

finally terminate fatally, the surgeon is, in duty to the patient, bound to explore the bladder in such a manner as shall enable him to act intelligently.

If the sound or catheter, with bimanual examination or the kystoscope of Nitze, or such other methods as may be available, fail to make the condition plain, the bladder should be explored by the finger, and the question of choice between external urethrotomy and the supra-pubic operation must be decided upon.

If it is probable that much operative procedure will be required, as in the repeated passage of forceps for the removal of several growths, or a single large one, the higher operation should be at first selected, for its performance would be necessary, notwithstanding the urethra had been already opened, and we can hardly agree with Mr. Thompson in the opinion that the two operations do not add to the risks in the case. But if the urethra has been opened and a growth discovered, the thorough removal of which will necessitate too much manipulation to be safely done through the dilated neck of the bladder, the operator's duty will plainly be to make the high operation without delay.

There may be found in the July number of *Braithwaite*, 1886, a description of a sound invented by Mr. Thompson, which serves to support the bladder under these circumstances. The extremity of this sound is so notched that the surgeon can, while coming down upon it from above, recognize its exact position, and seizing with a hook the wall of the empty bladder can maintain its elevated position during the operations within its cavity.

The technique of cystotomy for the removal of tumor is mainly the same as in operation for stone.

Every case must present its own peculiar features. Several pairs of forceps with blades of varying width should be at hand. The margins of the blades should be slightly rounded to avoid the wall of the bladder.

The spoon of Volkmann is the proper instrument for scraping away such portions as cannot be completely removed with the forceps.

The removal of vascular growths is likely to be attended with much hæmorrhage, and the operator must be prepared for any emergency arising therefrom.

In the event of the tumor or tumors being very vascular in the female, it may be wise to operate through a vesicovaginal opening made for the purpose, but the surgeon should be very guarded in promising its speedy closure.

I have recently had the care of a woman who had tumors of the bladder of recurrent nature, which were several times removed by Dr. W. H. Baker, of Boston, through a vesicovaginal opening. Owing to a continuance of the symptoms and the recurrence of the growths, the fistula was not closed. At the time of my examination, what seemed to be several soft tumors of small size could be felt. At the post-mortem, six weeks later, there was found less of the gross appearances of tumor than I had expected. What had felt to the examining finger like soft tumors, was really a number of collections of villous tufts, very vascular and presenting to the eye, as well as to the finger, a velvety appearance. About one-fourth of the inner surface of the bladder was lined with this neoplastic formation.

Any one examining this specimen must be im-

pressed with the difficulty necessarily attending the entire removal of the growth in a similar case.²

This very intelligent patient derived much relief from hot douches; but she learned by experience that they would, if too persistently used, aggravate the symptoms they were accustomed to relieve.

As will be remarked, no reference has been made to the pathology, and no attempts at a classification of tumors of the bladder—only certain points have been touched upon. Sufficient, however, may have been said to suggest the possibility of tumor to the mind of some one who may be searching for an explanation of certain obscure bladder symptoms.

GRINDER'S CONSUMPTION.¹

BY FRANCIS J. CANEDY, M.D., SHELBURNE FALLS, MASS.

THERE have been employed in the grinding-room of the Lamson & Goodnow Cutlery Company, at Shelburne Falls, from thirty to fifty men and boys, for the past twenty-five years, giving an average of about forty.

During the past ten years there have died with chronic disease of the air passages twenty-three of these grinders. Seven Irish, seven English, six American, and three Germans, of which five were between sixty and seventy years of age, eight between fifty and sixty, three between forty and fifty, five between thirty and forty, and two between twenty and thirty, and there are now sick confined to the house, three, one English between sixty and seventy, and two Germans, one fifty-five years old, and another about thirty-five. There are still grinding five, in whom the disease is known to have made considerable progress.

This amount of fatal disease of respiratory organs in such a limited number of men, the majority of them considerably past the age at which consumption is most common, points positively to their occupation as a predisposing, if not an exciting cause, of no small importance, and my experience among these cases for the past ten or fifteen years, in the sick room and by the post-mortem table, has convinced me that the name of "grinder's consumption," given the disease by the laity, is a proper one.

