The swinging of an extremity which has been operated on, and its support by a well-fitted splint, should be so contrived that no change will be needed for at least three or four days, and, if your appliances have been well adjusted, it will not be necessary to interfere with them until the patient is well. It is not possible for me now to explain in detail the contrivances we employ;* you must observe them for yourselves. You will see how they vary for different cases; but you will always notice that they have for their one aim rest and ease, and the avoidance of all disturbance of the wound.

This patient got well in due course, the wound uniting, in great part of its extent, by primary adhesion. Following our usual practice, the dressings were renewed twenty-four hours after the operation, when the drainage-tube, having served its purpose, was removed. In effecting this change, the fore-arm was steadily by hand-pressure after the bandage had been cut through and turned aside, and the cotton-wool lifted off; the oiled lint was then removed from the wound, which was for some time exposed to the air whilst the tube was being withdrawn, and while its edges and the lint beneath it were being oiled, a camel-hair brush being used for this purpose. The wound was then re-covered with some lint soaked in carbolised oil, and the cotton-wool and the bandage were then replaced. Whilst making these changes, the wound was not in the least disturbed, nor did the patient suffer any pain or discomfort.

Whilst thus providing for the maintenance of rest, ease is, in some measure, secured. Such ease as comes to a patient from his being able to move as much as he pleases, without hurt from shaking or displacing of his wound; for it is our rule, within reasonable limits, to allow a patient freedom in this respect—it is not necessary to tell him to lie still. It is very rarely a patient is troubled with pain; but, if he does complain, you must always attend to, and, if possible, relieve him, and you should never put him off by merely suggesting that the pain is of no consequence, or that it will presently pass away. You will often find that some trifling change will give relief; the level at which a limb is swung may be altered, a supporting pillow may be placed here or there, or an over-tight bandage may be cut; indeed, with some such contriving, and by letting the patient shift into almost any position, we have never experienced difficulty in ensuring ease. There is beyond this the repose, which, if nature refuses it, should be secured by treatment; and, as a rule, which may rarely admit of an exception, we always, unless natural sleep is obtained, make free use of sedatives. Occasionally patients are sick, not that there is actual vomiting, after taking chloroform; and, even if they are not, I think it best to avoid running any risk of disturbing the stomach, and it is for this reason only that the sedative preferred is usually an injection of morphia; but, in some way, a good night's rest should be made sure of.

As the patients are inclined, so food is given, or is not; usually for a day or two a light diet is sufficient; but, as soon as possible, they are allowed to fall into their usual food habits, with, however, only a very moderate allowance of stimulants. None of my operation cases are placed on wine or spirits, and they do not even get their ale before they themselves ask for it.

With the exception of one case of pyæmia, for the occurrence of which I hold myself blameable, and of a few outbreaks of erysipelas, only one of which assumed serious proportions before convalescence was established, there has really been no complication requiring treatment after my operations. The patients, lying at ease, simply get well; and this leads me to tell you what we learnt from these patients respecting that which is commonly called shock and reaction. A record is kept for each case of the pulse, temperature, and respiration, and the notes for this record are taken twice daily, morning and evening, on some one day at least before, on the day of the operation, and for as many days after as in each case may seem desirable, and the facts thus collected have led me to modify very considerably the views I had been taught to hold respecting the condition of a patient after a great operation. I will go so far as to say that I have not seen any instance of shock following such a proceeding, at least of such shock as gave us any sign of its presence either through the pulse, the temperature, or the respiration; and I doubt if, in what may be termed a natural progress after an operation, shock has any part. If there should be any great depression, it will, I believe, be found to depend upon something beyond and irrespective of a carefully conducted operation—upon some diseased or merely feeble organ, some undue loss of blood, some poisoning of the system, as from certain extravasations; something which a thorough examination of a patient before venturing to operate should enable us to avoid, or something which exists independently of, although its effects run a parallel course with and thus influence, the after progress of a case. Thus, in the instance in which I removed a calculus from the

kidney, the patient was weak and feeble in the extreme, and it is easy to say that she never rallied from the operation; but, to my mind, it was rather that she went on slowly dying, just as though no operation had intervened. You will see that I do not speak lightly in thus ignoring shock, by referring to the current volume of our Reports, which contains the evidence upon which this conclusion is based, which evidence is positive as to the effect on the system of operations when practised in cases properly selected. It is curious to notice, however, that some trifling worry will sometimes send up the pulse and temperature in a remarkable manner; some passing excitement has thus made a difference of twenty-seven beats in the pulse and of four degrees in the temperature, and yet you will see men admitted after severe injuries—just the cases which one expects to find suffering from shock, and, unless any fatal lesion has been sustained, there will be a normal condition of the three great signs which I have referred to. And, if we find no symptoms which admit of being recorded as indicating shock after an operation, it is scarcely desirable to speak of a subsequent reaction, and you will consequently observe that, in our notes, we prefer to use the term over-action as indicating the constitutional condition during the first few days following an operation—whilst, however, we sometimes record a state of what we term subaction during the patient's convalescence. Now, the import of these terms requires brief consideration.

