THE VESICO-VAGINAL FISTULA

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BAILLIÈRE TINDALL AND COX

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by

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To my many loyal
assistants, doctors and nurses,
who made this work possible

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PREFACE

THIS monograph is intended to be a practical guide to the treatment of vesico-vaginal fistulæ. I have assumed that the reader is already well versed in gynæcological surgery; and this background is essential for I have, throughout, emphasized the vaginal methods of repair. In some chapters other methods of treatment are considered—the transabdominal and transvesical operations, and the transplantation of the ureters into the colon—but it has not been possible, within the limits set, to elaborate these procedures in quite such great detail.

To some it may seem surprising and even unnecessary that a whole book should be devoted to so esoteric a subject as the vesico-vaginal fistula. In this country the lesion is far from common, and there can be few workers who see more than half a dozen cases in a lifetime. But, by the same token, the average gynæcologist has little chance to study the principles of repair or to become acquainted with the pitfalls that lie in wait for the novice; and he becomes acutely aware of his deficiency if he finds himself in a distant country where fistulæ are many but urologists few.

Even in our own land, however, bladder fistulæ are not so rare as is often supposed. Injuries resulting from childbirth are certainly far less common now than they were in the early years of this century, but bladder damage consequent on the extensive pelvic surgery that is now so freely practised is on the up-grade; and so, too, are fistulæ caused by radiation therapy administered for uterine carcinoma. These are subjects that I deal with in some detail.

My own interest in this branch of surgery has extended over thirty years, during which time I have been fortunate in having had cases referred from many other medical centres; and to this number I can add a few that I have myself seen in distant countries. The result is a series of

some 250 cases of urinary fistulæ which, although small when compared with some others collected by workers in Africa, India and elsewhere, is rich in the number of difficult, complicated or supposedly intractable cases.

As this is an essentially practical book, I have omitted extensive references to other published work. I do however gladly acknowledge the great help I have had from the writings of H. Spencer, G. W. Ward, N. Mahfouz, L. L. Lasko, H. Falk, Benion Thomas and others. It is also fitting that I should mention the work of my one-time assistant and colleague, Scott Russell, now Professor in Sheffield, who has so successfully employed, and further developed, the methods that form the basis of this monograph. Finally, it is a pleasure to record that the compilation of this monograph has been made an easy and even pleasant task by the constant and friendly co-operation of the publishers.

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CHAPTER ONE

J. Marion Sims and the Vesico-vaginal Fistula : Then and Now [1]

Part I : Historical Sketch

NINETY-FIVE years ago in the town of Montgomery, Alabama, there stood a tiny hospital that must be reckoned one of the most remarkable hospitals of all time. It housed seven women, all negro slaves ; all of them suffered from uncontrollable dribbling of urine, for all had a destruction of the wall separating bladder from vagina—one of the fearful consequences of hard child-birth. The hut—for it was little more—had been built by an obscure country doctor, J. Marion Sims ; and he maintained it for the single purpose of proving his belief that the vesico-vaginal fistula, previously regarded as incurable, could be remedied by simple surgical means, the success of which had hitherto been thwarted merely because of mechanical difficulties peculiar to such work. Sims believed that he could overcome these difficulties, and he laboured for four years.

It was in the cotton-growing area of the Southern States that Sims worked, amid the plantations and slaves ; all labour was supplied by the great coloured population. Whatever one's views may be on the lot of the negroes as slaves—and there are many who hold that the word was misapplied—there is no doubt that the mothers among them suffered untold hardships in childbirth ; for rickety deformities and contractions abounded, and the women preferred to suffer in seclusion than to call for help at

[1] The whole of this chapter is an address given to the Oxford University Medical Society, October 1940. Reprinted in abridged form from *British Medical Journal* (1940), vol. 2, p. 773, with kind permission of the Editor.

such time. So it came that greatly prolonged labour was common, and, even if not fatal, it led all too often to partial destruction of the pelvic organs, so that the woman

