trouble elsewhere, and that in by far the greater number of cases the disease starts in the middle ear. Further, it must not be forgotten that in practically all cases of chronic middle-ear trouble, and in most acute cases, the ear disease is an extension of some chronic sepsis in an adjacent region, and even when acute otitis follows one of the exanthemata, that a septic focus is nearly always present. Hence, in middle-ear suppuration following scarlet fever, some authorities recommend the removal of adenoids as soon as the patient is well on the road to recovery from the disease. To operate for mastoid disease without searching for a septic focus before discharging the patient is as foolish as to open an appendix abscess without searching for the appendix.

The results of careful attention to general hygiene, and especially to that of the mouth, nose, and throat, in preventing deafness is very striking, and it is noticeable how large a proportion of the working classes over the age of 30, who for the most part have had the misfortune to lack this in the past, have some impairment of hearing. Sir George Newman, in his annual report for 1923 as Chief Medical Officer of the Board of Education, tells us that the percentage of children found on routine inspection in London with defective hearing has during the last ten years been halved, and that in Cambridge and Exeter the results have been even more striking; but he hastens to add that while this satisfactory result has been obtained in connexion with children of school age, the proportion of children going to school for the first time at the age of 5 or thereabouts with ear disease has hardly changed at all. This clearly points, as do many other facts, to the necessity of dealing with the beginnings of disease in children below school age, and that it is imperative that the commencement of the disease should be recognized and the first preventive measures taken in the infant welfare centres or the nursery schools. Mastoid disease calling for operation is by no means rare in babies of less than 12 months, and I am of opinion that otitis media is much more common in infants than is generally supposed. I have seen babies with red inflamed drums apparently quite well and happy and but little disturbed by the condition. When an infant or young child persistently rubs his ear, or frequently rubs the back of his head on his pillow, it should be taken as an indication of some ear disease and a careful examination carried out; if adenoids are present they should be removed. The removal of adenoids even in a baby a few days old is a very simple matter, if the proper sized curette is made use of, and it is remembered that, since it is impossible to insert the finger into the nasopharynx of a babe, the curette must serve for both diagnosis and treatment. No anaesthetic is needed, and most babies are quite prepared to enjoy a meal within a few minutes of the little operation, and appear little, if at all, inconvenienced by it. In children who are old enough to tell us when they have pain, two complaints of earache should be sufficient to determine a careful examination for adenoids,* and if they are present even in small quantity they should be removed. Whether the tonsils, unless obviously diseased, should be removed at the same time is a moot point, and all I would like to say here is that on several occasions in which I have removed adenoids only, the subsequent history has led me to regret that I did not remove the tonsils at the same time.

But we ought to be able to prevent ear disease without waiting for deafness, pain, or other ear symptoms. Babies who cannot take the breast or bottle properly usually have adenoids. These should be looked for and removed. Every child also with a running nose needs immediate treatment, for not only may this condition directly encourage the growth of adenoids, but also, possibly without the existence of adenoids at all, a chronic infection of the ear may result. In addition to general hygiene and a sufficiency of vitamin-containing food and fats, there are four points especially worth remembering in the prevention and cure of chronic rhinitis and its ear complications in children.

1. In visiting a number of nursery schools last year I was especially struck by the difference between the children in the open-air and indoor schools. Anything from 10 to

40 per cent. of the children shut in rooms, even though some windows were open, had running noses, whereas in the open-air schools I saw but one or two. It is not always understood that open-air schools need not be very cold even in winter if an efficient system of heating is installed.

2. As soon as children are old enough they must be taught to blow their noses at frequent intervals. They should not pinch the nose with a handkerchief, but should hold the handkerchief a few inches below the nose and blow into this, at the same time blocking one or other nostril by a finger pressed on to the side of the nose. It is wonderful how early a child will learn this if carefully taught.

3. A little ointment composed of 1 to 3 grains of menthol and 2 to 8 minims of oil of eucalyptus to the ounce of vaseline, applied to the interior of the nose at bedtime, is often a very considerable help in keeping the nose clear and preventing discharge.

