James Marion Sims M.D.-c. 1874

Reg and Catherine Hamlin

Robert F. Zacharin

Obstetric Fistula

With a Foreword by
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Foreword

Obstetric fistula is as old as mankind. While the incidence has diminished progressively with better health care in Western societies, the situation has changed little in many developing countries. Fistulae of pelvic organs, often monstrous defects, still are a major complication of child-birth causing misery to uncounted young women, and if they cannot find help in one of the very few hospitals with trained specialists, they became urological cripples losing everything: family, home and job. The magnitude of the problem is illustrated by some figures given by Reginald and Catherine Hamlin—about 700 fistula patients treated each year—a total of over 10,000 cases operated upon in their fistula hospital in Addis Ababa, Ethiopia. Most of these injuries could be prevented by better health care at the village level as some studies have shown conclusively. The incidence of fistula is an indicator of the standard of health and obstetrical care.

The author of this book—Obstetric Fistula—is an internationally known Australian gynaecologist who for many years has been interested in all aspects of gynaecological urology, especially urinary stress incontinence, other forms of involuntary loss of urine, and associated gynaecological conditions. He has devised a number of new operations to treat pelvic defects. Robert Zacharin's interest in obstetric fistula was a consequence of his surgical activity in developing countries. The history of fistula management related in this monograph shows a number of relatively well-defined periods, the first from antiquity to the middle of the 17th century when the treatment of fistulae was palliative at best, and the second, characterized by the beginning of modern repair technique. The pioneer was Hendrick von Roonhuyze of Amsterdam, the acknowledged father of fistula surgery. His name and technique went into oblivion, with few attempts at surgical repair in the next one and a half centuries. In the third period—19th and first half of the 20th century—Roonhuyze's technique was rediscovered, other approaches were tested, the vaginal operation was perfected and cure rates improved. Many of the well-known and some of the less well-known surgeons and gynaecologists of the period tried their hands at fistula repair, often suggesting a new modification in surgical

To

James Marion Sims
Founder of the First Fistula Hospital,
Madison Avenue, New York. 1855,

and

Reginald and *Catherine Hamlin*
Founders of the Second Fistula Hospital,
Addis Ababa, Ethiopia. 1975.

"Unhouse'd, unfriended, solitary, slow,
on Tigris Banks I wander to and fro
and with my tears that flowing never cease,
the torrent of the rapid stream increase"

Jami
817–892 AD
Translated by Stephen Weston
1747–1830

technique or inventing a new surgical instrument. Two names became famous among many others, James Marion Sims, who founded the first fistula hospital in New York, and Howard Kelly, the promotor of an individual vaginal or suprapubic approach. The fourth period might be called the era of fistula specialists—Mahfouz, Chassar Moir, the Hamlins, and Lawson—and others who because of better preoperative care and better technique with the addition of grafting, were able to cure the large majority of even the worst fistulae.

Robert Zacharin's book, based on a detailed study of the literature, offers a wealth of information about the history of fistulae and fistula repair priorities together with graphical details of many a famous fistula surgeon. It deals with all aspects of obstetric fistulae involving the pelvic organs: incidence, pathology, diagnosis, prevention, complications and treatment. The book is well-written, easy to read and profusely illustrated. It should be in every gynaecologist's library and read by everybody interested in pelvic surgery.

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Preface

Undoubtedly this book should have been written by Reginald and Catherine Hamlin, whose contributions to the practical management of obstetric fistula have been recognized throughout the world. On many occasions during visits to Ethiopia, the possibility of such an undertaking was mentioned; but always the continual work load at their Fistula Hospital was adequate reason why such a book never could have eventuated. My wife and I met the Hamlins in Addis Ababa first in 1967 after correspondence about management of urinary incontinence which sometimes followed successful vesico-vaginal fistula closure. Until 1967, in company with most of my colleagues in Australia, exposure to fistula surgery had been minimal and viewed always with some apprehension because of their rarity, so counting 54 vesico-vaginal fistulae during that first visit to Princess Tsahai Hospital was absolutely unbelievable and during succeeding days, this feeling was reinforced repeatedly when the avalanche of new fistula patients continued. Nevertheless, far more impressive than the large number of patients was the meticulous care with which these ghastly defects were repaired by the Hamlins and it was quite usual to have 4 or 5 fistula patients on each operating list. Soon it became very clear that the major cause of the urinary incontinence following closure was a true incontinence due to the terrible bladder injury and for which regrettably I had nothing to contribute; but this first exposure was so memorable and challenging that we have returned many times to Addis Ababa, to work with the Hamlins, slowly absorbing their "tricks of the trade" and learning finer technical details by operating with their assistance and watching them at work. They are most generous with their time and expertise, also extremely patient!