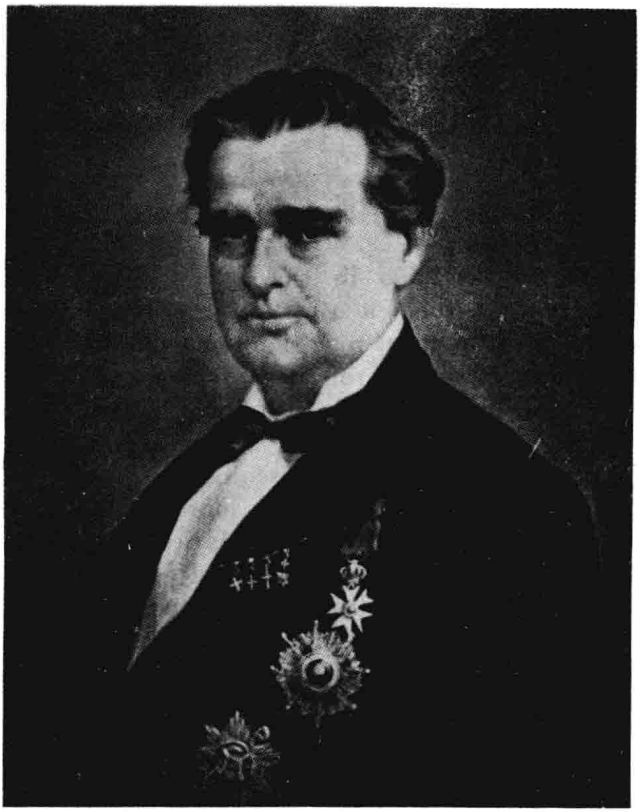

FIG. 1—*J. Marion Sims.*

(Reproduced with permission from a portrait held by the Royal College of Obstetricians and Gynæcologists.)

was brought to a state of wretchedness hardly to be borne. Marion Sims was guided by a simple philosophy, and it was his firm belief that no happening in this world, even the most trivial, is without its meaning and purpose. Never was this more clearly proved than in his greatest work of curing the vesico-vaginal fistula.

Sims's First Cases

At the time when Sims began to take a real interest in his profession—for his early record was undistinguished, and more than once he sought to give up the practice of medicine—he had to examine, within a few days of each other, two negro women suffering from urinary incontinence. In both cases Sims diagnosed a vesico-vaginal fistula, and, in keeping with the opinion of the time, he reported to the owners of the women that cure was wholly impossible. Meanwhile he had been careful to consult every medical book within reach, and in none of them could he find any helpful advice. Soon afterwards he was requested to see yet another coloured woman with similar symptoms, but, believing that the consultation was useless, he firmly refused to comply. Ignoring his refusal, the owner sent the woman by railtrain to town, and Sims was thus obliged to make examination against his will. Again as a matter of course he decided that nothing could be done, but as the girl came from a distance shelter was given for the night.

Sims makes a Discovery

Early next morning the incident occurred that was to be the turning-point of Sims's career. An urgent message came to attend a woman who had been thrown from horseback. On arrival Sims found that the patient was suffering from extreme pelvic pain, which, in accordance with the teaching of the time, he believed must be due to sudden dislocation of the uterus. Sims resolved to examine the pelvis and replace the organ. Hitherto he had always avoided such examination: he had little knowledge of the disorders peculiar to women, and he disliked the subject. Now, however, he had to act; but how to do it? At this moment a long-forgotten remark by a teacher at the Charleston Medical College came back to him, and he proceeded to place the patient in the knee-chest position. What happened next can best be described in his own words:

'So I placed the patient as directed, with a large sheet thrown over her. . . . I introduced the middle and index fingers, and immediately touched the uterus. . . . I turned my hand with the palm upward, and then downward, and pushing with all my might, when all at once I could not feel the womb, or walls of the vagina. I could touch nothing at all, and wondered what it all meant. It was as if I had put my two fingers into a hat, and worked them around, without touching the substance of it.'

Sims then goes on to explain how the patient's position had created a suction in the pelvis and how the air under atmospheric pressure had rushed in and ballooned the vagina to its fullest capacity.