4. Constant nose-breathing must be insisted upon. It is but little good to operate for tonsils and adenoids for the prevention or treatment of middle-ear deafness unless at the same time the child is taught to breathe constantly through the nose. I have seen cases in which tonsils and adenoids have been completely removed, but in which the habit of mouth-breathing still remained, and in which deafness steadily progressed until this habit was got rid of. To cure children of mouth-breathing deep breathing exercises are very helpful. In these the mouth is kept constantly closed, both during inspiration and expiration, and breathing is carried on entirely through the nose. Children are still taught to breathe in through the nose and out through the mouth by some teachers. This is exceedingly harmful, for the following reasons: In the first place, it is quite clear that no one can breathe in and out through the nose unless the nose is fairly clear—that is, free from excessive secretion—but it is quite easy to breathe in through the nose and out through the mouth with the nose full of mucus, as each inspiration draws this material further back until it reaches the pharynx and is swallowed by the child. Inspiration is followed by expiration, after which there is a very short period of rest. At the conclusion of expiration with the mouth open the child finds itself in a position in which a definite muscular effort (that is, shutting the mouth) is required before starting the next inspiration, if it is to be a correct one. There is a strong tendency for this muscular effort to be deferred, with the result that the child starts the new inspiration, as he finished the previous expiration, with the mouth open. It is essential, therefore, that all breathing exercises should be carried out with the mouth closed the whole time. They should be repeated frequently rather than carried out for a longer period at less frequent intervals. At night a piece of 1-inch rubber adhesive plaster about 2 inches long can be placed vertically between the upper and lower lips, or a piece of thin rubber sheeting, such as dentists use, 6 or 8 inches long by 2 or 2½ inches wide, can be placed over the lips and tied tightly at the back of the neck by tapes at the four corners. In many cases, however, the cure of mouth-breathing cannot be carried out except by constant supervision of the child by someone whose business it is to remind him to close his mouth whenever it is seen open.

PRACTICAL POINTS ON PELVIC PAIN.

BY

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At the December meeting of the Edinburgh Obstetrical Society Professor Ranken Lyle of Newcastle read a paper on pelvic pain in its relation to neurasthenia, which provoked certain thoughts in me which I here seek to set in order.

I gather that Professor Lyle finds many patients who complain of pelvic pain, and who may or may not be found to have some demonstrable pelvic abnormality—for example, a uterine displacement—but whose symptoms he ascribes to neurasthenia and not to anything abnormal found in the

* The examination of the nasopharynx of several hundred boys, aged from 9 to 16, by the mirror, has shown that some quantity of adenoids was present or had been removed in about 80 per cent.

pelvis on examination, and whom he treats on anti-neurasthenia lines, with favourable effect in a good proportion of cases. The paper raised much discussion and a considerable amount of good-humoured adverse criticism. I do not write this paper with a view to criticism.

I shall attempt no proper definition of the condition called neurasthenia, but perhaps, for the purpose of this paper, a sufficient working definition would be that neurasthenia is a state in which the vital processes (nervous, etc.) are working on a lower grade than their usual and proper standard. Thus a lack of balance is set up between the result required and the means of producing that result. To all appearance the organs may be perfectly healthy.

The question may be asked, Can pain be caused by this upset of balance alone? I think it is reasonable to suppose that such may be the case. We should hardly be aware that we have internal organs—heart, lungs, stomach, and so forth—because they should act so perfectly that no inconvenience is caused. But if the workings are with effort (that is, on the part of the vital processes), then surely it is to be expected that discomfort will be the result, and this, accentuated, may develop into actual pain, the tissues being healthy otherwise. It is just as in the case of a wheel rotating stiffly, or even with squeaking, if the oil has run dry. The wheel and its bearings are all right, but there is a lack of proportion between the rotations taking place and the amount of oil available for efficient running.

