healing of an abscess, and the result was that absorption was complete within eight days.

In a case of leucorrhœa with a highly irritating secretion (where a gonorrhœal infection could not be traced) I applied the stronger mercurial lanoliment, with good result. No suitable cases of syphilis came under my notice during this time.

I have thought it well to describe these therapeutic experiences at length, not in the hope of bringing lanolin into general use—for this my help may well be spared—but because, having at the first re-introduction of wool-fat expressed rather prematurely a contemptuous opinion of it, I think it my duty to state the facts that have caused me to alter my views. I have found pure lanolin to be a valuable remedy that I could now ill spare in my practice.

FURTHER REMARKS

ON

THE RADICAL CURE OF HERNIA BY INJECTION.

INCLUDING A DESCRIPTION OF A MODE OF OPERATING WITHOUT THE USE OF AN ANÆSTHETIC, AND WITHOUT CONFINING THE PATIENT TO HIS BED OR TO THE HOUSE.

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THE following paper may be taken as supplementary to one already published in the JOURNAL (1885, vol. ii, page 543), and originally read at the meeting of the British Medical Association at Cardiff.

I have first to say that I found the combination of cannula and syringe somewhat awkward in practice; once or twice the two came apart as I was withdrawing the cannula, allowing an uncertain quantity of the injected fluid to escape, and compelling me to guess vaguely how much more to inject to make up for the loss. For this reason I caused to be made the injection-syringe described in the JOURNAL for July 17th, 1886. This I now show to you, and you see it is a probe, cannula, and syringe all in one instrument, besides having certain other advantages, such as requiring only one hand to fill, empty, and otherwise manipulate it, and being very easily aseptised.

I have further to report three specially interesting cases, all in adults, in one of which I used the injection only, while in another I felt it prudent to refrain from using the injection, and to employ merely the suture, and in a third I adopted an entirely different mode of operating—one which neither required the use of an anæsthetic nor prevented the patient from doing his business. The first and second cases were operated on at nearly the same time, namely, March 16th and April 14th, 1886. The successful case was a young adult man, with a left inguinal hernia of moderate size, coming through a canal also of moderate size. He was admitted into the West London Hospital, and a simple injection of concentrated decoction of oak-bark was thrown into his inguinal canal, no suture being placed in the canal-walls or apertures. A thickening rapidly formed at the site of injection, which felt very much like a crown-piece wrapped up in a piece of lint. This gradually got less, but some months after the operation, he had had no return of either the hernial impulse or hernial swelling. He usually wears a truss by way of precaution, but I shall not fear to let him discard it when next I see him. The other and less fortunate case was that of a very stout gentleman, who came up from Yorkshire to be operated on. I may mention, by the way, that his brother had suffered from hernia, and been cured by injection in America. In ten years of operative experience, I have never had so many minor misfortunes and pieces of what I will call, out of charity to myself, "ill-luck" as I suffered in connection with this patient; they all arose out of a bad commencement. In giving the patient a list of two or three lodging-houses, I included one which, though excellent in itself, was not a good one for our particular purpose. I recollected this immediately; but, expecting to see the patient next day, and having arranged not to operate for a day or two, I thought I should have an opportunity of setting things right. Unfortunately, I did not hear again from my patient till the eve of the date fixed for the operation, and he had in the meantime taken rooms with an exceedingly bad light. A corner window on the ground floor, looking into the bottom

of a kind of pit, and the enormous bed in the room, when placed in such light as there was, blocked the way in such a manner as almost to paralyse the nurse and greatly interfere with the assistant. Further, the eventful morning was dark and dull, even for London; and we had to use candle-light. My assistant was more than fully occupied in endeavours to retract the fatty walls of the wound; these were so thick and deep that it was not until I had made an incision three if not four times as long as the usual one that I could get proper access to the inguinal ring and its pillars. When I now proceeded to put in the thick catgut suture with a handled needle, the shank of the latter bent with the effort necessary to bring the eye into view after it had passed through the pillars. There was a good deal of oozing, and the nurse being occupied in holding the candle, while the assistant's hands were monopolised by the retractors, I had to sponge for myself. When the suture was properly inserted, I paused to reflect ere I injected a powerful irritant into the inguinal canal after all the parts had necessarily been subjected to much rough usage.

