the surroundings of many who are daily striving to protect their lungs with antiseptic inhalations. The constant application of a close inhaler fosters the common prejudice against fresh air and sufficient ventilation; and the treatment degenerates into a struggle between germs within, and germs without—hopelessly carried on by breathing through an uncomely mask, and by confinement in a close and stuffy atmosphere. Depend upon it, every remedial agent employed in the management of chest-disorders must be positively injurious to the patient whenever it distracts the attention from the common and hygienic measures which are so essential to the general improvement of the system, and the increase of the vital resistance of the whole organisation.

Now, in whatever light the speculations are regarded concerning the action of inhalations as destroyers of bacilli or as protectors against floating germs, it must be admitted that this treatment has made remarkable progress, and has also been practised with very great success. What, then, is the *modus operandi* of antiseptic inhalations in pulmonary affections? Surely the action of these remedies admits a very simple explanation. They are valuable not only in the treatment of phthisis in all its forms, but they are fortunately equally applicable for many other chronic disorders of the chest, and their judicious administration is certainly followed by very considerable relief. The vapours are carried with the inspired air deeply into the passages, and are there absorbed by the moisture of the respiratory surface; thus, by direct application, they purify the air in the remote portions of the lungs, and cleanse the mucous membrane generally by preventing decomposition in the fluids, and stimulating more healthy secretion. In chronic bronchitis, in bronchorrhoea with dilated bronchi, and in emphysematous affections, the efficacy of the treatment is beyond dispute; for, by assisting the discharge of the expectoration, and by delaying the septic changes which occur within it, they remarkably modify the disorder at the very seat of its activity.

In phthisis, these topical remedies have proved also powerful auxiliaries to general treatment. They check decomposition in the secretions, and aid in the evacuation of the infectious materials, which are the direct products of the disintegration of the pulmonary tissues, and which, by the processes of absorption and diffusion, often establish new centres of disease.

But apart altogether from any specific effect of the antiseptic vapours, it must be admitted that the act of continuous inhalation exerts a very salutary influence by stimulating full and repeated expansion of the lungs; and the forced activity of these organs is in itself an important factor of the treatment.

The value of free inspiration, and the part it plays in the successful application of antiseptic inhalation, has scarcely received the general recognition to which it is justly entitled. Many years ago, the late Dr. Ramadge warmly advocated the use of an inflating-tube for the simple purpose of expanding the lungs, and stimulating their functional activity by voluntary effort.

In phthisis, these organs are very imperfectly expanded. The sputa collecting in the passages obstructs the aerial movements, and some portion of the air, only partially changed, becomes imprisoned in the remote parts of the pulmonary tissue, and thus the healthy balance between inspiration and expiration is disturbed, the breathing becomes shallow; at the same time, the gradual contraction and emaciation of the thoracic parietes are seriously accelerated. Now, it appears to me, that much of the success which has followed the introduction of antiseptic inhalation is due to persistent expansion of the lungs by forced inspiration; and certainly this novel and fashionable system corroborates the value of the mechanical method practised by Dr. Ramadge. His notions respecting the antagonism between emphysema and phthisis have now almost passed into oblivion; but his special treatment of utilising functional activity as an instrument for arresting the progress of tubercular disease, is surely now receiving a remarkable acknowledgment in the revival of respirators and local medication. The new treatment is, in fact, a close repetition of the old mode of inflation, with the addition of an antiseptic vapour to the inspired air; and the beneficial effect produced by its persistent employment can, in a great part at least, be fairly attributed to the expansion of the chest in full and forced inspiration; for this not only assists in maintaining the volume of the lungs, and in stimulating the activity of those portions of their structure still free from the elements of tubercle, but it also favours the circulation itself, and helps on the processes of local and general nutrition by which a vital resistance is developed, restraining the progress of the disorder, and powerfully contributing towards its final arrest through the contraction and limitation of the local disease.

