masked or neutralised, and yet any infective matter present, be, in all probability, unaffected, preserved, or only made dormant for a brief period, as exhaustive experiments with carbolic acid and infective fluids, more especially with vaccine, show; that to use purely antiseptic substances as antizymotics is highly paradoxical, preservation being practised and destruction anticipated; further, that the mineral acids are true disinfectants, operating by both physical and chemical destruction, and also by transformation, of organic molecules, as in fermentation; hence, they prevent and arrest putrefaction, they transform putrefaction into fermentation; they deodorise; and, moreover, they are highly antizymotic as regards vaccine, virus of glanders, virus of infective inflammation, and therefore, by inference, as regards all other infections.

ENLARGEMENT OF THE BRONCHIAL LYMPHATIC GLANDS WITH RELATION TO WHOOPING-COUGH.

By W. B. CHEADLE, M.D., F.R.C.P.,

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THE theory that compression or irritation of the vagus nerve by enlarged bronchial glands is the cause of the spasmodic cough in whooping-cough, advocated by Dr. Gueneau de Mussy and combated by Dr. Barlow, is no new one. Some quarter of a century ago, Dr. Ley, having observed the frequent association of laryngismus stridulus with swelling of the glands of the neck and chest, and the entanglement of the pneumogastric nerve or its branches amongst them, attributed the temporary closure of the glottis in this affection to pressure made by these enlarged glands upon the recurrent laryngeal nerve, or some part of the eighth pair. And again, later, finding a like condition of these structures in whooping-cough, he suggested that the enlargement of these glands from a specific poison, similar to that of the parotid gland in mumps, might after all be the essence of whooping-cough. These views were brought forward and favoured by Sir Thomas Watson in his well known lectures. The revival of the theory by Dr. Gueneau de Mussy gives it fresh prominence and importance.

Now, I think, most pathologists would agree upon two primary propositions connected with the question, viz.:

1. That the spasmodic cough and laryngeal spasm of whooping-cough are due to some morbid influence acting upon the vagus;
2. That enlarged bronchial glands are constantly found on *post mortem* examination in all fatal cases of the disease.

The single instance of well marked whooping-cough in which a *post mortem* examination shall show this last condition to be absent, required by Dr. Gueneau de Mussy to refute his theory, will, I imagine, be sought in vain.

The absence of such evidence against the hypothesis does not, however, establish its correctness.

The evidence of physical examination during life supports that obtained *post mortem*, and I believe that, in whooping-cough, enlarged bronchio-tracheal glands are always present. But it by no means follows that the two conditions stand in the relation of cause and effect. They are rather, I think, both effects of a common cause.

The difficulty in the way of what may be called the compression theory is precisely that put forward by Dr. Barlow and Dr. Archambault, and combated so ingeniously by Dr. Gueneau de Mussy; viz., the fact that a similar enlargement of the bronchio-tracheal glands is commonly met with in other pulmonary affections besides whooping-cough. And, even further, I think it may be stated as a general pathological law that, *whenever there is prolonged inflammation or irritation of the bronchial mucous membrane in children, enlargement of the bronchial glands certainly follows.* We see it in the *post mortem* room as the accompaniment of bronchopneumonia, of phthisis, of measles, of whooping-cough. Swelling of the bronchial glands, indeed, results from an inflamed bronchial mucous membrane, just as certainly as swelling of the cervical glands follows an inflamed scalp. This enlargement, then, being present in many disorders other than whooping-cough, without any spasmodic cough (as Dr. Gueneau de Mussy fully allows), if the tumefaction of the glands be the cause of the spasmodic cough in one case and not in another, it must be due to some special conditions present in the one instance and not in the other. It is in this respect that Dr. Barlow's case is so valuable. It clears the ground by showing positively that mere mechanical pressure is not the determining cause.