That we all inhale no inconsiderable amount of dust in respiration is well known, and that certain occupations, as mining, wood and metal polishing, etc., cause the workers to inhale an atmosphere so loaded with dust of an irritating character as to produce specific lesions of the bronchial tubes and lungs, has become so well established that all the newer books upon diseases of the respiratory organs, treat of this condition under the somewhat hard name of *pneumonokoniosis*, a classification of which is based upon the nature of the dust inhaled, as *anthracosis* in coal miners, *siderosis* in iron and metal polishers, *tobacosis* from tobacco dust, or from the avocation of the sufferers as grinder's consumption, Potter's consumption, mason's and millers' lung. Of all these forms, none seem more certain or fatal in its effects, than the grinder's. Peabody, in some investigations made at Sheffield, England, making the average period they are able to continue their work thirteen years.

¹ Read at the May Meeting of the Franklin District Medical Society.

² The specimen was exhibited to the Society.

The morbid anatomy of grinder's consumption, as I have studied it in three post-mortem examinations, I have found as follows: The bronchial lesions are those of chronic bronchitis, with thickening of the bronchial mucous membrane, associated with ulceration and bronchial dilation, forming bronchiectatic cavities. These cavities, which are a marked feature in some cases, are said to be caused by a combined softening of the bronchial tissues, with traction from without by the newly-formed fibrous tissue.

Fibroid Phthisis.—The bronchial glands are enlarged, some of them to size of small walnuts, gray and gritty on section. Gray nodules of cretaceous matter, from the size of a pin's head to that of a pea, are found disseminated throughout the lungs. But the most distinctive lesions are patches of indurated lung tissue, the predominant form of pulmonary change being of the fibroid type: hardened districts of advanced cirrhosis occur, measuring two inches and upwards in length, breadth and thickness. On section they are gray, tough, and leathery, and covered in by a thickened and adherent pleura. In all of my cases I found quite large and irregular-shaped cavities in the base and posterior portions of one or both lungs, into which, and in some quite through the diameter of which passed bands of this same fibrous tissue.

In one case this process of cirrhosis and breaking-down of lung tissue, had so interfered with the circulation as to produce gangrene, and in several cases in which no post-mortem was made the atmosphere of the sick room has been intolerable for days from this same gangrene of lung. This fibroid induration of lung tissue is quite extensive, is found in both lungs, involving one-half or more of their entire substance, in some cases, and shades gradually into the healthy tissue.

The contraction of this new growth not only destroys the elasticity of the lungs, but actually constricts the areas of intervening healthy lung. The normal capillary circulation is, of course, seriously interfered with, or destroyed in those cirrhotic patches, and in proportion to their extent the entire pulmonary circulation becomes obstructed, and the right ventricle and the venous system distended, this condition of course, being greatly aggravated by exertion, thus accounting for the intermittent pulse, dyspnoea, dilated veins, and cold extremities which are so prominent in some very chronic cases. The course of these morbid processes is insidious and slowly progressive, and as in other forms of lung disease, is more or less modified by inherited tendencies, and such influences and habits as diminish vitality, or affect personal hygiene, especially the use or abuse of alcohol, three-fourths of my cases having been hard drinkers.

The earliest objective symptoms is cough, especially recurrent in winter, accompanied by a somewhat frothy and stringy expectoration, chiefly dependent upon the bronchitis, which is undoubtedly the first morbid process in grinder's consumption. Soon shortness of breath upon exertion, as walking up hill, is complained of, but an examination of the patient shows him to be without fever, and when quiet with no increased frequency of the pulse; this lack of all fever, even when pulmonary lesions are quite advanced being one of the strong points in the differential diagnosis between grinder's and tubercular consumption.