In conclusion, open antiseptic inhalation has been considered in this paper only with reference to the treatment of diseases of the chest;

at the same time, it admits of a far wider application, and is a very convenient method of employing the inspired air as a medium for the introduction of deodorising vapours in many other diseases. It has been used with advantage in chronic laryngeal affections, and also by patients labouring under habitual fetor of the breath. In ozæna and other nasal and naso-pharyngeal disorders, I have found it of great utility, in conjunction with the frequent application of astringent and disinfecting solutions, for cleansing the unhealthy surfaces.

SACCULAR DILATATION OF THE URETHRA.

By LAWSON TAIT, F.R.C.S.,

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IN October 1875, I published the following case in the *Lancet*.

Mrs. B., mother of a large family, had suffered for many years from a protrusion, about the size of an egg, from the vulva, which was excessively painful. She passed large quantities of fetid pus from the bladder. The protrusion looked like an ordinary cystocele, save that it was quite irreducible, was very hard, and, when it was firmly pressed, a large quantity of fetid ammoniacal pus escaped from the orifice of the urethra. If this pus got on the fingers, it made them smart. The sound readily passed into the cavity of the protrusion from the urethra. It was clearly, therefore, not an ordinary cystocele, but probably a sacculatation of the urethra, and the only benefit likely to be obtained was by its removal. She was placed under ether, and the lower half of the protrusion was removed by a cut of the scissors; and this opened into a large cavity lined with thickened corrugated mucous membrane. It had an opening into the urethra large enough to admit a No. 9 or 10 catheter; the opening being situated in the lower wall of the urethra, and about halfway between its orifice and the entrance to the bladder. The whole of the mucous lining of the sac was removed, and the vaginal mucous membrane was closed over the cavity by deep sutures. The wound healed rapidly, and the cure is now complete.

In May 1876, M. Gillette of Paris published, in the same journal, a case very similar in external appearance, and probably in its relations to the urethra; but he did not define accurately, in his description of the operation, the relations which were discovered in the entrance to the sac from the urethra. Although I opened correspondence in the journal, I did not elicit the information which was necessary in order to determine whether M. Gillette's case was precisely like my own.

Until the case that I described in 1875, I had never seen anything of this kind, nor had I met with any description of it, and, until the beginning of this year, I had never seen another case like it, nor have I come across, in my readings, any allusion to further experiences of this peculiar condition save that of M. Gillette. But, as a curious illustration of the strange series of coincidences which are constantly occurring in surgical practice, since the beginning of this year I have had no fewer than three cases precisely similar to that which I previously narrated. The symptoms in all three cases were precisely alike. The patients were constantly troubled with an escape of fetid ammoniacal purulent urine, causing much irritation, discomfort, and annoyance from the smell. The escape did not occur during micturition—that is to say, the urine passed voluntarily was usually perfectly clear and sweet; but, either with the least strain of micturition, or pressure, or on a sudden change of position, and at other times inexplicably, this objectionable fetid urine escaped without the patient knowing anything about it, until she found herself wet and uncomfortable. When examined, a tumour, apparently continuous with the neck of the bladder, was found to present itself between the lips of the vestibule, closely resembling an ordinary cystic vaginocoele, save that it was tender on pressure. When it was pressed, the characteristic fetid and purulent urine escaped by the meatus. When a catheter was passed into the bladder, keeping the point well up on the roof of the urethra, it passed easily into the cavity of the bladder, and perfectly clear urine was withdrawn. When, on the contrary, the point of the catheter was passed, with slight pressure, along the floor of the urethra, it entered the cavity of the tumour, and the putrid contents of the latter escaped. The patients were respectively of the ages 23, 55, 32; and were operated upon the dates February 10th, February 13th, and March 27th. The details of their operations and all the conditions found are practically identical, save that, in the second case, the tumour was quite as large as an egg, whilst in the first and third it was not much more than half that size. The proceedings that I adopted were precisely those described in the *Lancet* for my first case. I put a catheter in the urethra, in order to display the aperture and