Had we been engaged on some necessary operation, such as an amputation, to go on and make a thorough finish of it would have been a matter of course; but here was a very different state of things. My main object in doing these operations of injection is to find a really safe and reasonably certain mode of doing the radical cure of hernia. I would therefore infinitely rather fail to do any good than risk doing any harm. Therefore, considering the unusual stoutness of my patient, the large wound it had been necessary to make, the rough usage to which it had been subjected, the unreliableness of the antiseptic precautions which it had been possible to take under the circumstances, and the doubt whether, even under the most favourable conditions, injection would do much good to a hernia coming through such an immense aperture (it would admit four fingers), I determined to refrain from exposing my patient to the risks associated with injection into his canal. Had I had him on the hospital operating-table, in an excellent light and surrounded by plenty of assistance, I should probably have there and then tied the neck of the sac, excised the fundus of it, sutured the ring, and confidently expected a good result. But this course was here at present out of the question, although I had obtained my patient's leave to do as I liked. I therefore merely put a little of the injection on the sutured ring, placed a drainage-tube, sponged and cleansed the wound with ¹⁰⁰⁰ sublimate lotion, and dressed with turf-moss dressing, etc., sublimated in the usual way.

Very glad I was afterwards that I had refrained from putting the injection into the canal, otherwise I should have probably had to deal with an abscess in the abdominal wall between the muscles, for the wound did not heal by first intention, and there was a good deal of suppurative with some sloughing. In addition to this, an attack of pneumonia with rusty sputa, high temperature, etc., developed in a few days, and kept the patient incessantly coughing, besides causing me some anxiety, and compelling me to pay the most rigorous attention to the wound, with a view to preventing septic absorption. I used to dress it three times a day. The pneumonia was partly aggravated by his being kept always on his back with the foot of the bed raised, and disappeared rapidly as soon as I allowed him to sit up a little. The hernia remained up for a fortnight, and then came down in a fit of coughing.

The suture had given way, and I removed it through the wound, which was still unhealed. I then let him sit up in bed, and all signs of the pneumonia quickly vanished, showing that whatever had been its original cause, it had been kept up and increased by the statical effect of the continued supine position with the lower extremities raised, and the head and chest lowered. A good deal of effusion had taken place about the ring, which was diminished in capacity by the thickening, so that I hoped a truss would now keep up the hernia (which would be some advantage gained by the operation). During the few days the patient remained in town, walking about and standing, this hope seemed likely to be fulfilled; but our misfortunes were not at an end. The new truss, which he was now wearing with success, was sent to the makers, that it might come back with another like it the next day when he had to return to the north. But the makers sent away the truss to some factory out of London, and when he was about to go to the train, they would give him neither the truss nor the duplicate, nor did they have in the shop another truss which was quite effective. When eventually he got the two trusses, he being then in Leeds, neither the new one nor the old one would keep up his hernia. There is really more to be learnt from this case than from the successful ones individually. From it I conclude that, when the patient is very stout, a first-class light, an extra assistant and an extra strong needle are required.

Secondly, I see that, in certain patients, unless it is possible to

take the most complete antiseptic precautions, very troublesome supuration may occur even after the simple operation in question.

Thirdly, this case furnishes one more instance of the uselessness of the suture without the injection; though it is but fair to say that this was a direct hernia, with no oblique valvular canal such as would be favourable to suturing.

Fourthly, that, as might have been expected, the position usual after all operations for radical cure of hernia is exceedingly bad for patients exposed to the causes of lung-affections.

Having, by my open operations of injection, become sufficiently familiar with the parts, I wished to try subcutaneous injections, and was soon fortunate enough to get for a patient an able and observant surgeon who had himself been already operated on by as good a surgeon as any in these islands, but unsuccessfully, the form of operation having been an attempt to obliterate the canal with a gold wire passed subcutaneously, and left *in situ*. This was a right inguinal hernia with a short canal, but not direct.

My procedure was as follows. First, I requested my patient to get a brand-new morphia injection syringe, with a long, stout needle, and also a small quantity of absolute alcohol in a stoppered bottle. Both these were kept entirely for his own use, the former always remaining in his possession. Every other day, I injected five drops of absolute alcohol into the inguinal canal. The needle was used in the following manner.

Invaginating the scrotum, I passed my left forefinger up the inguinal canal as far as the internal ring, the patient lying supine. With my right hand I now inserted the needle, making it pierce the skin external to the middle of Poupart's ligament, that is, nearer the anterior superior spine of the ilium, and passed the needle-point from without inwards and backwards, till, going through the external oblique aponeurosis, it touched my forefinger-tip lying in the inguinal canal. The point of the needle was now, of course, itself

in the canal, and directed downwards and inwards, in fact, nearly in the axis of the canal. The next step was to take my finger out of the canal, leaving the needle-point in it. My own sight and the patient's own feelings used to assure us that the hernia remained reduced; but, even had it slipped down, it could not have been wounded by the needle lying point downwards and inwards, in the manner I have described. The injection was now made, and the needle withdrawn; a smart burning sensation was felt for half a minute (it was timed accurately by a watch), and then disappeared entirely, as though the alcohol had a secondary anæsthetic action.