Dr. Gueneau de Mussy suggests that the determining conditions may be some qualification of pressure; as that the compression acts on certain points of the nervous cluster, or that it acts in certain special

degree, or that it produces a certain kind of stimulus which may depend upon the nature of the morbid process. It is difficult to see how such variations of pressure could produce the effect, and still more difficult to conceive how the nature of the morbid process could modify the influence of pressure by an enlarged gland; but, granting that such variations might afford a reasonable explanation of the phenomenon, they rest so far on pure hypothesis. Under ordinary circumstances, the act of coughing is excited by stimulus applied to the peripheral twigs of the pneumogastric, either those of the superior laryngeal in the larynx, or the pulmonary branches to the bronchi; or, in some cases, possibly by irritation of the gastric portion in the stomach; or again, the stimulus may be reflected, as, for instance, in cough caused by the act of laughing. Cough is set up in the same way in whooping-cough, by the stimulus of accumulating mucus in the larynx, trachea, or bronchi, or a blast of cold air, or a full meal, or a fit of laughter. It seems more reasonable to suppose that the peculiar spasmodic character of the cough is due to the special action of a special virus upon the terminal fibres, or to an irritable condition established by its influence on them or in the nerve-centres, rather than to the rough mechanical influence of gland-pressure. In the parallel case of the pressure of an aneurism or other tumour upon the recurrent nerve, we have spasmodic cough indeed, but not until the pressure has become extreme enough to produce paralysis of the vocal cord and persistent hoarseness and stridor of respiration. Then accumulating mucus in the narrowed glottis *does* produce violent cough. But in whooping-cough, there is no such evidence of persistent pressure. The only way in which it seems to me probable that enlarged bronchial glands can play any active part in the matter is, that the turgescence of the vessels and tissues of the neck, which results from the successive expiratory efforts, may so temporarily increase the pressure upon the inferior laryngeal, as to produce a momentary spasm of the glottis, and thus cause the characteristic whoop. But then closure of the glottis is part of the act of coughing, and the whoop would be accounted for by the spasm set up by special or extreme irritation being more persistent than that of ordinary cough. The occurrence of cough simulating whooping-cough is explicable in the same way, by excessive irritation and irritability of the nerve-fibres or centres involved. The recurrence of spasmodic cough, too, with each successive catarrh, months after the original attack of whooping-cough has ceased, is as easily explained by a persistent irritability of nerve-structures, as by a persistent tumefaction of bronchial glands. I agree with Dr. Gueneau de Mussy that these relapses of whooping-cough are not contagious; I have long been in the habit of allowing patients thus affected to mix freely with others, both in private practice and in hospital, and have never yet seen the disease communicated thereby.

A CASE OF PLEUROPNEUMONIA WITH EFFUSION TREATED BY THE ERGOT OF RYE: RAPID RECOVERY.

By ALEXANDER BOGGS, M.D., Paris,
Late of Her Majesty's Indian Army.

UNTIL now, the ergot of rye has been employed principally as an ocytotic, sometimes as a hæmostatic, and in certain affections of the spine. It has recently been employed as a febrifuge in typhoid fever, and as a local application in ophthalmia; but, having read of its utility in pneumonia, I determined to try it in the following case.

On May 20th last, I was called to see a young married woman aged 28, suffering from symptoms of some pulmonary affection. On examination, I found she had all the signs of the commencement of pneumonia of the right lung, the left being unaffected. She had been ailing for about eleven days, and, thinking she had only a "cold", continued her occupations as usual. On the 19th, however, finding herself prostrated with intense fever, she was obliged to lay up, and sent for me the next day. She complained of great pain in the lower and back part of the chest, accompanied with slight oppression and a continual cough; and as she was in a state of great agitation, with a full soft pulse and dry skin, I gave her a mixture composed of bromide of potassium, liquor ammoniæ acetatis, digitalis, and morphia, in some syrup and water, of which she took a tablespoonful every two hours. This had the effect of quieting the patient, but the other symptoms had not much abated. At my visit on the morning of the 25th, I noticed that the sputa were mixed with blood, and signs of the supervention of pleurisy of the same side became evident, accompanied with considerable effusion of fluid. I then prescribed a combination of the liquid extract of ergot of Bonjean with liquor ammoniæ acetatis, which she was to take every two hours. On the morning of the 26th, the patient was more oppressed, the effusion considerably increased, extend-

ing to the top of the scapula; the cough was still frequent; the sputa, however, were less tinged with blood and less viscous. I called Professor Sée in consultation. He saw the patient on the morning of the 27th, and confirmed my diagnosis, and prescribed the same mixture with slight modification, the ergot of rye, however, the principal ingredient, being retained. On leaving, M. Sée promised to return in three days, to decide as to the necessity of performing thoracentesis; but, at his visit on the morning of the 30th, he was surprised to find the patient in a state of convalescence, for resorption of the fluid had almost completely taken place; and indeed, since the 28th, there was complete defervescence, the sputa were free from blood, and the patient continued to progress steadily towards recovery. I saw her two or three days ago, and found her in perfect health.