REMARKS

ON

ENLARGEMENT OF THE BRONCHIAL GLANDS.*

By NOEL GUENEAU DE MUSSY, M.D.,

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ENLARGEMENT of the bronchial glands is frequently found in *post obitum* examinations, and has been noticed by several anatomists, amongst them, many years ago, by Dr. Harrison, of Dublin, in his valuable book on the *Anatomy of the Arteries*.

But, respecting the clinical symptoms of the bronchial adenopathy, this affection, both in children and in adults, has been only described in its most advanced stages, in its most severe forms, when the windpipe, by the pressure which it undergoes, is narrowed, and a great obstacle to the passage of air is produced. In many cases, however, this enlargement of the bronchial glands is not attended with the symptoms which belong to the worst degree of the disease, which only had been hitherto described. Nevertheless, this milder and usually unknown form gives rise to peculiar troubles of respiration; it is attended by peculiar symptoms, and it may be detected during life by positive signs.

Almost all the diseases of the respiratory organs may be complicated with enlargement of the bronchial glands; and very often this enlargement unites its phenomenal expression with that of other affections, and can claim a part in the modifications of the respiratory murmur, and of the resonance of the chest observed in these diseases.

Of course, the signs of the bronchial adenopathy are generally to be found in the region corresponding to the bronchial glands, behind the upper part of the manubrium of the sternum, the sterno-clavicular, and the first sterno-costal joints, and the inner part of the two first intercostal spaces. Behind, the laminae of the first four dorsal vertebrae correspond to the same organs.

When these glands are enlarged, you can find in those points a sound duller, higher than natural, generally duller on one side than on the other, with impaired elasticity. With these modifications of the resonance, often very perceptible, you may find weakness, roughness of the respiratory murmur in the whole of a lung, if the main bronchial tube be compressed, or in a part of it, if one only of the secondary bronchial divisions. This weakness of respiration, often very evident in parts where the sound is normal and no alteration of tissue is to be suspected, which is not at all uncommon, cannot be explained satisfactorily without the interference of bronchial pressure. This weakness is usually connected with acuteness of the respiratory sound and protracted expiration. Near the origin of the bronchial tubes a rough, sibilant, or rubbing sound is pretty often to be heard. In the same point there often may be heard an expiratory souffle resounding over a

* For some notes on these, see the BRITISH MEDICAL JOURNAL for October.

* Read before the Medical Section at the Annual Meeting of the British Medical Association in London, August 1873.

more or less large extent, which is nothing else than the tracheal sound transmitted by the enlarged glands. It may be heard behind, near the spinal column; in front, near the sternum; with this peculiarity, that sometimes the movement of the body may modify this sound, by changing the relation of the trachea with the surrounding parts. I observed this alteration of the tracheal souffle in a remarkable degree, lately, in a female patient in my wards at the Hôtel Dieu. The souffle was very strong when she lifted her head up, and the trachea was closely applied against the convex surface of the cervical spine; it disappeared when she bent her head forward, and the connection between the trachea and the enlarged glands, which conducted the sound, was relaxed. For many weeks I could, according to the position of the neck, produce the souffle, or, on the contrary, make it disappear. The cough, usually the consequence of the bronchial adenopathy, is dry, obstinate, sometimes attended with a long whistling inspiration, as in whooping cough. This whooping cough-like character has been pointed out as belonging to the most advanced degree of this disease by all the physicians who have written on this affection. It may be observed in its mildest forms, and depends very probably on the connection of the enlarged glands with the pneumogastric nerve. I dare not assert that this peculiar character in whooping cough is always the result of the enlargement of these glands; but I found all the signs proper to this condition in some cases of whooping cough, namely, in those which may be called chronic; and this complication seems to me to explain satisfactorily the unusual circumstance of an indefinite duration in a contagious disease like whooping cough, assimilable in many respects to the eruptive fevers. Everybody knows that the cough may retain its character sometimes for several years; and, in a case of this description, lasting for two years, I observed the physical signs of the bronchial adenopathy. I have noticed that the cough may disappear in some chronic cases, although all the signs of the bronchial adenopathy have persisted.

The next symptom to be observed is a slight degree of dyspnoea, sometimes recurrent, and assuming an asthmatic form, or only perceptible when the patient is making an exertion, or when some accidental congestion increases the swelling of the glands. I have seen, under such circumstances, a depression of the skin above the superior extremity of the sternum, at each inspiration, as in cases where some obstacle prevents the free access of air to the lungs. The dilatation of the corresponding side of the chest is also diminished, as can be ascertained by a little instrument which I have called a pneumometer, which serves to measure the relative degree of dilatation of both sides of the chest. This instrument is composed of a spring supporting a dial with a graduated index. On each side of the dial is a string, which serves both to fix the instrument in the required position, and also to measure the breadth of the chest.

This morbid condition of the glands explains certain cases of aphonia. I have, on two occasions in my practice, met with cases of aphonia accompanied by all the physical signs of bronchial adenopathy on one side; and from these circumstances I diagnosed a paralysis of the vocal chord of the corresponding side, due to a compression of the inferior laryngeal nerve; which diagnosis was afterwards verified by a laryngoscopic examination.

