another solely to some additional weight in the gut above. Again, Hunter says: "The outer fold is the only one which is active, the inverted portion being perfectly passive and squeezed down by the outer, which inverts more of itself."

Although these views are not received in the present day, the figures of two cases of intussusception, which Hunter gives, most accurately represent the disorder, and could not be improved upon. His treatment is curiously dominated by his views as to the action of the outer fold of the intussusception, for he says: "medicine can never come in contact with the outer fold," and he advises, therefore, giving vomits, "with a view to invert the peristaltic motion of the containing gut, which will have a tendency to bring the intestines into their natural situation." It is remarkable that neither inflation of the bowel from below, which dates from Hippocrates, nor the proposal of Praxagoras to open the abdomen and thus reach the seat of trouble, which in modern times has proved so successful, receives any mention in this essay.

John Hunter seems to have been the originator of the practice of feeding artificially through a stomach tube. He read before the Society for the Improvement of Medical and Chirurgical Knowledge on September 21st, 1790, A Case of Paralysis of the Muscles of Deglutition, cured by an Artificial Mode of Conveying Food and Medicines into the Stomach. The patient was a man of 50, a hypochondriac who lost the power of swallowing, and was brought to Hunter for relief. Hunter proposed that a hollow flexible tube should be passed down into the stomach, and mentioned his having an instrument of the kind made of spiral wire covered with gut, for the purpose of injecting liquids into the stomachs of animals. The plan was adopted and the patient recovered. The instrument used was a fresh eel skin of rather small size, drawn over a probang, and at the end of the paper it is observed:

An eel skin seems very well adapted for this purpose, being smooth, pliable, and readily passed into the stomach; but as cases of this kind may occur when eels cannot be procured, a portion of the gut of any small animal, as a cat or lamb, will make a good substitute.

This same volume of the Society's *Transactions* contains a paper by Sir Everard Home "from materials furnished by Mr. Hunter." It is entitled Some Observations on the Loose Cartilages found in Joints, in which the view is maintained that the cartilages originate in blood clots rather than in the loose fringes of the joint. Hunter advises the removal of such bodies by an incision above and to the inner side of the patella, and describes graphically the extreme difficulty of the proceeding, owing to the tendency of the cartilages to escape into the cavity of the joint.

I have thus endeavoured to show by his own writings that John Hunter was an able and experienced surgeon as well as an unrivalled anatomist. That he had been for some years before his death the leading surgeon in London cannot be doubted, for even Jesse Foot allows this. He says:

I think I may affirm that his consultations were more in fashion than any other surgeon's, and that his range of practice was more extensive—that we heard more of the name of John Hunter than of any other surgeon.

Evidence of this kind is better than that which nowadays is too often looked upon as the test of professional success—the amount of legacy duty. Hunter died a poor man, not because he did not make a large professional income, but because he spent all he made upon his museum. When he died in 1793, we find his influential friends exerting themselves to procure a grant for his widow from the Government of the day; and eventually, in 1799, Parliament voted £15,000 for Hunter's Museum, and placed it under the care of the Corporation of Surgeons. The Royal College of Surgeons of England, the successor of that corporation, cannot be said to have failed in its duty towards Hunter's collection, and the splendid series of museums which the College has erected during the present century show the interest taken by the Council of this College in the promotion and advancement of the art and science of surgery.

[Mr. Heath then, in accordance with custom and in compliance with the wishes of the founders of the oration, referred to those eminent Fellows of the College who had passed away since the last oration. In the course of his remarks he paid a tribute to the memory of Mr. J. W. Hulke, of Sir William Savory, Mr. Arthur Durham, Sir John Erichsen, Sir George Murray Humphry, and Sir Spencer Wells. He concluded as follows:]

And now, Sir, having completed the roll of the illustrious

departed, let me conclude by saying a few words on my own behalf. In July, my period of office as a Councillor of this College expires, and this is, therefore, the last occasion on which I shall have the right to address my colleagues and the College at large from this place. Gentlemen, I cannot but view the future of this College with some anxiety. This great corporation is, I fear, on the high road to become something very unlike the Royal College of Surgeons of England, which has existed now for nearly a hundred years. Hitherto it has been regarded as the home of surgical science, and its funds have been devoted to the advance of the art of surgery by providing unrivalled opportunities for study in its museum and library. This College will, in my opinion, lose professional prestige and fall in public estimation if its funds should ever be diverted from these legitimate purposes in order to support the interests of individual members of the profession, however worthy in themselves. It will be a melancholy day for British surgery if ever this royal College should become a gigantic protection society, to fight the puny battles of its Members who may happen to come into collision with each other or with the public. It is to the Council, and to the Fellows who elect the Council, that we must look for the maintenance of that high professional position which this College has hitherto occupied, and for the furtherance of the art and science of surgery—*quæ prosunt omnibus artes*.

THE LETTSOMIAN LECTURES

ON

DISEASES OF THE NOSE AND THROAT IN RELATION TO GENERAL MEDICINE.

Delivered before the Medical Society of London,

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LECTURE II.

MYCOSIS FUNGOIDES.