No doubt neurasthenia is accountable for much trouble even of an apparently localized sort, but one must not be guilty of making such a diagnosis too easily. It is a tempting diagnosis to make, for the word has an attractive ring about it—it sounds almost scientific—and it pleases the patient's friends and solaces the doctor's diagnostic conscience. But what of the poor sufferer, who all the time may be afflicted with a really painful organic disease?

The first advice I would offer is: Diagnose neurasthenia last of all, after carefully excluding all other possibilities, the doctor not confining himself to gynaecological possibilities. I would suggest two safeguards against the too hasty diagnosis of neurasthenia in cases of pelvic pain.

First safeguard: Examine such patients first of all without an anaesthetic in order to localize the pain and to estimate, as nearly as possible, its severity. In virgins a rectal examination should suffice, along with a careful abdominal examination instead of a vaginal one.

But, one may say, a neurasthenic patient is sure to make a fuss and complain of tenderness whether it is there or not. This may be so far true, but if the site and degree of tenderness are the same on more than one occasion, the circumstantial evidence will be strong in favour of an organic lesion. Also, I think the experienced examiner will seldom be deceived. I should say that a tenderness due solely to a neurasthenic state is not likely to be so intense nor so constant as a tenderness due to an organic lesion. This, however, may be a debatable point.

Having examined in this way and formed an estimate of the presence, site, and degree of tenderness, an examination under a general anaesthetic may then be made, if required.

Second safeguard: Examine for the presence of regional cutaneous hyperaesthesia. This is, in my opinion, of some value if positive for a given area in intelligent patients, but it is of little moment, probably, except as an adjunct to other methods of examination. This test, giving a negative result, may be considered as almost, if not quite, valueless.

The next point I bring forward about pelvic pain in women is that it is, in my experience, very much more common on the left side than on the right. I think this will be readily conceded by gynaecologists. There are certain anatomical conditions which would appear to explain this inequality.

(a) The presence of the pelvic colon on the left side may predispose to pain in three ways:

1. The loaded colon may sag down into the pelvis and lead to pain from dragging on the mesentery.

2. Overdistension of the pelvic colon may lead to colicky pains, especially if the faeces are large and

hard and tend to become impacted in the rectum. On the other hand, colicky pains in themselves are possibly more commonly complained of on the right side in the region of the caecum and appendix.

3. The loaded pelvic colon or rectum may cause direct pressure on the left ovary in a way in which the caecum is very unlikely to do on the right one, especially if the ovary is prolapsed into the pouch of Douglas, as is often the case in conjunction with retroversion or retroflexion of the uterus.

(b) Pelvic varicocele. I believe this is a condition which is more common than is often supposed. It is not easy to diagnose from examination, as the veins are apt to empty when the patient is lying down. For the same reason it is not usually very marked when the abdomen is opened, especially if the Trendelenburg position is employed. If the condition is suspected from symptoms, it would seem wise to examine the patient per vaginam in the erect attitude, and preferably after she has been going about or standing for some considerable time.

One would expect pelvic varicocele to be more common on the left side than on the right, since the left ovarian vein passes upwards to enter the left renal vein at right angles, there being no valve at the junction of the two veins. The right ovarian vein enters the inferior vena cava at an acute angle, the flow of blood in the two vessels being almost in the same direction. The orifice where the right ovarian vein joins the inferior vena cava is guarded by a valve. Thus there is more liability for backward pressure to take place on the left side than on the right.

Constipation, as well as anatomy, may be a predisposing factor in this condition of pelvic varicocele, especially on the left side. An attempt must early be made to overcome constipation in cases of pelvic pain due to conditions (a) and (b).

We are now in a position to take a further step and consider certain lines of treatment which may be adopted. Let us suppose that the condition is something like this: The patient suffers from pelvic pain on one or other side, and this has lasted, in all probability, for several months at least. She has had drug treatment and her bowels have been attended to. Still the pain persists. It may be aggravated by menstruation, but not necessarily so. Examination without an anaesthetic elicits definite tenderness in one or other lateral fornix, the degree and site being unchanged to any marked extent on re-examination. An area of cutaneous hyperaesthesia corresponding to pelvic organs, such as ovaries, may have been mapped out. Such conditions as chronic appendicitis, ureteral stone, etc., have been ruled out. Neurasthenia has been carefully considered but has been excluded; or treatment for neurasthenia may have been unsuccessfully tried. Something must be done, as the patient is obviously suffering genuinely, and yet nothing but localized and persistent tenderness can be made out.