'Then, said I to myself, if I can place the patient in that position, and distend the vagina by the pressure of air, so as to produce such a wonderful result as this, why can I not take the incurable case of vesico-vaginal fistula, which seems now to be so incomprehensible, and put the girl in this position and see exactly what are the relations of the surrounding tissues? Fired with the idea, I forgot that I had twenty patients waiting to see me all over the hills of this beautiful city. I jumped into my buggy and drove hurriedly home. Passing by the store of Hall, Mores and Roberts, I stopped and bought a pewter spoon. I went to my office, where I had two medical students, and said, "Come, boys, go to the hospital with me." "You have got through your work early this morning," they said. "I have done none of it," I replied: "come to the hospital with me." Arriving there, I said, "Betsey,[1] I told you that I would send you home this afternoon, but before you go I want to make one more examination of your case." She willingly consented. . . . Introducing the bent handle of the spoon I saw everything, as no man had ever seen before. The fistula was as plain as the nose on a man's face. The edges were clear and well defined, and distinct, and the opening could be measured as accurately as if it had been cut out of a piece of plain paper. The walls of the vagina could be seen closing in every direction;

[1] Sims makes a slip in the name; this woman was Lucy.

the neck of the uterus was distinct and well defined, and even the secretions from the neck could be seen as a tear glistening in the eye, clear even and distinct, and as plain as could be. I said at once, " Why can not these things be cured ? It seems to me that there is nothing to do but to pare the edges of the fistula and bring it together nicely, introduce a catheter into the neck of the bladder and drain the urine off continually, and the case will be cured." Fired with enthusiasm by this wonderful discovery, it raised me into a plane of thought that unfitted me almost for the duties of the day. Still, with gladdened heart, and buoyant spirits, and rejoicing in my soul, I went off to make my daily rounds. I felt sure that I was on the eve of one of the greatest discoveries of the day. The more I thought of it the more I was convinced of it.'

Early Failures

Sims made feverish preparations. New instruments were required, and the blacksmith, the dentist and the jeweller were all laid under contribution. He writes :

' I did not send Lucy home, and I wrote to her master that I would retain her there, and he must come and see me again. I saw Mr Westcott, and I told him that I was on the eve of a great discovery, and that I would like to have him send Anarcha back to my hospital. I also wrote to Dr Harris, saying that I had changed my mind with regard to Betsey, and for him to send her back again. I ransacked the country for cases, told the doctors what had happened and what I had done, and it ended in my finding six or seven cases of vesico-vaginal fistula that had been hidden away for years in the country because they had been pronounced incurable. . . . Then I made this proposition to the owners of the negroes : " If you will give me Anarcha and Betsey for experiment, I agree to perform no experiment or operation on either of them to endanger their lives, and will not charge a cent for keeping them, but you must pay their taxes and clothe them. I will keep them at my

own expense." Remember, I was very enthusiastic, and expected to cure them, every one, in six months. I never dreamed of failure, and could see how accurately and how nicely the operation could be performed.'

The great day came and the doctors assembled. Lucy was chosen. The operation started, and after an hour's work the opening in the bladder was closed to everyone's satisfaction. But Lucy became very ill; the fistula reopened, although to a less extent than before, and it was two months before the patient recovered her strength. Nothing daunted, Sims continued his work. Operation after operation was performed; methods were improved, skill and dexterity were developed; but no fistula was cured. One by one his helpers deserted him, until at last he was alone, and denounced as an unscrupulous charlatan. In desperation he trained his patients to assist at the operation on each other. Of this period he later wrote:

'My repeated failures brought about a degree of anguish that I cannot now depict even if it were desirable. All my spare time was given to developing a single idea, the seemingly visionary one of curing this sad affliction which not infrequently follows the law pronounced by an offended God when He said of woman: "In sorrow and suffering shalt thou bring forth children."'

But Sims's determination did not waver, and again he says:

'Nor was I alone in another sense, for I had succeeded in passing my own energy and enthusiasm into the hearts of the half-dozen sufferers who looked to me for help, and implored me to repeat operations so tedious, and at the same time so painful, that none but a woman could have borne them.'