On April 10th, 1895, I showed at the Laryngological Society of London a man, aged 52, suffering from mycosis fungoides. In addition to numerous tumours all over the body and limbs, tumours were seen on the posterior and lateral walls of the pharynx and on the left arytenoid cartilage. The patient had complained of more or less sore throat for eighteen months, but the speech was not affected. This is, I believe, the first case in which the larynx has been recognised as having been attacked by mycosis fungoides.¹

RHEUMATISM.

Rheumatic affections of the nose have received but little attention. I cannot say that I have seen any cases in which I could assure myself that rheumatism was the cause of symptoms referred to the nose, with the possible exception of a few cases in which patients complained of pain at the point of emergence of the nasal branches of the superior maxillary nerve, and even in these cases the rheumatic origin of the neuritis is problematical. Freudenthal,² however, states that "a number of cases have come under his observation in which the symptoms of nasal rheumatism were distinct and unmistakable. Two varieties of the disease were noted—one with visible changes in the nose, and the other without such changes. The changes consisted of a swelling of the lower and middle turbinated bodies which obstructed the breathing, and which could not be reduced with even strong solutions of cocaine. In all the cases the pain in the nose was very severe, and all were associated with attacks of articular rheumatism affecting various joints in the body. In all of the cases, too, antirheumatic treatment was the only one which had any effect on the nasal symptoms."

The epistaxis which we occasionally see during the course of acute rheumatism is almost invariably due to the salicylate of sodium now so generally employed; at all events, I can find no reference to epistaxis among the symptoms of acute rheumatism in the pre-salicylate days.

In the naso-pharynx the only condition which seems at all dependent on rheumatism is lacunar inflammation of the

third or pharyngeal tonsil. I have seen several cases where this tonsil has been affected independently of the faucial tonsils, and the pain and suffering the patient has experienced have been greater than is usual in ordinary tonsillitis. I believe that in some of the cases the rheumatic poison is the cause of the complaint. In two cases it was clearly of influenzal origin.

Before the days of rhinoscopy I should have been at a loss to explain the cause of the severe headache, pain referred to the back of the nose, and fever, met with in these cases, but a glance in the rhinoscopic mirror shows irregular swelling of the tonsil, which is dotted over with yellowish spots.

Pharyngitis is a very common complication of acute rheumatism. It usually appears a day or two before the onset of the articular pain, but occasionally the throat is only complained of after the disease has fully declared itself.

On examination the margin of the soft palate, the tonsils, and the posterior wall of the pharynx will be found of a deeper red colour than normal, and somewhat swollen. Occasionally there is œdema of the mucous membrane, more especially of the uvula. Freudenthal³ describes a benign ulceration of the pharynx, which he has only met with in persons affected with chronic rheumatism, and which promptly disappears under antirheumatic remedies. This I have not seen. In some cases the symptoms of rheumatic pharyngitis are so slight as not to be mentioned by the patient unless questioned on the subject. In the more severe forms the usual symptoms of dysphagia, pain in the ears, and difficulty in speaking are met with. The rheumatic origin of tonsillitis in many cases is now fully recognised. Lacunar tonsillitis is the form which usually occurs in connection with rheumatism. It must be borne in mind that though cardiac lesions are seldom seen when sore throat is the chief feature of a rheumatic attack, still cases do occur in which endocarditis and pericarditis are met with, even when articular pains are entirely absent. In the discussion on Tonsillitis at the meeting of the British Medical Association in 1889 I described a typical example of this.⁴

The outcome of the connection between the throat and the onset of rheumatic phenomena is the importance of preventing oral respiration and the removal of chronically hypertrophied tonsils. If tonsillitis occur it should be promptly treated with salicylates, in the hope of thereby warding off an attack of acute rheumatism. In some cases the rheumatic poison affects the muscles of the pharynx giving rise to attacks of pain in the pharynx—much aggravated by swallowing—there may be no objective signs. The rheumatic origin of these symptoms is shown by their occurring in patients with rheumatic antecedents, and by their yielding to salicylates. From its exposed condition, both externally and internally, and from the amount of fibrous tissue which enters into its structure, it might have been thought that the larynx would be especially subject to rheumatic affections. This, however, does not seem to be the case, and it is only comparatively recently that attention has been directed to the occurrence of a rheumatic laryngitis. Morell Mackenzie, for instance, whose textbook represents the high water mark of knowledge of throat diseases extant at the time, though he mentions "rheumatic sore throat," says nothing about rheumatic affections of the larynx, except the remark that it is probable that ankylosis of the crico-arytenoid joint may be due to primary synovitis, either rheumatic, gouty, or simply catarrhal.

I have no doubt in my own mind, however, that in the past many cases of the kind have been misinterpreted; indeed, on looking back through my casebook I have found cases which I should now class among rheumatic affections of the larynx, but which formerly I did not recognise as such. For instance, I have noticed in patients subject to other rheumatic manifestations swelling of one or both ary-epiglottic folds accompanied with considerable pain in swallowing and some external tenderness, which have speedily yielded to an antirheumatic treatment. If the case proceeds a little further the crico-arytenoid joint becomes involved, and there may be impairment of movement in the corresponding cord. The form of sore throat described by Hinkel⁵ is clearly an allied condition. The patient complains of sudden pain on swallowing, and there is slight elevation of temperature. The most painful spot is seated just behind the cricoid cartilage, or outside the superior cornu of the thyroid, or in the posterior wall of the pharynx. The mucous membrane is congested in

a patchy way. In some cases a severe cough, of a dry and painful character, is met with.

