treated several cases of this insidious malady as "continued and remittent fever" until a few days before the fatal termination, when diarrhoea and collapse set in rapidly, causing death, the post-mortem showing perforating ulcer in the lower part of the ileum. Several cases of this disease have occurred at this station (Mhow) lately.

J. J.—, admitted April 7th, suffering from what appeared to be remittent fever. Pulse weak and frequent, slight diarrhoea, no gurgling, or "rose-coloured" spots. Twelve days after admission he suddenly got much worse; pulse scarcely perceptible, sordes on teeth, no diarrhoea or eruption. Died twelve days after admission.

Section cadaveris.—The whole of the ileum was in a very congested state, Peyer's patches very much thickened, and towards the ileo-cæcal valve, ulcerated.

A case of well-marked typhoid fever was admitted on the 18th April. Rose-coloured spots, severe diarrhoea, abdomen tympanitic, tongue very dry and brown. Died thirty days after admission. The post-mortem discovered almost the same lesions as in the former case.

I. T.—, admitted on June 1st for remittent fever. Bowels regular; skin hot; generally one or two degrees F. increase in evening temperature; no eruption; pulse quick and small. Low muttering delirium set in, and he died twenty-eight days after admission.

Post-mortem.—The lower part of ileum covered with large patches of ulceration, and in one or two places nearly ulcerated.

In this case there was no eruption or diarrhoea. Temperature three days before fatal termination:—June 25th: morning, 96° F.; evening, 98°. 26th: morning, 97°; evening, 98°. 27th: morning, 98°; evening, 99·2°.

Until comparatively of late years the existence of typhoid fever has been denied in India, and I have no doubt that cases of that type have been returned as "continued" and remittent fever. A question of vital importance now arises: What are the causes of this disease, especially in India? As far as I can see (in addition to the defective removal of excreta, &c.) the wells in this country are quite *uncovered*, and only surrounded by a low wall, on which it is no uncommon sight to see the "water-carriers" washing their clothes and performing ablutions. During dust-storms, and the strong winds that prevail (generally S.W. in Bombay presidency), a variety of foreign substances, such as organic matter, "cholera and enteric dust," and low organisms, must necessarily find their way into the drinking-water used by the soldiers, where they have all the essential conditions for decomposition—i.e., moisture, access of atmospheric air, and the rays of a tropical sun. A simple and inexpensive remedy for this defect might be found by placing a raised roof of thatch over each well, and also an enclosure of the same to the windward side (the entrance being to leeward). This would allow the free access of air, and also protect the water from impurities in the atmosphere.

This form of enteric fever being so obscure, and liable to be mistaken for remittent fever, makes it difficult to diagnose. I think the most certain sign is the evening increase of temperature as shown by the clinical thermometer, often very slight (not more than one or two degrees above 98° Fahr.) In places where enteric fever is endemic the morning and evening temperature in all cases of fever should be carefully recorded, and even a slight increase in the evening temperature looked on as suspicious. As regards the treatment, I think the advice given by Graves ("anticipate symptoms") in the treatment of fevers generally peculiarly suited to this form of disease; and although there may be no rose-coloured spots, pain, tenderness, or gurgling in the right iliac fossa, commence at once by topical depletion, application of ice-bladders, &c., in this region; keep the patient strictly in the recumbent position; and be most particular as regards diet, no solids being allowed as long as the temperature of the patient is above the normal standard.

Mhow.

CATARRH OF THE FALLOPIAN TUBES.—In the *American Journal of Obstetrics* Dr. Hennig expresses the opinion that catarrh of the Fallopian tubes is more frequent than that of any other part of the female sexual organs. Out of 103 females he found catarrh of the tubes present in 44. It occurs oftener before than after the critical period in married women.

CLINICAL OBSERVATIONS ON CONDITIONS OF THE FEMALE BLADDER;

SHOWING THE ADVANTAGES TO BE GAINED BY THE USE OF A SELF-RETAINING FEMALE CATHETER.

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UNTIL about three years ago, when Mr. Barnard Holt first brought before the notice of the profession an elastic winged self-retaining male catheter, nothing had been done to secure that which was so greatly needed—the *self-retention* of the catheter in the bladder. It seems strange that so long a period of scientific progress in the art of medicine and surgery should have elapsed before something of this kind (simple though it be) was brought into use.