In such a case surely one is justified in recommending an exploratory laparotomy. After all, a bimanual examination is not always very conclusive. It is not a very fine test, and it varies in its acuteness with the skill and experience of the examiner, as well as with the condition of the patient—for example, as to adiposity and muscular resistance. So we open the abdomen and find things fairly normal. If there is some cystic condition of the ovary, such as a small luteal cyst, a partial resection of the ovary may be done, or follicular cysts may be punctured, although it is a question if they cause pain, as they are in so very many cases symptomless, being so common as to be hardly pathological when small. But if nothing at all is found to be abnormal, and yet one feels quite sure that the tenderness was definitely referable to tube or ovary of one side, can nothing be done? Are the alternatives only to close the abdomen and so give no relief to the patient, or to remove an apparently healthy ovary and tube, or ovary alone? I think a middle course may lead to success in at least a certain number of cases. At any rate, it may well be tried.

It seems reasonable to suppose that something of the

nature of neuralgia may at times attack the ovary, an organ well supplied with nerves.¹ If so, it is reasonable to treat such a condition in the same way as neuralgia elsewhere. If drugs have failed, then operate. The injection of alcohol would hardly be recommended for ovarian pain, but the nerve supply, or a considerable part of it, if not all, may be cut off by simply dividing the suspensory ligament of the ovary. This, of course, means division of the ovarian artery and vein too, but the ovary will still have a sufficient blood supply to keep up its nourishment, and, that being so, ovulation and endocrine secretion should not be interfered with, unless the division of its nerve supply should so far impair these functions, which is not likely.

This treatment would particularly apply if there were only one remaining ovary in a patient who had not reached the menopause. The pain must be relieved in some way, and the ovary must be spared if possible. On the left side the division of the ligament may serve to straighten out the pelvic colon and thus help the flow of contents. No claim to originality is made here for the idea of dividing the ovarian nerve supply, but the suggestion seems a practical and reasonable one, and therefore I emphasize it.

I should like, in conclusion, to stress the two points brought forward early in this paper:

1. Diagnose neurasthenia last of all, after excluding all likely causes of pelvic pain.
2. In cases of pelvic pain make it a rule to examine first of all without an anaesthetic, even if such is necessary for a full diagnosis afterwards.

REFERENCE.

¹ Abel and McIlroy: *Proc. Roy. Soc. Med.*, Obstet. Sect., May, 1913, vol. 6, No. 7, p. 240.

DIPLOPIA IN ENCEPHALITIS LETHARGICA.

BY

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THAT diplopia is one of the earliest symptoms of encephalitis lethargica is well known. The diplopia may, of course, be that typical of an involvement of one or more of the extrinsic ocular muscles and may occur with or without a manifest squint, but cases also occur in which the diplopia cannot be attributed to this cause. The patient in the following case is typical of many who, during a recent epidemic of encephalitis lethargica in this city, applied to the ophthalmic clinics for relief of the diplopia.

A girl, aged 19, complained of diplopia. Two evenings before seeing me she had headache and giddiness and felt sick; on the following morning she awoke with diplopia; it was very troublesome when looking at distant objects, but was hardly present at all in near vision. There was no drowsiness. The temperature was 101°. There was no history of any recent illness. Examination of the eyes showed no ptosis, no manifest squint; the pupils were normal in size, equal, and reacted to light and accommodation. The movements of both eyes were normal. Both optic discs and fundi were normal. Examination of the diplopia showed it to be homonymous, with erect images, the unusual feature being that there was no alteration in the relative positions of the two images in any of the six cardinal directions of gaze. The first examination was carried out with the candle at 3 metres from the patient; a second examination at 5 metres showed the two images to be further apart than they were when the examination was performed at 3 metres, but again their relative positions remained the same in the six cardinal directions of gaze. On approximating the candle to 2 feet from the patient the diplopia ceased to exist in any of the six cardinal directions of gaze.