There is one class of affection of the throat in which, though the evidence of connection with rheumatism is somewhat weak, I nevertheless think that rheumatism plays an important rôle; I refer to cases of fixation of a vocal cord from ankylosis of the crico-arytenoid joint. In my book on *Diseases of the Nose and Throat*, page 361, I recorded two cases which came under my observation. It would, perhaps, be more correct to place these cases in the class of arthritis *a frigore*; but the line of demarcation between an arthritis arising from exposure to cold and that due to rheumatism is a very narrow one.

If articular rheumatism of the larynx is associated with rheumatic affections of other parts of the body the diagnosis is easy, but if the larynx alone is affected it is extremely difficult to say positively that the affection is really of rheumatic origin. In rheumatism of the crico-arytenoid joint the patient complains of an uncomfortable sensation at the angle of the jaw, usually relieved by pressure, which frequently elicits crepitus; the pain is increased by swallowing. Swelling round about the joint may or may not be present. Swallowing is generally easy at first, but dysphagia comes on later. The cord usually becomes fixed in the cadaveric position. Dr. A. E. Garrod⁶ quotes three cases.

I believe that many of the cases of fixation of a vocal cord of doubtful origin—and every laryngologist has met with these cases—are probably due to rheumatic arthritis, and that though the prognosis as regards life is good, the voice will always be somewhat impaired, but even in this respect it is sometimes astonishing how good and strong a voice can be produced in spite of the fixation of one vocal cord, owing to the fact that the unaffected cord takes on compensatory action, crosses the middle line, and comes into almost complete contact with the motionless cord.

Dr. E. F. Ingals,⁷ of Chicago, believes that laryngeal rheumatism is often mistaken for neuralgia. He finds it to occur most frequently in men, and most commonly during spring and autumn. Nearly all subjects are of the rheumatic diathesis. The pains come and go in the manner characteristic of rheumatic affections, and they are benefited only by those remedies and surroundings which have proved most useful in rheumatism. A case recorded by Dr. Max Thorner⁸ under the head of "chronic rheumatic laryngitis and pharyngitis" corresponds to the description given by Ingals, and I have had somewhat similar experience; the rheumatic origin of these cases is, however, rather doubtful. Before leaving the subject of rheumatic laryngitis, I should like to add that cases of affection of the crico-arytenoid joint from gonorrhœal rheumatism have been recorded. Even if there were no cases reported we might reasonably expect that they had occurred, but had been overlooked, as we know that gonorrhœal rheumatism may affect any joint.

Dr. Lacoarret,⁹ in his very interesting paper on acute arthritis of the crico-arytenoid joint gives two cases.

In connection with impairment of movement of vocal cords comes the question of rheumatism of the laryngeal muscles. I am not myself a believer in the rheumatic origin of muscular affections generally. I am of opinion that they are more often due to a gouty tendency. I cannot therefore give my adhesion to the view that the muscles of the larynx may be affected with rheumatism and give rise to impaired movement of the vocal cord, and I agree with Dr. Semon when he says that "I believe the less in rheumatic paralysis the greater my experience becomes."

Larauza,¹⁰ however, records a case of hyperæmia of the laryngeal mucous membrane with loss of tension in the vocal cords with aphonia in a patient the son of arthritic parents, but who had not suffered himself from articular rheumatism. On the very insufficient ground of a rheumatic family history and the speedy improvement under the administration of sodium salicylate after other methods had failed, Larauza diagnosed rheumatism of the intrinsic muscles of the larynx. I have not seen any cases which could not be explained on other than a rheumatic theory.

GOUT.

I have but little to say in reference to gouty conditions of the nose. Tophi are sometimes found in the skin of the nose;

at the time of writing this, I have a patient in the Westminster Hospital with a large tophus in the skin of the nose.

Sir Dyce Duckworth¹¹ states that "painful follicular inflammation in the alæ of the nose have been noted with some frequency in the gouty. These do not suppurate, but are apt to recur again and again."

If epistaxis occurs it is usually as a result of changes associated with chronic interstitial nephritis (the gouty kidney), rather than directly due to any gouty condition.

In a letter to me on the subject, Sir Dyce Duckworth confirms an opinion which I have long held, that "some nasal catarrhs are gouty, sudden, and sometimes fugitive." There is much to be said in favour of the view that in some cases of hay fever there is an underlying gouty tendency, or, as Haig would say, a condition of uricacidæmia. I have not, however, found hay fever alternating with or replacing an attack of gout.

Sir Dyce Duckworth quotes Noël Guéneau de Mussy as being of opinion that cases of hay fever were especially frequent in members of gouty families, and as regarding the changes in the mucous membrane of the nasal passages as akin to the eruptions which vex the skin of gouty subjects. I have found that a simple unstimulating diet, only a moderate amount of animal food, and no alcohol suits the victims of hay fever the best.