Shortly after I became attached to this institution, where I have one ward of thirty-two beds occupied almost exclusively by palsied female patients, the necessity of some means to collect the urine which involuntarily made its escape from the paralysed bladder at once became evident. And, after having tried with little success a variety of urinals, sponges, and bags, the thought occurred to me that a modification of the male self-retaining catheter adapted to the female bladder would be of incalculable advantage to both physician and patient. The bladder being the receptacle for one of the most varying fluids secreted in the animal economy—a fluid, too, which is more prone to rapid decomposition than any other, especially when brought into contact with animal tissues in a state of metamorphosis,—the urine is not only by this means changed itself, but by a process of catalysis reacts upon the healthy portion of the bladder tissue, producing a chronic condition of disease which almost inevitably leads to serious, if not to fatal, results.

In acute cystitis the great pain arises not so much from the inflamed condition of the walls of the bladder as it does from the reflex muscular movements produced by the irritable condition and inco-ordinate power of the muscular sphincter. In the height of the inflammatory stage of acute cystitis it would scarcely be found advantageous to use a self-retaining catheter, but as the disease becomes more chronic, and the walls of the bladder lose to a great extent, as they invariably do, their muscular power, the retention of a catheter will not only permit the complete escape of urine, but will at the same time keep the walls of the bladder passive; and to ensure that not only may ulcerated surfaces become healed, but the muscular tissue of the bladder itself will by being kept at perfect rest the more readily regain its normal function, and be less likely to lead to degenerative change.

In cystitis there are two conditions requiring special attention—first, the constant desire on the part of the irritable bladder to eject its contents, and, secondly, the inability of the sphincter to perfect its retention. Hence arises the incontinence of urine so general in these cases. Chronic cystitis supervenes in nine cases out of ten from a previous inflammatory attack, and from the pathological cause that all acute inflammations terminate either by resolution or decay, let that be molecular as in suppuration, or general as in sloughing. And it is at that period of the inflammatory attack, when the epithelial cells and mucous tissue are in a state wavering upon decay or repletion, that it is so necessary to prevent the slightest accumulation of urine in the bladder, which, if allowed, would inevitably lead to the most serious results. The following case is to the point.

M. S.—, forty-three years of age, was admitted under my care about a year ago with hæmorrhage from the bladder accompanied with all the symptoms of acute inflammation, which continued for more than three weeks. As the general sympathetic pains in the loins, rectum, and hypogastric region abated, the urine became altered in character, was ropy, lost its hæmatoid condition, and soon became loaded with pus. There was some incontinence and incessant desire to micturate, accompanied always with great pain. Not agreeing with the means usually adopted in such cases,

to subject the bladder to repeated washings, I determined upon keeping it as free from urine as possible, and in order to effect this, not having an india-rubber self-retaining catheter, I kept an ordinary male elastic catheter continuously in the bladder for more than a week with the most beneficial results. Although the means adopted gave some pain and uneasiness at first, still it was trifling when compared to the agonising spasmodic action of the irritable and ulcerated sphincter. Strong suppositories of belladonna and morphia were passed into the rectum; but this is not pertinent to the object of the paper.

Leaving diseases commencing in the bladder itself, there are conditions whereby it becomes more or less implicated, producing paralysis of its walls with retention on the one hand, or palsy of the sphincter with incontinence on the other. It is then that continuous catheterism will be found not only of great service and comfort to the patient, but it will relieve the medical attendant of much anxiety.

Practice teaches us how essential it is in some forms of blood-poisoning, where our patients are partially conscious and lie in a semi-comatose state, to pay attention to the state of the bladder. Such conditions as we find in typhus and typhoid fevers, and even in the poison of uræmia where the suppression is only partial, and where the centripetal sense is either cut off from the nerve-centres, or where the centres themselves are not in a condition to receive the peripheral impression. This is perhaps more especially exemplified in certain forms of paraplegia, when the bladder will become enormously distended, almost to rupture, without the patient experiencing the least uneasiness. And without doubt the advantages to be gained by the constant use of a self-retaining catheter will be found practically to supersede the disadvantage which is said to attend this mode of catheterism, in consequence of the irritation, inflammation, and ulceration which it is supposed sometimes to set up in the mucous membrane. The two following cases will demonstrate my meaning clearly:—

J. M.—was admitted into the hospital with rheumatism of the lower extremities, which turned out to be a paralytic condition. There was no voluntary power whatever over the vesical sphincter, but, as is not unfrequently the case, when the bladder became fully distended the urine dribbled away, giving the nurse the idea that there was no occasion for catheterism. I was summoned hastily to see this patient, whom I found to be breathing stertorously, and, in fact, quite comatose from uræmic poisoning. Nearly four pints of urine were at once drawn off, and in less than half an hour the patient was perfectly conscious, and ultimately recovered. Had a self-retaining catheter been used from the first in this case, a grave complication would have been avoided.