This case could not have been one of paresis of any individual muscle, as there was no increase in the distance between the true and false images in the direction of action of any muscle; nor could spasm of accommodation produce this type of diplopia, as in this case the double vision would have increased as the object was brought nearer the patient and diminished the further it was removed.

The diplopia disappeared in a week from its onset and the patient made an uneventful recovery, for the time being at any rate. No convergent squint ultimately appeared, as has happened with some of the patients under observation.

It is probable that these cases represent a rather rare condition of paralysis of divergence. Dunnington¹ of New York describes in detail three exactly similar cases occurring in an epidemic of encephalitis, and Holden² one such case, but these writers would appear to consider the condition to be one of great rarity, whereas in our series of cases this type of diplopia was so common as an early symptom that we began to regard it as pathognomonic of the disease in this particular epidemic. Another interesting fact was that this type of diplopia, with giddiness and rise of temperature, were the only symptoms complained of, and that many of the patients showed no other symptom but made a rapid recovery. That we were dealing with encephalitis lethargica was clearly manifested by the fact that a few of the patients with these symptoms developed the more serious accompaniments of the disease at a later date.

Duane³ points out that the power of divergence is an active as well as a passive movement, and is brought about by a simultaneous equal contraction of both external recti accompanied by a simultaneous equal relaxation of both internal recti. This complex action is controlled by a definite nervous mechanism, and the loss of power means an innervational disturbance and not a muscular defect. This mechanism is probably controlled by a centre situated close to the sixth nerve nucleus. This would explain the fact that these cases are often followed by convergent strabismus due to a sixth nerve lesion. In making a diagnosis, paralysis of divergence is easily confused with paresis of one of the internal or external recti muscles, but can be differentiated by observing that the diplopia does not increase in the direction of action of these muscles, and that the separation between the true and false images remains unaltered so long as the distance between the eyes and the object is kept constant.

REFERENCES.

¹ Dunnington: *Arch. of Ophthalmol.*, vol. lli. ² Holden: *Ibid.*, vol. I.
³ Duane: *Ibid.*, vol. xxviii.

PAROXYSMAL TACHYCARDIA IN AN INFANT.

BY

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IT will be of interest to record this case of paroxysmal tachycardia on account of the very early age of the patient, and because it is an outstanding example of the vast amount of distress a young child's heart will stand.

The patient was a female child, aged 8 months, and the attack lasted for eight days without cessation. The heart could at no time be counted, but was roughly estimated at somewhere about 200 to 300 beats to the minute. The onset of hepatic pulsation, Cheyne-Stokes breathing, and severe bronchitis during the illness all had apparently no detrimental effects on the recovery. The child is the youngest of a family of three, having been born quite normally and fed on the breast, and the breast alone, up to the time of the illness. She had been examined at the local clinic at about the age of 6 months, and was found to be a perfectly healthy, contented, and exceptionally well nourished baby. The mother and the other children are all quite healthy, and the former undoubtedly makes an ideal mother.

I was called to see the baby on a Thursday afternoon because the mother had become anxious about its condition during the previous night on account of vomiting and restlessness. The child had been ill the whole night, but the mother had concluded that she was tired by a journey into Cardiff and a long day out in the sun the day previous. The mother noticed that the urine had become scanty, the evacuations a trifle loose and green, and that there had been no desire for food; this was most unusual in a child who had been accustomed to be most hearty.

The baby, when I first saw it, was apparently in no serious condition; its cheeks were rosy, its breathing was natural, and it had all the appearances of a child who was in perfect health but who was apparently somewhat restless and irritable as the result possibly of an irritable tooth. The temperature was just 96°, but no pulse could be felt at the wrists. There was nothing to be discovered in its abdomen nor on rectal examination. The chest, as far as the lungs were concerned, was devoid of physical signs. The nervous system was normal, all the reflexes being present and