Whilst on the subject of hay fever and paroxysmal sneezing in the gouty, I will take the opportunity of emphasising the importance of a thorough investigation of the patient's general condition before any local treatment is carried out in the nose for these affections. A careful inquiry should be made as to the state of the various functions of the body, especial attention being directed to the condition of the liver and kidneys. The possibility of malarial infection should also be considered. Having done this I would go one step further, and if, in spite of general treatment the sneezing or attacks of hay fever persist, I would most certainly carry out local treatment in the nose. Of the methods of local treatment I have found none so efficacious as the use of the galvano-cautery. Given a puffy, spongy condition of the mucous membrane of the turbinated bones, with more or less occlusion of the passages, the application of the galvano-cautery has in my experience been followed by great benefit, it involves little or no risk of any sort, and, thanks to cocaine, can be carried out in a perfectly painless manner. Only in exceptional cases is a more severe local treatment necessary, but should there be deflection of the septum partially blocking one nostril, it may be necessary to forcibly straighten it, and thus restore free nasal respiration. Removal of the turbinated bones is hardly ever justifiable.

I have entered somewhat fully into this question of local surgical treatment of nasal neurosis, as Dr. Goodhart in his admirable Harveian Lectures on Common Neuroses, p. 48, has in my opinion taken up too strong a position when he says, "we should remember, in making use of severe measures of this kind, that we are only treating a symptom, and from the nature of the case adopting a means that is very unlikely to prove of any permanent good." While agreeing with him that "means of this kind are too often meddlesome and bad surgery," I have had so many patients under my care who have derived permanent benefit from the galvano-caustic plan of treatment, that I feel it my duty to protest against indiscriminate blame being attached to it, as well as against its unjustifiable abuse. In this, as in most worldly matters, "*In medio tutissimus ibis*" is the motto to follow.

Though gouty affections of the nose are comparatively rare, the pharynx is frequently the seat of trouble in the gouty, chiefly of a chronic nature, anything like acute gout of the throat being excessively rare. Morell Mackenzie¹² mentions the case of a patient who was "suffering from acute pharyngitis, when the symptoms suddenly disappeared, and an acute attack of gout developed in the great toe of the right foot; after three days the gouty inflammation of the toe disappeared, and acute hyperæmia of the pharynx supervened." He also mentions a case of acute oedema of the uvula disappearing upon sudden development of gouty inflammation of the big toe.¹³ M. Vaton¹⁴ has described the case of a patient with a gouty history suffering from enormous oedema of the uvula, soft palate, and fauces. The swelling suddenly disappeared after lasting some days, simultaneously with the big toe being attacked with severe gout.

I have not myself seen anything similar to the above—that is, acute mischief in the throat being replaced by acute gout, and this in its turn giving way to a return of the throat mischief. On the other hand, I have had a good number of gouty patients who have had marked throat symptoms which seemed to me to be dependent on their general gouty condition. The appearance of the gouty throat is characteristic—the soft palate, the fauces, and the posterior wall of the pharynx present a gorged, congested appearance; the uvula is generally enlarged, and is sometimes of an enormous size. The colour of the mucous membrane is purplish-red, and has a somewhat glistening appearance. As regards symptoms, patients complain of all degrees of discomfort, from slight difficulty and pain in swallowing to sharp pain radiating up to the ear, with excessive pain on swallowing. In some cases the patients complain of pain limited to certain areas, or they have the sensation of tickling, or of a foreign body in the throat. These symptoms are especially met with in the lithæmic—that is, in people with defective liver action, but who have not as yet shown any overt manifestations of gout.

I am of opinion that quinsy is sometimes a manifestation of the gouty diathesis, and occurs in the children of gouty parents more frequently than in others. In the past the diagnosis of gout has undoubtedly been the refuge of the destitute, and I do not think that we are justified in describing an affection of the throat as being gouty, unless the sufferer has had some other distinct evidence of gout. The gouty nature of the complaint is still further assured if it quickly yields to colchicum and alkalies when other remedies have failed. In connection with gouty pharyngitis it is not uncommon to find the larynx also affected. The cords are congested and the mucous membrane of the larynx has sometimes a dusky coloration. The patient complains of pain through the larynx, and there may be some external tenderness. There is usually hoarseness with a frequent hacking cough and a little viscid expectoration, sometimes streaked with blood, is brought up with difficulty.

Sir Thomas Watson, in his classical lectures, writes: "A year or two ago an eminent physician of my acquaintance suffered a violent and dangerous attack of what was considered to be gout in the throat." It is extremely difficult to recognise what was included under the term of "gout in the throat" in the prelaryngoscopic days, but it is quite certain that nowadays we do not see gout attacking the larynx and threatening life. The only two cases of a definite gouty affection of the larynx, which Morell Mackenzie¹⁵ records, are: (1) Gouty deposit around the crico-arytenoid joints on both sides, causing permanent dysphonia; deposit in lobule of left ear. (2) Gouty inflammation, producing fungous ulceration of the left ventricular band, resembling cancer: cured by a course at Wiesbaden. Sir Alfred Garrod¹⁶ writes: "In one instance only have I seen what appeared to me to be a true gouty disease of the larynx." Inasmuch, however, as no laryngoscopic or *post-mortem* examination was made the case is not conclusive.

In my experience gout, as it affects the larynx, has been in the form of catarrh, more or less chronic, but yielding to alkalies and iodide of potassium. Careful pathological investigation bears out the comparative rarity of gouty changes in the larynx. Dr. Norman Moore¹⁷ has noted the *post-mortem* appearance in 80 cases of gout, and as one of his conclusions states that "the articulations of the larynx rarely contains deposit," that is of urate of sodium.