to prevent injury of the canal. An elliptic piece of the protrusion was cut away, so as to completely open its cavity, and perhaps about half its substance removed. The thick and velvety mucous lining was then carefully dissected off as far as the aperture leading into the urethra, which in none of the cases was larger than just to admit the catheter. Five silver wire stitches in the second case, and three in the other two, were then introduced, by a handled needle, right across from one side to the other, and deep enough to embrace the whole of the structure except the urethra, the central stitch always reaching across the aperture into the canal. The proceedings were, in all three cases, accompanied by a very remarkable amount of hæmorrhage, altogether disproportionate to the importance of the operation. The catheter was retained in the bladder five or six days, and the stitches were removed on the eighth and ninth, and all three patients went home in twenty days perfectly well.

I have had the curiosity to hunt up the patient whose case is recorded in the *Lancet*, October 1875, and am gratified to find that there has been no return whatever of the trouble, and that she has remained perfectly cured by the operation.

In M. Gillette's paper, he alludes to several cases in which general, or what may be called ampullary, dilatation of the urethra has been met with, requiring operation. But, so far as I know, nothing of the kind has ever occurred in my own practice. The only dilatations of the urethra that I have seen are the four now placed on record; and the fact that in every one the feature of an extremely small aperture communicating between the sac and the urethra was established, makes it clear that, in these four cases, and probably, I may also say, in M. Gillette's as a fifth, we have a distinct form of disease, the origin of which is open to one of two explanations. The first, and I think the most likely, of these is that there is, as the origin of this condition, an error of development by which a small offshoot of the urethra, like a diverticulum of intestine, is the result of faulty union of the primal folds, and that this becomes of pathological importance when women become accustomed to those errors of urination to which they are all more or less addicted. The second explanation is that this urethrocele is formed by the union between the urethra and a cyst of pathological origin in the roof of the vagina. But I am disposed to regard the former as the more likely of the two, from the extraordinary similitude which all my four cases have presented, and from the fact that I have never seen any cysts at all like them in a position that such a communication with the urethra might take place.

FIVE CASES OF PELVIC HÆMATOCELE, TREATED BY ABDOMINAL SECTION.

By FRANCIS IMLACH, M.D.,

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FIVE cases of pelvic hæmatocele having chanced to come under my care in rapid succession for surgical treatment, I have narrated them in brief from my notes, while the incidents of each case are still vivid in my recollection. All the operations were performed in the Hospital for Women, with the assistance of my colleagues. That what is popularly termed "removal of the uterine appendages" implies removal of healthy ovaries and tubes, has been suggested in such fashion that I venture to think the narration of a few illustrative cases, though perhaps tedious, will show the contrary more clearly than would any long argument.

CASE I.—N. C., aged 33, married twelve years, had no children, but a miscarriage four months after marriage, since which she had been almost a constant invalid. Menstruation was sometimes scanty, sometimes profuse, but always painful; the period previous to operation lasted fifteen days. During the last eight or ten years, she had occasionally been brought by rail from Sutton, and carried on a stretcher to various practitioners in Liverpool for consultation; and, five years ago, the cervix was slit bilaterally, with considerable temporary relief. But, for the last twelve months, she had suffered great agony, and has sometimes felt a painful lump in the right hypogastrium. The abdomen was found to be tumefied, the uterus fixed and enlarged to four inches, and behind it, in Douglas's space, was an indistinct painful mass, not blocking the pelvic cavity, but rising, as was made evident by bimanual examination, into the abdomen.

On October 28th, 1884, abdominal section was performed. When the peritoneum was opened, the omentum had not its usual clean appearance, but was stained dark red, and a somewhat thick brown fluid oozed out of the cavity. This having been mopped out, a quantity of free dense old clot was removed from the pelvic cavity. The Fallopian tubes, which were considerably distended and packed deeply

in the pelvis, were next drawn up, previously to ligature. But they were of such soft structure, and so fixed, that the right one was torn away from all its attachments except its narrow insertion into the uterus, and the left one came away in my hand. Not much difficulty, however, was found in securing the bleeding points. The right atrophied and cystic ovary was also removed, but the left one could not be distinguished. Dense round masses of old black blood-clot, about the size of the cork of a beer-bottle, were found within the tubes. A glass drainage-tube was employed for three days; she made a very satisfactory recovery, and left hospital strong and well upon November 25th.