In one case, the bronchial adenopathy seemed to me accountable, in a young boy, for an unrestrainable vomiting, attended with dyspnoea, which lasted for two years. Many treatments had been unsuccessfully employed to master this affection. I prescribed Laboureaux waters, half a glass four times a day, a plaster with belladonna to be applied on the pit of the stomach, and tincture of iodine on the chest; and under this treatment, directed principally against the enlargement of the bronchial glands, the patient was quite cured.

I do not wish to describe the symptoms of the most advanced degrees of this affection, which are well known, when large tumours press on the veins, the trachea, the œsophagus, and produce cyanosis, œdema of the superior parts, congestion of the brain, dysphagia, and sometimes asphyxia.

These periods of this affection which I have studied here are more amenable to treatment than those of more advanced stages. The mineral waters, containing chloride of sodium and arseniate of soda, such as those of Laboureaux, or chloride of sodium and iodine, as Kreutznach, Salies, and Salins, and, in certain cases, sulphurous springs, may be efficaciously prescribed. The use of iodine internally and externally is also indicated.

This condition of the lymphatic glands, to which I have alluded, may be observed at every age; it may complicate a great number of affections, such as measles, whooping cough, typhoid fever, bronchitis, pleurisy, pneumonia, tubercular induration of the lungs, and accounts for many auscultatory phenomena which I had been previously at a loss to explain.

ON THE NATURE OF THE SO-CALLED BRONCHIAL ASTHMA.*

By J. B. BERKART, M.D.,

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THE history of the so-called bronchial asthma dates from the time of Laennec, and with it also the uncertainty with regard to its nature. Whilst up to this period almost every dyspnoea was designated as asthma, Laennec recognised the true value of the various species of it which were in vogue at his time, and relegated them to their proper places as symptoms of anatomically defined diseases. He was enabled to do so because he appreciated the objective signs, which indicate rather "coarse" changes in the physical constitution of the organs of respiration and circulation, and inferred from them the anatomical conditions which produce the dyspnoea and the other symptoms accompanying this.

This means, however, which served to recognise the pathological state in all cases of dyspnoea, failed even in the hands of Laennec with regard to one, which occurs in paroxysms, and is followed by intervals of a respiration completely healthy, or almost so. Although that dyspnoea most frequently occurs in connection with bronchitis and emphysema, and although these are able to sufficiently account for dyspnoea in general, yet the origin of the paroxysm and the cause of the free interval remained a perfect mystery. Moreover, cases came under Laennec's notice where even *post mortem* examination gave negative results. The cases referred to, which have nothing in common with asthma but the sudden dyspnoea, would, we may confidently say, be interpreted to-day in a different way to what they were at that time; and Laennec could only escape the difficulties which beset him by having recourse to the nervous system, and by attributing the paroxysmal dyspnoea to a disturbance of innervation.

Laennec's views on the subject have been adopted by the majority of his successors. Often have weighty objections been raised to the neurotic nature of asthma, but always has the nervous system triumphantly shielded its devout followers, until at last the asthma assumed the formidable character of a spasmodic disease, a theory which, at the present day, counts the largest number of adherents.

Such success, however, was only possible because, on the one hand, the absence of physical signs was supposed to prove the healthy conditions of the lungs beyond a doubt; and, on the other hand, because experimental physiology appeared to have provided the spasm-theory with the stamp of genuineness.

But neither of these circumstances deserves at our hands the value which has erroneously been attributed to them. For the absence of physical signs is no safe indicator of the absence also of pathological conditions, and all the positive evidence derived from experimental physiology only goes to show that the "bronchial muscles may contract"; but as to "how" and as to "when" nothing is known.

Even this "positive evidence" is a matter of dispute, the cause of which has recently been pointed out by Paul Bert. In many of his experiments he failed to demonstrate the contractility of the lungs, but at last he succeeded in doing so; and he found, as the reason of his failure, that he "insufflated the lungs too much", which circumstance impedes their contraction. (*Leçons sur la Physiologie comparée de la Respiration*. Paris, 1870, p. 375.) But if Paul Bert has thus proven the contractility of the bronchial muscles, he has at the same time conclusively shown the impossibility that asthma can be due to a spasmodic stricture of the bronchial tubes in those cases in which it occurs most frequently, and in which it forms an integral part of the disease, namely, in emphysema. For the same cause which hinders the success of the physiological experiments fully exists under those pathological conditions.

I will not enter into the vast domain of the nervous physiology to rebut step by step the erroneous conclusions which are brought forward as proofs of the nervous origin of asthma. It is too well known that the nervous system easily lends its aid to explain almost the impossible, and why should it fail to do so with regard to asthma? I may the more readily dispense with a similar argumentation, because I am prepared to show that, were even the entire nervous system bent upon producing a spasmodic contraction of the bronchial muscles, it would fail in its attempts, because they are in cases of asthma in such a state of nutrition as to be utterly incapable of contracting at all.

In the vast majority of instances, asthma occurs in connection with

* Abstract of a paper read before the Medical Society of London, Nov. 3rd, 1873.