyes themselves. All syrups, however, such as chemical food, etc., must be used with great caution, lest they disturb digestion, and so determine a relapse. Dusart's syrup of the lacto-phosphate of lime and iron is the most easily assimilated; but, as a general rule, preparations in which sugar is replaced by glycerine or malt extract are safer. When there is much enlargement of the glands, a mixture of chloride of calcium and iron is very serviceable.

For the first few days of the treatment the patient should be kept in bed, with the eyes shaded from the light; but the use of all poultices and bandages must be strictly prohibited. Whenever improvement begins, the child ought to be encouraged to run about, and, if possible, sent to the country, preferably to a high, dry, bracing locality, and it should live out of doors as much as the weather will permit. The sea-coast should be avoided, as the glare from the water is apt to prove irritating to the eyes, and to cause a relapse.

The local treatment will necessarily vary according to the stage of the disease. The child's face and hands must be washed frequently, and, as far as possible, it ought to be prevented from crying and rubbing its eyes. The eyes themselves should be bathed night and morning—oftener if there be much discharge—with a warm solution of boracic acid, or a lotion containing

perchloride of mercury and belladonna. While the symptoms of acute irritation last, atropine and cocaine, by soothing the nerves of the conjunctiva, and diminishing the congestion of its blood vessels, lessen the photophobia. Whenever the pupil dilates, the child usually opens its eyes; but when the superficial irritation is great, the action of the atropine persists only for a few hours, and, in order to obtain full benefit, the drug ought to be re-instilled whenever the pupil begins to contract. As the blepharospasm lessens, the cocaine may be omitted from the ointment, and the atropine combined with boracic acid or the red oxide of mercury. Even in cases which have lasted for a long time, leeches or blisters should not be used.

After the acute inflammatory symptoms have somewhat subsided, more stimulating applications are necessary, and calomel and the yellow oxide of mercury are the two favourite remedies at this stage. The former is most serviceable in relieving passive congestions. It must be dried thoroughly, and flicked from a camel-hair brush into the conjunctival sac. Its beneficial action seems due to the fact that the calomel becomes, by the action of the tears, converted into perchloride of mercury. It is therefore necessary to be careful not to use it too freely, or in too coarse powder, for any excess collects in the lower retrotarsal fold, upon which it is apt to have a caustic action. The yellow oxide of mercury often acts like a charm in cases where there is an efflorescence of pustules upon the bulbar conjunctiva. It is best applied in the form of an ointment of the strength of 1 or 2 gr. of the oxide to a drachm of white vaseline. The bulk of a barley-corn of this is instilled into the conjunctival sac, and the eye gently massaged for a few minutes through the closed eyelids.

In an ordinary case of strumous ophthalmia no further treatment than that just indicated is required. If a case is not making satisfactory progress, careful inquiry should at once be made as to whether the prescribed diet is being strictly attended to, as well as the nightly warm bath.

When the disease has been neglected, complications arise which require special remedies.

1. *Swelling of the eyelids, and muco-purulent discharge.*—The eyes must be kept scrupulously clean by bathing with an antiseptic lotion; and once a day, or oftener, according to the amount of the discharge, the conjunctival surface of the lids should be everted, and painted with a 2 per cent. solution of nitrate of silver. The presence of a fissure at the external canthus, when such treatment requires to be carried out, adds greatly to the child's sufferings; but as this fissure will never heal until the eyes can be opened voluntarily, there is no help for it but to persevere, every care, of course, being taken not to cause unnecessary pain.

2. *Inflammation of nasal mucous membrane.*—This membrane is swollen and ulcerated, and secretes a discharge so acrid that its

presence produces much swelling of the alæ nasi and the upper lip. If the child be permitted to lie with its face buried in a pillow, an eczematous eruption is sure to appear. The nostrils must be kept clean by douching with an alkaline antiseptic lotion, and the nasal mucous membrane brushed afterwards with ointment, *e.g.* a combination of iodol and tannic acid. As in these cases there is always an excess of acidity, alkalis are most serviceable. They should be given in small doses frequently repeated, and there is nothing better than a mixture of calcined magnesia and sulphur, or a combination of sulphate of magnesia with bicarbonate of soda.

3. *Pediculi.*—In neglected cases this is a very troublesome complication, and one regarding which the nurses must always be warned to be on their guard. In the most filthy cases it is necessary to cut the hair short, and in all the head must be washed with carbolic soap, well dried, and Stavesacre ointment rubbed into the roots of the hair. By this means the pediculi themselves are destroyed; but the nits remain firmly attached to the hairs, so that, after the first thorough dressing, scrupulous cleanliness and daily use of a small-tooth comb are necessary in order to prevent the vermin from re-accumulating.

4. *Ulceration of the cornea.*—In every case of strumous ophthalmia which has lasted for a long time, the cornea is almost certain to suffer, and whenever ulceration occurs the ulcer becomes the prominent feature, and all treatment is directed towards its cure. So important, indeed, is this phase of the subject, that a future lecture will be devoted to its discussion.

ASTHMA IN RELATION TO THE UPPER AIR PASSAGES.[1]

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In addressing an audience of specialists, it would be out of place—it would almost be an impertinence—to consider the relation of asthma to the upper air passages from an historical point of view. The names of Voltolini, Hack, B. Fränkel, and many others will at once occur to you all, as pioneers whose teachings have been of great value in calling attention to a connection which is admitted by all thoughtful physicians and specialists of to-day. Again, it would be equally out of place to ask you to follow me through the immense mass of literature which relates to reflex neuroses, of which asthma is probably the most important. This literature is in its main facts, no doubt, familiar to all here. As you are aware,

[1] Introduction of discussion of Asthma, etc., read before the Laryngological Society of London, May 1899.