In the report of a case in the Pathological Society's *Transactions*, vol. xxxiii, p. 273, Dr. Moore, however, mentions the occurrence of a small deposit, looking like urate of soda, just below the outer end of each cord.

In one case Sir Alfred Garrod¹⁸ met with some points of deposit on the arytenoid cartilages which were proved to consist of urate of soda, both from their microscopical and chemical characters, and Duckworth¹⁹ states that Virchow has detected "a tophulus" in the posterior part of the right vocal cord. Uratic deposits have been found in the crico-arytenoid ligaments. Ewart²⁰ quotes cases observed by Litten and Brooks of uratic deposits in the larynx.

OSTEO-ARTHRITIS, RHEUMATOID ARTHRITIS.

Csteo-arthritis affecting the crico-arytenoid joint has, up to the present time, received but scant attention. Sir Alfred

Garrod²¹ is inclined to attribute the aphonia, which he has observed in several cases, to implication of the arytenoid cartilages in the disease, but this view has not been confirmed by laryngoscopic or *post-mortem* observations. Bearing in mind how generalised the joint lesions of this disease are, I cannot but think that cases in which the crico-arytenoid joint is implicated occur fairly frequently but pass unrecognised, for I can see no reason why this joint should be exempt from the ravages of osteo-arthritis, more especially as a neighbouring joint, the temporo-maxillary articulation, is often attacked. Now that the laryngoscope is so commonly employed, we may expect to hear of osteo-arthritic affections of the crico-arytenoid joint. Dr. W. E. Casselberry,²² of Chicago, has recorded a case, the clinical history of which points to osteo-arthritis affecting the crico-arytenoid joint.

LEUKÆMIA.

Several cases of laryngeal stenosis due to leukæmia have been reported.²³ In a case of Epstein's, the arytenoids and ventricular bands were infiltrated. Three months after the first observation the swelling had increased, and had extended to the supraglottic region, the surface being covered with a yellowish secretion. Owing to an increase in the amount of stenosis, tracheotomy was required. Death occurred five days later. In another case the laryngoscopic appearance was that of a tuberculous infiltration, and the stenosis was chiefly due to swelling of the subcordal mucous membrane, extending posteriorly to the sixth tracheal ring.

Mager records the case of a patient, aged 58, who, after having suffered from leukæmia for a year, became dyspnoic. On laryngoscopic examination the mucous membrane of the larynx was read and swollen; the swelling appeared due to a hard infiltration; the vocal cords were swollen, and there was immobility of the right half of the larynx. Death followed tracheotomy in a few days. In this case, at the *post-mortem* examination, in addition to the usual sub-epithelial infiltration by leucocytes, there was perichondritis and necrosis of the right arytenoid cartilage. Leukæmic infiltration of the larynx represents a grave complication; it usually requires tracheotomy, and is a precursor of the fatal issue.

HODGKIN'S DISEASE.

In Hodgkin's disease running an acute course, cedema of the pharynx, especially of the arches of the palate and the uvula, coming on in successive attacks, has been observed.²⁴ The swelling is probably due to leukæmic infiltration, and the administration of arsenic has good effect. In a chronic case of Hodgkin's disease, an oedematous granular appearance of the uvula and the anterior palatine arch, which felt hard, was noticed. A similar condition has been seen in the larynx. A child, aged 2 years, had attacks of suffocation, and died notwithstanding the performance of tracheotomy. At the *post-mortem* examination there existed a general swelling of the lymphatic system, with especial localisation in the ventricular bands and the epiglottis. The swelling of the laryngeal mucous membrane was pale and slightly knobby, caused by accumulation of leucocytes in the subepithelial tissues.²⁵

LYMPHATIC SYSTEM.

Owing to the universality of its distribution the lymphatic system necessarily plays an important part in all diseased processes. As Moritz Schmidt has pointed out, in a considerable number of cases of recurrent posticus paralysis the cause is quite obscure during life. A likely hypothesis in these cases is that the paralysis has been produced by a swollen mediastinal or cervical gland. I have had the opportunity of watching such a case for the last ten years, and though I had always assumed, in the absence of any other recognisable condition, that the paralysis was due to the pressure of enlarged mediastinal glands, it is only within the last few months that the cervical glands have become enlarged, and lend support to my original diagnosis.

HÆMOPTYSIS.

There is hardly any symptom which gives rise to more anxiety to the patient and his medical attendant than hæmoptysis. The rule still holds good that blood which is coughed up should be regarded as coming from the lungs,

until there is distinct evidence to the contrary. Numerous cases are now on record in which a varicose ulcer on the posterior border of the septum, small ulcers and vascular ruptures in hypertrophied tonsils, enlarged vessels in the pharynx, a varicose condition of the veins at the base of the tongue, dilated vessels or ulceration of the larynx have given rise to the suspicion of hæmoptysis, and the diagnosis has only been arrived at by the employment of the rhinoscope or laryngoscope as the case may be.

Among the comparatively rare causes of hæmoptysis may be mentioned the presence of a leech in the larynx.²⁶ A dry laryngitis, in which crusts form on the vocal cords, may give rise to quite a severe hæmorrhage when they become detached, and thus, together with the concomitant cough and hoarseness, may, in the absence of a thorough examination, lead to an erroneous diagnosis of phthisis.