M. C.—was admitted with cerebro-spinal meningitis and complete paralysis from the buttocks downwards. There was palsy of the sphincter vesicæ, with constant, copious dribbling of urine, of which the patient was totally unconscious; and although it was drawn off at least twice a day, and its accumulation was therefore comparatively slight, yet from the paralysed state of the walls of the bladder, the use of the catheter was absolutely necessary to prevent even such a collecting of urine as fell by gravitation to the bottom of the bladder, where it acted upon and destroyed the mucous surface, producing a fluid of a highly fetid and even poisonous nature. I find from my notes that this patient's urine, though secreted plentifully, was highly offensive from ammoniac sulphide and free ammonia, besides pus-cells and bladder-epithelium. Independently of this, the patient had a bed sore of considerable size on the sacrum. Now two points in this case suggested themselves to my notice. The first was, if possible, to keep the bladder thoroughly empty, and so to prevent the decomposition of urine, which I believed to be normal in character when secreted; and, secondly, to prevent its dribbling away and accumulating underneath the patient. A self-retaining female catheter was introduced into the bladder, and in less than forty-eight hours, as I had anticipated, the urine was completely altered in character. Not only was it devoid of the offensive odour, but it was quite clear, and almost free from bladder-epithelium and pus.

There is a class of cases where catheterism is always necessary, and where a self-retaining catheter will be found of incalculable advantage. I refer now to cases after surgical operations where it is necessary to keep the patient at

perfect rest, and more particularly in those where an operation has been performed upon the vagino-vesical or recto-vaginal walls, and for ruptured perineum.

In conclusion, I cannot speak too highly of the immense advantages which, in a sanitary and wholesome sense, are gained by this simple but very effectual mode of catheterism.

In No. 11 ward of this infirmary I have congregated together over thirty patients suffering from various forms of paralysis, and the majority from incontinence of urine. Before this catheter came into use the atmosphere was, especially at the times of changing the linen, night and morning, not so pure as one could desire, but now no difference is appreciable between it and the air of the other wards.

And, finally, a very essential point must not be forgotten—the bedding is kept continually dry, thereby in a great measure preventing the formation of bedsores, which is so severe a complication in the treatment of paralytic patients.

This instrument is made for me by Messrs. Coxeter & Son, of Grafton-street, to whom I am indebted for many practical hints before it was perfected.

It is easily introduced and withdrawn from the bladder, and it is advisable in some cases to remove, wash, and replace it every twelve hours. A piece of india-rubber tubing is attached to its extremity to carry off the urine.

DEATH FROM THE STING OF A WASP.

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THOMAS M.—, aged seventy-four, a labourer, was brought to the infirmary about 10.45 on the night of August 19th, having been stung on his tongue by a wasp. It appeared that the patient was clearing up his plate after eating his supper, when he cried out that he had been stung, and something as fine as a hair was removed by his companion. The patient went to bed, but did not sleep, and in about an hour called his companion and complained of swelling of his tongue and difficulty of breathing. He was then brought to the infirmary.

On admission, nearly three hours after the occurrence, his tongue was very much swollen and quite tense; there was considerable swelling immediately below the chin, between that and the hyoid bone; respiration quick, but not particularly laboured; pain referred to a point in the middle line of the tongue, about three-quarters of an inch from the apex. The patient could protrude his tongue, and answered questions quite distinctly. He said his companion had attempted to remove the sting, but did not think he had accomplished it. The tongue was examined with a lens, but no sting or mark of sting was perceptible. The pharynx was examined by the finger, and was apparently not obstructed by the swelling.

The patient was put to bed, and fomentations as hot as he could bear were applied to his throat. The part where he complained of pain, and where he said he had been stung, was brushed with liquor ammonia diluted so as to be borne by myself without much inconvenience when applied to my own tongue. Pulse 64; respiration 34, not particularly laboured and not strikingly laryngeal in character.

The patient seemed better for the fomentations and application of ammonia to his tongue, and expressed the comfort he felt, when suddenly, about half a minute after an application of ammonia, he was seized with spasm of the glottis, his face became pale, with drops of perspiration on