Cases frequently go on for years with no especial

disturbance of health or evidence of the lesions taking place, excepting the cough and the inability to fully inflate the lungs, owing to the chronic interstitial inflammation going on in them. Sooner or later, however, this interstitial inflammation reaches a point in some portion or portions of the lungs, which not only destroys its aerating function, but so interferes with its nutrition, that the tissue begins to break down in a gangrenous or purulent process, and it is frequently not until this stage has been reached, that the case comes into the hands of the physician. We now find the man decidedly ill, with fever, coated tongue, entire loss of appetite, often a terrible cough, which produces great suffering from a circumscribed pleurisy, and if we have not been acquainted with cases of the kind in the past, we will probably make the mistake of thinking the trouble more acute than it will prove to be.

In several of my cases, exposure to cold and wet, especially while under the influence of drink, has served to result in a broncho-pneumonia, the starting point of the breaking up of the lung tissue, from which the man succumbed in from six months to two years. That this is liable to occur in lungs previously healthy we well know, but that it is much more likely to occur in grinder's is beyond question.

The patient is usually confined to his bed from ten to twenty weeks in this first attack, with quite constant fever, though with a temperature rarely above 102° and pulse from 80 to 90, entire loss of appetite, and progressive emaciation. After a month or six weeks an abscess will be sufficiently matured in the portion of lung producing the immediate mischief to find its way into a dilated bronchus, when the patient begins to expectorate large quantities of purulent matter, the fever begins to subside, the tongue cleans, an excellent appetite often follows, under the influence of which some flesh and considerable strength may be regained. The patient begins to sit up, and if it be warm weather, perhaps goes out of doors somewhat, though considerable cough and a profuse purulent expectoration usually remain; the matter probably coming partly from the breaking down of tissue from the walls of the abscess cavity, and partly from the bronchitis and bronchiectatic cavities before mentioned. But, as one might suppose from the pathology of the disease, this period of improvement never advances very far, though two or three of my patients have lived nearly two years after first coming into the bed, in pleasant weather dragging their emaciated forms about the streets, by the aid of a cane, and one patient doing considerable light gardening for one summer. Those who have the most courage to go out of doors live longest, but the most sanguine and determined succumb in the end to the inevitable exhaustion.

Two cases in the convalescent stage of one of these pulmonary abscesses died from hæmorrhage, blood bursting in a large stream from mouth and nose, destroying life almost instantly, from erosion of some large vessels. Aside from these cases I have never seen hæmorrhages.

All cases do not run this course characteristic of the formation of pulmonary abscess, though I think the greater number do. The progress of some cases is exceedingly slow, and covers a period of many years, some under my observation living ten years or more, after being compelled to leave the shop by their cough, most of the time in chronic invalidism, and dying at

last from the exhaustion dependent upon pulmonary disease. As to the treatment of grinder's consumption, little can be said that does not apply in the management of other chronic diseases of the air passages. Of course the first and most important step is to remove the patient from the influence of the exciting cause, namely, the atmosphere of the grinding room, but this, even when done early in the disease, though undoubtedly greatly prolonging life, often fails to save the patient, so persistent are these fibroid changes in the connective tissue of the lungs when once commenced. I have known three deaths from this disease to occur in men who had not worked at grinding or in a shop at all for ten years or more, and for the greater part of the time being considered able-bodied.

In a disease in which induration of tissue and new growth play such an important part as in this, the iodides, owing to their capacity for promoting absorption, naturally suggest themselves to us, but I have never observed any positive benefit from those that I have employed, the potassium and ammonium salts, though I admit, that owing to disturbance of the stomach I have never pushed them very far. For the cough and to promote expectoration of morbid matter, I think much of muriate of ammonia in a mixture combined with the carbonate, spirit of chloroform and licorice to cover the disagreeable taste of the ammonia. In many cases, owing to dilations and contractions of the bronchial tubes, it is very difficult for the patient to clear his lungs of the accumulations of muco-pus, which becomes thickened and blocked up in some of the sacculated bronchial cavities, giving rise to prolonged and exhausting paroxysms of very severe cough. In this condition, this combination of ammonia with a little spirit of chloroform, is more effective than anything else that I have ever tried.