BRONCHITIS.

The intimate connection between the nasal passages and the bronchial tubes has for a long time been common property. There are certain persons who say that whenever they get a cold in the head it is sure to travel downwards and set up bronchitis. This tendency is, however, much greater in those who suffer from stenosis of the nasal passages, interfering with proper nasal respiration. This is one argument I employ when I think it necessary to advise that hypertrophic rhinitis, crests on the septum, and deflected septa should be surgically treated. I point out that though in early adult life the nasal condition may only be an inconvenience, still with advancing years and the tendency to bronchial affections which comes with increasing age, any interference with free nasal breathing greatly aggravates the risk of being attacked by bronchitis. Oral respiration is always attended sooner or later by chronic pharyngitis and laryngitis, and a little additional upset of the system will start off bronchitis, which, under these circumstances, is extremely likely to become chronic. Even slight nasal affections, not sufficient to interfere with breathing, may be a predisposing cause of bronchitis. Thus Cahn²⁷ records a case of bronchitis coming on in an acute manner in a patient with small nasal polypi, and the bronchitis lasted until they were cleared out. Cahn specially notes that there was free nasal breathing.

ASTHMA.

One of the earliest reflex conditions which was recognised as being dependent in some cases upon intranasal disease is asthma, and though I cannot agree with some authorities that asthma is usually associated with intranasal diseases, still cases of this sort occur with sufficient frequency to render it absolutely necessary for the physician to examine the nose in all cases of asthma. Numerous cases have now been recorded of asthma occurring in persons suffering from nasal polypi, in which the removal of these growths has completely freed the patient from the attacks of asthma. It has not, however, been my fortune to meet with absolute success—that is to say, that in all the cases of asthma complicated with polypi which have come under my care, in no single instance have I succeeded in curing the patient by removing the polypi. No matter how thoroughly the nose has been freed from the growths, the patient has still suffered from attacks of asthma, though the effect of the treatment has been greatly to diminish the attacks in frequency and severity. Unfortunately, as a rule patients do not come for treatment of the nasal disease until the asthma has lasted for a considerable period—possibly years—and by this time changes have been set up in the central nervous system and in the lungs, which are incompatible with complete restoration to health.

Though polypi represent the intranasal lesion most frequently found associated with asthma, any affection of the nose may be the starting point of asthma. Spurs and crests on the septum, deflection of the septum, hypertrophic and atrophic rhinitis have been noted as apparently giving rise to asthma. Adenoids may also cause asthma. A patient of mine, aged 21, who had suffered from asthma for two years, completely lost it after the removal of adenoids. According to Lichtwitz²⁸ symptoms resembling asthma were seen in five patients as a complication of empyema of the accessory nasal cavities. Believing as I do in the connection between intranasal lesions and the development of asthma I would strenu-

ously advise that a systematic examination should be made of the nasal fossæ and accessory sinuses, and if any gross lesion is found it should be promptly treated.

EMPHYSEMA.

Emphysema is another lung affection which has intimate relations with diseases of the nose and throat. Any of the various causes of nasal obstruction may, as a result of the chronic pharyngeal and laryngeal catarrh, and consequent irritable cough thereby produced, give rise to emphysema. It is probable also that emphysema may be directly due to nasal obstruction; this is borne out by the experiments of Dr. Cervello²⁰ on dogs. He finds that occlusion of the nostrils invariably produces in a few days pulmonary emphysema in completely healthy dogs.

I have seen the progress of a somewhat rapidly increasing emphysema at once checked by the amputation of an elongated uvula, and I have seen equally good results from the treatment of granular pharyngitis by the galvano-cautery. These remarks will, I think, be sufficient to indicate the desirability of looking out for the cause of any chronic cough, and not to be satisfied with simply ordering some cough mixture.

PNEUMONIA.

Epistaxis is sometimes observed in pneumonia; it may be an early symptom, or occur as one of the critical phenomena. Just as acute rheumatism may follow an attack of tonsillitis, so, I believe, may pneumonia. Whether the pneumonia is of septic origin, or whether the micro-organism (be it the diplococcus of Fraenkel or the pneumococcus of Friedlaender) first sets up the inflammatory mischief in the tonsil, and then proceeds to affect the lung, I must leave to be settled by those skilled in bacteriology.

Dr. Wallack, of Crick,³⁰ has recorded a case of this kind. The patient, a man, aged 36, had an attack of sore throat (quinsy) followed by pneumonia. Examination of the sputum showed numerous long chains of streptococci, staphylococci, pneumococci, single, double, and in short chains, and zooglæ of micrococci.

In a patient in the Westminster Hospital under my care an attack of acute laryngitis came on during the course of a pneumonia.

SHAPE OF THE CHEST.

The state of the nose and naso-pharynx has a profound influence on the shape of the chest. Any interference with free nasal respiration, whether in the nose or naso-pharynx, in early life will give rise to a characteristic deformity. Adenoid vegetations, as being the most common cause of defective nasal breathing, are usually found to be present. At one time it was thought that enlarged tonsils were the cause of this deformity, but the observations on which this view depended were mostly made in the pre-adenoid days, and as adenoids are almost invariably associated with enlarged tonsils, it is probable that the latter usually play quite a subordinate rôle in the production of the deformity in question. That enlarged tonsils alone are capable of causing deformity of the chest is shown by two cases reported by Dr. Norman Moore.³¹ He made a cyrtometrical drawing of the chest in each case before and some time after the removal of the tonsils, and the cup-shaped depression in the chest which was present before the operation was found to have disappeared when the second tracing was made.