What were the results of these injections? Either the second or third injection produced a thickening in the canal about the size of a small Spanish nut; and a few more injections, or, rather, the last of them, produced a swelling as big as a plover's egg, or bigger; it completely blocked up the canal, and was decidedly tender, as well as somewhat painful for a day or two.

Both my patient and myself were now hopeful of success; but,

alas! as the swelling subsided, it became probable that it was in the cord, and not in the loose tissues of the canal, because it gradually descended in the canal, till it was all at the external ring; it is needless to say that a swelling there will not cure an oblique hernia.

The patient leaving town, treatment was now discontinued for two months, at the end of which time he returned, stating that his hernia did not come down so readily or so frequently as before; and that he was convinced that we had only to get the injection higher up, namely, to the internal ring, in order to obtain a cure. I was entirely of his opinion. He could only stay in town a very short time on this occasion, so I resolved, with his consent, to inject a more powerful irritant this time. Accordingly, I put in five drops of fresh glycerine of tannic acid; the reaction was tremendous; an immense swelling filled the canal, and descended out of it along the cord towards the scrotum. There was a good deal of pain and fever for a few days, and I kept him in bed; he had been walking about during the preceding treatment; but, again, the injection was too much in the coverings of the cord, so that, as the swelling subsided, the weight of the testicle dragged its remains down towards the external ring. My patient, who is in the army, had now to leave London on duty.

Now, I have no doubt in my own mind that I placed the needle point as high up the canal as the internal ring; and while my finger remained in the canal the cord was guarded effectually enough. But I was obliged to withdraw my finger before injecting, or, as actually happened in the only instance in which I did not, the injection would have gone into the tissues of the invaginated scrotum. During the operation, the tendency to retraction of the cord and testicle was marked, and doubtless the cord, so to speak, impaled itself on the needle as soon as my finger was withdrawn from protecting it. By the cord, I mean its coverings rather than the vas deferens, etc.

It is plain to me that there are two ways in which this simple operation can be perfected: 1. The needle can be provided with a protecting cannula, which should be slipped over its point before the finger leaves the canal. 2. The testicle should be dragged downwards as far as possible while the injection is being given.

There are very serious objections to the latter plan, and the former is the one I shall try at the first opportunity. I am sorry that the necessary departure of my patient prevented its being tried on him. His intelligence, his professional training, and his thorough understanding of his own case greatly increased the value of it.

I hope it will be borne in mind, in considering my paper, that what I am in search of is not an effective radical cure for hernia, but a safe one. I mean one so safe that any surgeon would as readily submit to it as to the opening of an alveolar abscess. Further, what is wanted is not an operation which is only safe in the hands of a very select few men of exceptional skill, knowledge, and experience, but one which can be satisfactorily done by any intelligent and careful surgeon who will take the pains to learn it, and to study the anatomy and pathology of the affection he proposes to treat.

I will take this opportunity of stating that I have this week examined the first patient on whom I operated for the radical cure of hernia by injection. He is a stout, middle-aged gentleman, who used to be greatly troubled by a double inguinal hernia, which came down even as he lay in bed. The result of the operation is in this case perfect. During the two years which have now elapsed, he has neither seen nor felt anything of either rupture; except in the first month of convalescence, he has worn no truss, and there is no impulse. This case was operated on at the Fitzroy Home Hospital, in the presence of Messrs. R. Wharry, S. Benton, and J. Mills.

CLAY-MODELLING OF THE LIVING PROSTATE AS A MEANS OF OBTAINING A PERMANENT RECORD OF PROGRESSIVE DISEASE.¹

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It is certainly remarkable that whilst our knowledge of the etiology and diagnosis of disease has advanced during the last twenty years by rapid strides, our insight into the functional disturbances and organic diseases of the prostate gland has lagged far behind. Still more remarkable is it that although the gland is within the reach of our finger, yet our macroscopical knowledge of its living condition has not kept pace with the microscopical information we have derived from *post-mortem* investigation of its structure. Our conceptions of the living normal gland are mainly taken from our knowledge of it in its

¹ Read at the Berlin Surgical Congress, April, 1887.