Thus four years passed. Sims's practice suffered. Money troubles appeared, and his health, undermined by constant work, now began to cause anxiety. But his skill

had grown enormously. He had improved his tools. A self-retaining, malleable tin catheter had been devised. The knee-chest position had been modified to a more tolerable semi-prone position. The original suture apparatus had also been discarded and a simpler device adopted which eliminated the need for clumsy vaginal rods and tubes. Of this last improvement he writes :

' Then I said, " I am not going to perform another operation until I discover some method of tying the suture higher up in the body where I can not reach." This puzzled me sorely. I had been three weeks without performing a single operation on either of the half-dozen patients that I had there. They were clamorous, and at last the idea occurred to me about three o'clock one morning. I had been lying awake for an hour, wondering how to tie the suture, when all at once an idea occurred to me to run a shot, a perforated shot, on the suture, and, when it was drawn tight, to compress it with a pair of forceps, which would make the knot perfectly secure. I was so elated with the idea, and so enthusiastic as I lay in bed, that I could not help waking up my kind and sympathetic wife and telling her of the simple and beautiful method I had discovered of tying the suture. I lay there till morning, tying the suture and performing all sorts of beautiful operations, in imagination, on the poor people in my little hospital ; and I determined, as soon as I had made my round of morning calls, to operate with this perfected suture.'

The Operation Succeeds

Still success eluded him. Sims then began to suspect that the constant tumefaction, the inflammation and the cystitis which followed his operations might be due to the use of silk as a suture material.

' Just in this time of tribulation about the subject, I was walking from my house to the office, and picked up a little bit of brass wire in the yard. It was very fine, and such as was formerly used as springs in suspenders before

the days of indiarubber. I took it round to Mr Swan, who was then my jeweller, and asked him if he could make me a little silver wire about the size of the piece of brass wire. He said yes, and he made it. He made it of all pure silver. Anarcha was the subject of this

FIG. 2—*Sims operating on a vesico-vaginal fistula. The patient is in the semi-prone position, and the correct use of his retractor is clearly shown. The originals of this picture and of Fig.* 3c *were prepared under Sims's supervision for Savage's* Female Pelvic Organs.

experiment. . . . This was the thirtieth operation performed on Anarcha. . . . When the week rolled around—it seemed to me that the time would never come for the removal of the sutures—Anarcha was removed from the bed and carried to the operation-table. With a palpitating heart and an anxious mind I turned her on her side, introduced the speculum, and there lay the suture apparatus just exactly as I had placed it. There was no

inflammation, there was no tumefaction, nothing unnatural, and a very perfect union of the little fistula.'

The date was June 21, 1849, and Sims was then 36 years of age.

From that moment Sims's success in the treatment of fistulæ was amazing. All the subjects of his experiments were cured in a few weeks, and as patient after patient was restored to health his fame spread.[1] But new troubles now appeared. First there was a death in his family; then his own health gave way and he became the victim of a chronic form of dysentery endemic at that time in the Southern States. He became emaciated, was quite unfitted for work, and on many occasions believed that death was at hand. It was at this time—1851—that he decided to publish details of his method of curing the vesico-vaginal fistula that others might continue where he had been forced to leave off. This paper is remarkable for the force and directness of the writing, and for the confidence shown on every page. It is a truly remarkable document to have been produced by a supposedly dying man.

Work at the New Fistula Hospital

But Sims did not die. For four years he went from place to place in search of health—and, be it added, in search of a means of livelihood. At last he settled in New York. Gradually his weakness left him and he was able again to turn attention to professional affairs. But the New York medical men would have none of him.