My colleague Mr. Tubby³² has given an excellent representation of the changes seen in the thorax. If the adenoids or other causes of nasal obstruction are removed before the bones are firmly ossified the deformity may be almost completely cured, and recovery of the shape of the chest is accelerated by the judicious employment of extension and gymnastic exercises.

DISEASES OF THE CIRCULATORY SYSTEM.

As we have already seen in connection with rheumatism, the heart may become affected with valvular disease as the result of a rheumatic tonsillitis, but it is not so generally recognised that an infective endocarditis may have a tonsillar origin. A case reported by Charrin³³ is a good illustration of this connection. On *post-mortem* examination staphylococcus aureus, which, during life, had been found swarming on the exudation over the tonsils, was present in the bronchopneumonic patches and the valvular vegetations.

Dr. Dreschfeld,³⁴ in describing the paths of entrance of the microbes in infective endocarditis says: "Probably the tonsils, which are so often affected in rheumatic endocarditis, may occasionally serve as the means of entrance; and thus, again, some of the so-called 'primary cases' may be explained. Löri³⁵ states that in 4 out of 5 cases of acute septic endocarditis which he has observed ecchymoses have been present in the pharynx, larynx, or trachea. Loss of substance in the larynx and hæmorrhage from the pharynx, larynx, and trachea have been also met with in acute septic endocarditis.

Various cardiac neuroses are met with in patients presenting intranasal abnormalities. A sensation of weight and constriction, angular attacks, palpitation, and giddiness are the symptoms most commonly seen under these circumstances. Tachycardia may be associated with intranasal disease. Mr. Spencer Watson³⁶ has reported a case of nasal polypi in which the pulse rate was 120 per minute, the tachycardia being persistent. After the nostrils had been completely freed from obstruction the cardiac trouble ceased. In contradistinction to tachycardia, a slow pulse may be met with in certain nasal affections. Lichwitz³⁷ reports the case of a patient with empyema of all the sinuses, who had a pulse of 28 to 30 to the minute, which became normal after treatment. Tachycardia has been observed to follow excision of the larynx.³⁸

Besides causing tachycardia, nasal lesions occasionally give rise to irregularity in the action of the heart. Dr. Sansom,³⁹ in a discussion following the reading of his paper entitled the Irregular Heart, a Clinical Study, read before this Society on December 12th, 1892, said, "He thought that nasal and aural troubles were amongst the commonest reflexes which started the cardiac derangement."

EXOPTHALMIC GOÏTRE.

In exophthalmic goitre, and, as we have just seen, in the allied condition, tachycardia, intranasal changes play an important part. Mr. Arthur Maude,⁴⁰ who recently presented his valuable series of monographs on exophthalmic goitre to the Library of the Royal College of Surgeons, has collected a series of cases in which operative interference in the nose has been carried out in cases of Graves's disease.

A case recorded by Mr. Spencer Watson⁴¹ of a woman, aged 54, with prominent eyeballs, great mental depression, and fainting fits was probably one of exophthalmic goitre. There was extensive hypertrophy of both inferior turbinates, which were removed with great relief to the symptoms. Dr. Scanes Spicer⁴² has recorded a case of incomplete Graves's disease associated with nasal polypi. In this case, although the enlargement of the thyroid, the tachycardia, the tremor, and nervous excitement were well marked, Dr. Spicer elected to call it incomplete Graves's disease from the subordinate character of one of its leading symptoms—the exophthalmos. The polypi were removed with the cold wire snare, and as the nasal passages gradually became pervious the thyroidal swelling diminished and became less defined, the pulsation less, and the slight exophthalmos and tremors disappeared. Over against the above cases of exophthalmic goitre successfully treated by intranasal operative procedures must be set the remarkable case of unilateral incomplete Graves's disease after removal of nasal polypi recorded by Dr. Felix Semon.⁴³

Mr. R. S. Charsley⁴⁴ has observed marked enlargement of the glands in the neck and protrusion of the eyeballs lasting for a period of three months after operation for removal of turbinate body with the galvano-cautery. The pulse had ranged as high as 110, but complete recovery ensued.

The only nasal trouble that I have myself noticed in Graves's disease was very profuse epistaxis in a lady aged 40. The patient was much weakened by the repeated losses of blood, so I applied the galvano-cautery to the bleeding point and at once arrested the hæmorrhage, which gave her no further trouble. The course of the disease was not apparently modified by stopping the loss of blood, and the patient eventually died from exhaustion consequent on profuse diarrhoea.

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THE HUNTERIAN LECTURES

ON

THE PATHOLOGY AND SURGERY OF INTUSSUSCEPTION.

Delivered at the Royal College of Surgeons of England.

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LECTURE III.—THE TREATMENT OF INTUSSUSCEPTION.