CASE II.—E. G., aged 38, married eleven years, had three children, the youngest being 3½ years old. She had been unable to attend to household work for the last twelve months; was pale and obviously in ill-health; walking was impossible without aid; menstruation was profuse, recurrent every three weeks, and was always painful. The cavity of the uterus measured three inches, and the organ was pushed forward to the pubes, and its mobility restricted by two fluctuant masses bulging posteriorly into Douglas's space.

On November 4th, abdominal section was performed, in the presence of Drs. Grimsdale, T. B. Grimsdale, Craddock, and the staff. When the peritoneum was opened, the abdomen was found to be partly filled with thick dark bloody fluid, which was mopped out with numerous sponges. Then half a pint or more of dark firm old blood-clot was removed from the pelvic cavity by the fingers, and both ovaries and Fallopian tubes were ligatured and removed. The ovaries were slightly enlarged. Both Fallopian tubes were dilated, and contained dark fluid blood. Their mucous and muscular walls were thickened, and their fimbriated extremities were expanded, thickened, and filled and surrounded with old blood-clot. The fimbriated extremity of the right tube was deeply excavated, and embraced and partially contained a large dense old clot. There was a recent rupture of the left tube near its middle. The patient left hospital on November 28th, completely cured.

CASE III.—S. T., aged 26, married when 17 years old. Her first husband, by whom she had two children, died when she was 21. She married again at the age of 24, but had since had neither child nor miscarriage. For the last eighteen months, menstruation had been both profuse and painful, and the discharge had continued without intermission during the last five weeks. Double hydrosalpinx, moderate in extent, owing to monthly rupture, was diagnosed; but abdominal section, on November 8th, showed the exact condition of affairs. There was dark fluid blood, like menstrual discharge, and clot free in the abdominal cavity. There was double hæmatosalpinx, and both fimbriated extremities were dilated, and formed abscesses. The left one contained a large recent corpus luteum—a fact only discovered after ligature and removal of both uterine appendages; and both ovaries contained cysts, with thin grey pus, though neither was wholly disorganised. That an entire corpus luteum may escape from an ovary, may be clutched by the fimbriae of the Fallopian tube, and become the core or cap of an abscess of the dilated extremity of the tube, is a link in the chain of events in diseases of the uterine appendages which has not hitherto, I believe, been recognised. The first instance in which it came under my observation was in the case of a young woman, aged 27, on whom I performed abdominal section on September 2nd. But as there was no effusion of blood into the abdominal cavity, it is not included in this series, and its full description will appear elsewhere. S. T. went home on November 26th, fully satisfied with the result of her treatment, for she was able to enter immediately into the active cares of her household and shop, and remains well to this day.

CASE IV.—S. C., aged 31, married seven years, had one child three years old; no miscarriage. Though she had an easy labour, menstruation had since then been very painful, and she had gradually become unfit for work, sleepless, and broken down in health. The last menstruation ceased October 31st. The uterus measured three and a half inches, and had a large, soft, fluid tumour behind it. Abdominal section being performed on November 14th, after a quantity of dark fluid blood had been mopped out with sponges, the right Fallopian tube was felt above and behind the uterus, greatly distended. Five ounces of serum, which almost entirely coagulated on cooling, were aspirated from the tube, and then its fimbriated extremity, expanded and thickened with chronic inflammation, and the right ovary, two inches in diameter, and containing two large purulent cysts, were drawn up with difficulty, owing to the density of the adhesions from Douglas's space. As in the other cases, the free extremity of the tube was blocked with blood-clot. The venous oozing was checked by packing the pelvis with sponges, and the use of a glass drainage-tube prevented further anxiety. The left ovary and