[1] It is, however, incorrect to suppose that Sims was the first person ever to cure a vesico-vaginal fistula. This had occasionally been done before, but such success as had been achieved was due more to a combination of favourable circumstances than to the development and systematic application of sound methods. It is improbable that Sims had any knowledge of previous success when he engaged in this work. Gossett of London deserves special mention. In a letter to the *Lancet* in 1834 he described the closure of a vesico-vaginal fistula by methods nearly identical with those that Sims was to use fifteen years later. In particular, he advocated the use of gilt silver wire, saying: 'It excites but little irritation and does not appear to induce ulceration with the same rapidity as silk or any other material of which I am acquainted.' Despite his success Gossett's teaching did not endure.

They picked his brains, they even borrowed his instruments, but they gave him no work. At last, miserable and penniless, he made contact with an influential newspaper reporter. Clearly, if Sims could not get access to patients, patients must be given access to him. A public meeting was arranged, and Sims made an earnest plea for the establishment of a new hospital to be devoted to treatment

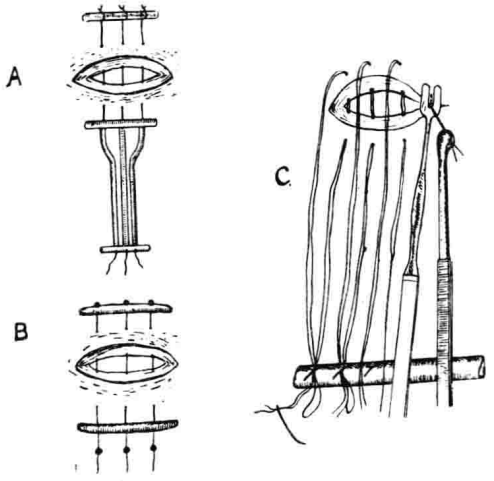

FIG. 3—*Sims's first, second and third methods, redrawn from his original illustrations. Diagram C shows the use of pilot silk sutures to pull through the silver wires. The cleft spatula and wire-twister are also shown.*

of the vesico-vaginal fistula and like injuries. Generous support was forthcoming from certain ladies of New York society, and after many struggles and much opposition the hospital was brought into existence. There was never any doubt of its success, and patients crowded in from all parts of the country.

As if in happy augury, the first work in the new hospital was the most remarkable yet undertaken. The patient was Mary Smith, a recently arrived immigrant from Western Ireland,[1] 'a pitiable, ill-smelling repulsive

[1] Records of this hospital show that 58 per cent. of the patients admitted with vesico-vaginal fistula came from different almshouses of Great Britain and from the Continent.

creature with extensively excoriated vulva, the result of constant escape of urine '. An encrusted mass was discovered in the vagina, in size not less than a closed fist ; it was thought to be a huge calculus. After great effort, and at the expense of much suffering to the patient, the object was dislodged : it was then found to be a wooden float such as is used for a fish-net. Her doctor had used this bobbin to plug the fistula in an attempt to stop the flow of urine, and at the same time to prevent the fundus of the bladder prolapsing into the vagina. Most of the base of the bladder and part of the urethra were destroyed, yet after many operations these organs were reconstructed and bladder function partly restored. Mary Smith became an assistant in the hospital and worked there for years.

A new name now enters the story. An old acquaintance of early days had recently married a Dr Thomas Addis Emmet ; Sims at once took a liking to the young man and engaged him as assistant in the new hospital. No better choice could have been made, for Emmet in his time came to equal, and even excel, his master in skill and judgment. Some of Sims's later methods are believed to have been adopted through Emmet's influence, and Emmet was responsible for giving to the world the most comprehensive and valuable account of fistula work based on Sims's technique that has yet been written.

With Emmet's help more and more work was undertaken, and soon the hospital became inadequate. New ground had to be secured ; and that, indeed, must have caused anxious thought, for the site finally chosen was the burial place of victims of a cholera epidemic twenty-five years before, and no fewer than 27,000 corpses had to be removed before building could be started. A new and much larger hospital at length appeared ; a Charter was secured and ' The Women's Hospital in the State of New York ' came into being. In more recent years there was again a change of site, and the Waldorf-Astoria Hotel now stands on the old ground. The importance of this hospital goes far beyond the fact that it was founded by the genius, courage and pertinacity of Marion Sims ; it was indeed the first hospital, in the modern sense of