I CALLED your attention, Sir, in my previous lectures to the scientific aspects of intussusception, and I have now to deal with the subject from a practical standpoint. I showed you first the minute anatomical changes which take place in the tissues injured by invagination, and afterwards I brought before you certain anatomical, physiological, and pathological factors which appeared to be of importance in causing the affection. These points are only of subordinate interest to the practical surgeon, for though a knowledge of them helps to elucidate the cause of intussusception, it does not in any way assist in its cure.

Turning, then, from the theoretical to the more severely practical aspects of intussusception, there can be no doubt that all cases of the affection have to be treated upon the assumption that they are either reducible or irreducible. I do not propose to occupy your time with a history of the treatment of intussusception. Those who are interested in such matters—and every surgeon ought to be, for the practice of surgery is part of a liberal education, and is not the mind-narrowing vocation that some would have us believe—will find that Professor Ashhurst,¹ Dr. Leichtenstern,² and Mr. Jonathan Hutchinson³ have published admirable summaries of it from different points of view.

It is still necessary, however, to teach the majority of mothers that early advice and abstention from domestic remedies are required in all cases of painful constipation occurring suddenly in young children, just as it is only lately that men as well as women have come to understand that the immediate treatment of strangulated hernia means recovery, whilst to delay is death.

a. REDUCIBLE INTUSSUSCEPTION.

Clinical and pathological evidence show that an invaginated portion of the intestine has a constant tendency to reduce itself until its muscular coat becomes paralysed, or adhesions are formed at its neck. This tendency to reduction is probably counteracted during the earlier stages of an intussusception by the tonic contraction of the ensheathing bowel, for if this be reduced or abolished by mechanical or other means the intussusception can be easily reduced until hardly any invagination remains. Complete reduction is not easy, for the congestion and consequent œdema of the muscular coat at the apex of the intussusception render this the hardest part of the surgeon's task. Inflation or injection of the large intestine is therefore upon the whole the safest

and the most satisfactory treatment for all cases of uncomplicated intussusception, provided that the patient has been seen early enough, that the distending force be applied gradually, and that it be not too great.

1. TREATMENT BY IRRIGATION.

Injection is preferable to inflation, because the force employed can be graduated with much greater accuracy, whilst the apparatus is always at hand. But irrigation is not of the least service in the enteric form of intussusception—where one part of the small intestine is invaginated into another, for many observers⁴ have shown by experiments on living and on dead bodies that fluid can only be made to pass through the ileo-cæcal valve when over-distension of the colon has caused a mechanical separation of its two segments. Such an over-distension, however, is in the highest degree dangerous, because it is usually accompanied by a cracking of the serous coat of the large intestine, which is soon followed by rupture of the muscular and mucous layers if the force be continued.

Professor Senn⁵ thinks that somewhat better results may be obtained in cases of enteric intussusception by distending the intestine with such a gas as hydrogen, for he finds that a gas passes through the ileo-cæcal valve under a much lower pressure than a fluid. But enteric intussusceptions are both rare and difficult to recognise, and it is better to open the abdomen at once in every case where this condition is suspected.

The method of irrigation under hydrostatic pressure is the most satisfactory way of distending the colon in cases of colocolic and ileo-cæcal intussusception. The fluid is allowed to pass into the large intestine by its own weight, so that the force can be accurately estimated by observing the height to which the reservoir is raised above the recumbent body of the patient. The valuable experiments of Mr. Mortimer⁶ in London and of Mr. Mole⁷ in Bristol have greatly increased our scientific knowledge of the effects of irrigation in the treatment of intussusception. They have shown that the results depend partly upon the obstruction to be overcome within the intestine and partly upon the external support. The greater the pressure within the abdomen the more is the distending force neutralised, for the intestinal wall is then compressed between two opposing forces. Mr. Mortimer experimenting upon the unopened bodies of children, points out that in an irreducible intussusception the large intestine is distended by almost the whole force of the stream when the abdominal walls are lax, as is usual in children under chloroform, and when there is not much tympanites. The intestine may kink if fluid be allowed to enter the bowel too suddenly or too forcibly, and the distending force is then prevented from acting upon the intussusception, so that the colon may become sufficiently overdistended to rupture. A similar accident may happen as a result of a sudden peristaltic contraction taking place whilst the pressure is being applied. There is apt to be cracking of the serous coat of the large intestine when the resultant pressure of the fluid distending the colon is about 2½ lbs.—that is to say, when the irrigator is raised 5 feet above the body of the patient, and this accident usually happens when the irrigator is raised to 8 feet, though the bowel may be completely ruptured when the reservoir is only raised to a height of 6 feet.

Mr. Mole used a slightly different method of experiment, but he arrived at substantially the same results, and, as he worked with the abdomen open, he was able to see the exact manner in which the intestine ruptured as a result of its overdistension. When this accident is imminent the peritoneal coat of the bowel splits longitudinally for a considerable length; the fluid then begins to leak through the wall of the gut, a small jet issues, and at last, if the pressure be continued, a large rent takes place, with forcible expulsion of the contents of the bowel into the peritoneal cavity.

Rupture of the large intestine is most likely to occur in the transverse colon, at or near to the splenic flexure, whilst in the small intestine it takes place in the unprotected portion of the bowel which is situated between the two layers of the mesentery.

It should be borne in mind, however, that these results are derived from experiments upon dead bodies and upon