Aside from the usual hygienic management of wasting diseases, as an abundance of nutritious food, large and sunny rooms, particularly sleeping rooms, all the exercise possible in the open air, bathing, cold sponging, etc., nothing is of so much value as the systematic and prolonged use of the pure cod-liver oil. If the prejudice that patients have against it, owing to the fact that most people who take it do not get well, can be overcome, and they cooperate intelligently and earnestly with their physician, their lives may be prolonged from one to three years by its use.

Cod liver oil being valuable as a nutrient, rather than as a medicine it is often given in doses too small to amount to much. Commencing with a teaspoonful, if no more can be digested at first, the patient should get up to from two to three ounces a day in six or eight weeks, this quantity to be continued for months. To quicken the weak and failing appetite, I have found nothing better than a combination of syrup of hypophosphites with dilute phosphoric acid and strychnia, taken before meals. But in spite of all treatment the inevitable tendency of the disease seems to be toward a fatal termination, and I have never seen any recoveries.

— Dr. Louis Heitzman, of New York, has had good success in aborting furuncles by the local use of an eight per cent. salicylic acid plaster, or salve. For the former, he uses empl. saponat. ℥ii, empl. diachyli. ℥i, and acid salicyl. ℥ii. For the basis of the salve, he prefers unguentum aquæ rosæ.

REPORT OF PROGRESS IN GYNÆCOLOGY.

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USES OF IODOFORM GAUZE IN GYNÆCOLOGY.

FRICTSCH¹ uses nothing but iodoform gauze for tampons. For this purpose, he employs it of the strength of ten per cent., and this can be made stronger by the addition of iodoform powder or iodoform glycerine. The gauze is prepared in long strips, plaited like a fan, which are introduced into the vagina, and can easily be removed by the patient. It remains antiseptic from four to six days, longer than tampons soaked in five per cent. carbolic acid.

Fritsch finds this gauze of especial value in the palliative treatment of carcinoma, and, in contra-distinction to the method by irrigation, calls it the dry method. It more surely relieves the foul discharge, hæmorrhage, and pain, so that patients believe they are entirely well. Cases of cancer which had been sloughing for months were kept odorless until death occurred. In several cases, the uterus had been reduced to a mere shell, the inner surface of which was covered with abundant, somewhat anæmic-looking granulations.

Fritsch first cures the diseased portion, then applies the Pacquelin cautery, and then, to control hæmorrhages and diminish the secretions, fills the cavity with iodoform tannin powder. A tampon is then placed in the vagina, which remains five or six days. Subsequent treatment consists in applying, twice a week, iodoform tannin tampons, or when a tendency to hæmorrhage continues, iodoform glycerine tampons, filling the cavity completely.

The author has also had good results with tamponing the uterus with iodoform gauze after the removal of sloughing portions of the placenta, or intra-uterine polypi. He has further used it in the treatment of endometritis of body and neck, and for the introduction of medicaments into the uterus; also to keep the edges of the wound apart in the operation of discission.

In cases of opening the peritoneal cavity, Fritsch has, for three years, used the gauze, instead of the drainage-tube. He has introduced a specially ingenious use of the gauze in the after-treatment of severe laparotomies, where there were inflamed or suppurating surfaces to be rendered aseptic, or in cases of extensive adhesions to control hæmorrhage. Such surfaces he first sprinkles with iodoform, and then places several layers of folded gauze tightly over them, bringing one end out of the abdominal wound. The capillary drainage is complete, and the disinfection within the abdominal cavity is secured as well by shutting the wounded surfaces off from the rest of the peritoneal cavity, by the rapid glueing together of the intestines.

In spite of his free use of iodoform, Fritsch has never seen a case of iodoform-poisoning.

TRACHOMA PUDENDORUM.

Prof. I. M. Tarnovsky² made an interesting communication on this subject before the Obstetrical and Gynecological Society of St. Petersburg. As is well known, Professor Sattler has shown that the secretion from a trachomatous conjunctiva invariably contains micrococci, which differ from ordinary gonococci only

¹ Sammling Klin. Vorträge, No. 288. Reported in Cent. für Gyn., No. 11, 1887.

² London Medical Record, April 15, 1887, from Russian Journal.