The rapid cure in this case may certainly be ascribed to the ergot of rye; and it is the more remarkable as it was effected without the intervention of the orthodox remedies usually employed in such cases, such as bleeding, repeated blistering, tartar-emetic, etc. No other medicine than those named above was administered, but I prescribed as adjuvants good Bordeaux wine, brandy and water, milk, beef-tea, etc., to keep up the patient's strength. One single case is hardly enough to establish the ergot of rye as a specific in pneumonia, but the cure in the above instance is to my mind sufficiently encouraging for other practitioners to give the remedy a fair trial. The known physiological action of the drug would warrant its application to inflammation of the lungs, whether simple or complicated, as indeed it will be found useful in all cases of congestion or inflammation of other organs. Moreover, being a vascular remedy, and in this resembling quinine, it is a powerful febrifuge, and may in certain cases be substituted for that alkaloid. This is worthy of consideration, as the cinchona bark and its derivatives are always expensive.

CLINICAL MEMORANDA.

NOTE ON THE TREATMENT OF MUCOUS POLYPUS OF THE NOSE.

IN some cases of polypus of the nose, I have recently been adopting a treatment which has given good results. In structure, these growths consist of but little more than connective tissue infiltrated with serum, and enclosed in something resembling mucous membrane; when removed by avulsion and exposed to the atmosphere, they rapidly shrivel by the escape of their serum; their distended grape-like appearance being exchanged in a short time for that represented by little more than a few shreds of connective tissue. The treatment to which I refer consists in freely puncturing these growths from the anterior nares by means of an ordinary acupuncture-needle, thus allowing the fluid of which they largely consist to drain away. To prevent them from refilling, I follow this up by ordering the patient to inject into the nostrils a solution of carbolic acid and glycerine, which has a most marked drying-up effect, and to continue to do this daily and thoroughly for some time. In this way, I have been able to deal successfully with some cases where the growths have been of a limited nature, and the patient averse to their avulsion. In the last case, I made the punctures with one of Southey's trocars, which answered well, the serum escaping through the cannula. I have thus, in treatment, regarded these as being local and limited oedemas, rather than hypertrophies, and as being, when once emptied, curable by astringents. It is not always possible, from their position, to subject all these growths to puncture, otherwise I believe this plan would be found generally successful. REGINALD HARRISON, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

TYPHOID FEVER IN ADVANCED LIFE: THROMBOSIS: GANGRENE: AMPUTATION: RECOVERY.

MRS. Y., aged 74, sent for me May 6th, 1879. She had been "out of sorts" some days. On the 5th, she sat out on the grass in the garden. On coming home, she felt giddy and faint, vomited, and had severe diarrhoea, with rigors. Her face was pale; tongue furred; pulse 110; temperature 103 deg. Her previous health had been very good; she had had no illness, except slight bronchitis. From May 7th to 12th, the temperature in the morning varied from 101.8 deg. to 102.8 deg.; in the evening, 103 to 104 deg. On May 12th, there were three characteristic rose-spots on the abdomen. The tongue was brown, thickly coated; the lips dry. She had three loose grey motions. Pulse 100. From May 12th to 25th, the temperature ranged from 99 to 101 deg. She had loose and very offensive stools, three times a day. On the 19th, a fresh crop of well-marked spots appeared, and faded on the 25th. On May 30th, the temperature was normal; the tongue was cleaning.

The motions were of better colour, and more formed. She rapidly improved in look, weight, and strength up to June 12th, when the evening temperature was 103.6 deg. She complained of pain on the inner side of the left thigh. I found there a hard painful swelling. On the 13th, the temperature was 104 deg. She had great pain all along the course of the femoral vein, and down to the toes. The foot was dusky. The swelling had increased in size, and fluctuated. The left leg measured fifteen inches and a quarter round over the swelling; the right, twelve inches and a half at the same place. On the 20th, the left leg measured seventeen inches and a half. Two ounces of grumous pus were removed by the aspirator. On July 3rd, I evacuated about half a pint of grumous pus by an opening beneath the hamstring tendons, and injected the cavity with carbolic lotion (one in forty), and dressed with carbolised oil. This produced great relief. The foot was dusky, but warm. From July 3rd to 8th, she was improving, slept well, and took food. On the 8th, the urine was scanty and high coloured; it did not contain albumen. On the 9th, in the evening, she was restless and delirious. At 5 A.M., on the 10th, she was unconscious; her breathing was stertorous. The pupils were contracted, insensible to light or touch; the face was suffused. Pulse 90, full, hard. At 9 P.M., she was roused, and took food. In the next twelve hours, passed forty-eight ounces of pale clear urine, of low specific gravity, without albumen. On the 14th and 15th, two attacks of venous hæmorrhage came on from the leg, and were restrained with difficulty. From this till August 1st, the temperature was usually below normal; prostration was great. The foot was gangrenous; a line of demarcation was beginning at the ankle. Under careful feeding and stimulation, she improved in health. On August 17th, the line of demarcation was well established. Operation was requested by the patient, consented to by the friends, and decided upon in consultation, as giving the best chance. On the 24th, assisted by Messrs. Turner and Reid of Portsmouth, I amputated the left leg at the upper third by flaps, under strict antiseptic precautions. The patient was under chloroform twenty-two minutes. There was some venous bleeding after the removal of Esmarch's bandage; the arteries were secured by torsion, and the wound closed by silver sutures; no drainage-tube was used. After the operation, the temperature never rose above normal. The stump was dressed under the carbolic spray three times. The sutures were removed on September 4th. On the 24th, the patient got out on to the sofa. On the 30th, the wound was quite healed, and I left off attendance.

REMARKS.—The points in this case seem to be: the patient's age; the typical course of the fever; the thrombosis of the femoral vein, followed by gangrene of the foot; and the attack of coma and recovery therefrom, when profuse diuresis was established; and the rapidity of recovery after amputation, under the circumstances. In the treatment, at first dilute mineral acids (nitro-hydrochloric and phosphoric) were employed; afterwards, tincture of baptisia and tincture of cinchona. Later, she had dialysed iron. During the coma, turpentine on hot flannel was applied over the region of the kidneys, and ten minims tincture of digitalis were given every hour. Feeding and stimulation were carried out regularly every two hours. As to the efficiency of the nursing, I need only say that, during the whole course of the illness, the patient was not troubled by bed-sores. The nurses were from St. John's House. CHANNING NEILL, M.D., Ryde, Isle of Wight.

THERAPEUTIC MEMORANDA.

KOUMISS IN OBSTINATE VOMITING.

THE following case well illustrates the value of koumiss in cases of obstinate vomiting.

S. B., aged 28, has been for seven years under my care, at the St. George's Dispensary, suffering from advanced phthisis. Four months ago, vomiting of all kinds of food and medicine commenced. Milk, beef-tea (in the smallest quantities), hydrocyanic acid, opium, bismuth, and other drugs, were all rejected. Having seen the value of koumiss in cases of alcoholic insanity with vomiting, I tried it in this case, and, I may say, with success, considering the incurable nature of the case. For four months, with the exception of a little wine occasionally, the patient has taken no other food but koumiss. She says she should have died long ago, if she could not have retained this on her stomach. I must add, however, that she is fast losing flesh, and that she can only now take a pint of koumiss *per diem*, instead of a quart. She naturally takes a dislike to a food that has been so long administered.*

H. SUTHERLAND, M.D.

* I think it only fair to Messrs. Chapman to state that, as the patient is not rich, they have allowed her to purchase the remedy at half the usual price; and, I believe they are prepared to make reductions to medical men and public institutions.