In terms of patient numbers, there would be but a handful of western world gynaecologists with even a moderate experience in dealing with genital fistulae, whereas in other parts of the world, where fistulae still abound, many surgeons have managed several thousand patients. So the occasional fistula surgeon usually prefers to refer urinary fistulae to a urologist rather than attempting to deal with the problem because of a lack of personal experience and also being well-aware of the many technical difficulties involved. The urologist, an expert within the bladder will ad-

vocate a suprapubic approach almost uniformly, although on occasion the gynaecologist joins forces with him to tackle the problem by a combined abdomino-vaginal approach. This common clinical situation ignores completely the fact that a majority of vesico-vaginal fistulae are managed best by vaginal surgery and for many reasons.

At the Alfred Hospital, Melbourne, the Gynaecology Department is well-known for its interest in fistula surgery, and since 1967 has had experience with the management of more than 100 genital fistulae—most of surgical origin—referred from many parts of Australia and also from Indonesia. In addition, several visits to Padang and Ujung Padang in Indonesia have increased this experience. More recently, armed with 35 mm slides prepared in Addis Ababa, Khartoum and Indonesia, lectures given in Australia, Europe and the United Sates of America have evoked wide interest from gynaecologists never previously exposed to obstetric fistulae and the problems of their surgical management. For all these reasons it seemed wrong that the work of the Hamlins and other eminent fistula surgeons had not been recorded in book form, especially since the fistula problem is unchanged in many areas of the world and also, few Western gynaecologists may have an opportunity to visit such centres and learn at first hand from the masters of this art. Finally, the principles involved in successful obstetric fistula surgery differ in no way from those employed in the correction of surgically produced fistulae and with such small numbers of referred cases being seen, many principles of management are not well-known nor is their importance fully appreciated. Accordingly, during a recent visit to Addis Ababa, the Hamlins agreed to the suggestion that I should attempt such a book, which in general terms would deal with the historical aspects of the problem and then the technical details of present-day fistula surgery. In any discussion about obstetric fistula, the historical approach is exceedingly important and the vast associated bibliography needs assimilation before any thoughts of proceeding to present day details can be entertained.

To assess recent trends in fistula incidence and management, Egypt, Jordan and the Sudan were visited in September 1985. In Cairo, discussions with Professor Sherbani of Kasr el Aini Hospital about past and present fistula problems in Egypt were wide-ranging, and additionally the facilities of the Mahfouz Obstetrical and Gynaecological Museum were made available. After leaving Cairo I corresponded with Professor Mahran of Ain Shams University. In Amman, Dr Farid Akasheh the doyen of Jordanian gynaecologists made the visit memorable and opened all the necessary doors, while in Khartoum, Professor Hadad Karoum and his staff at the University

and the General Hospital arranged visits to outpatient clinics and operating sessions where much valuable information was collected.
With certain historical aspects, especially Queen Henhenit and the New York activities of James Marion Sims, Harold Tovell of St Luke's Hospital New York has been an enthusiastic and valuable ally. In November 1986 a visit to Birmingham, Alabama was arranged by Hugh Shingleton known widely for his knowledge of the life and time of Sims. This included access to the Reynolds Historical Library and an excellent historical excursion to Montgomery where Felix Tankersley was so helpful. So much additional information was gained about Sims and Alabama that the chapter concerning him was expanded greatly. I am indebted to Edwin Bridges the Director of the Alabama Department of Archives and History at Montgomery and to Miss Mary Claire Britt, Curator of the Reynolds Historical Library in the University of Alabama at Birmingham for their assistance.
Many friends and colleagues have offered helpful opinions and constructive criticism of the preliminary manuscript and I am grateful to Harold Tovell of New York, James Ingram of Tampa, Robert Marshall, James Mortensen, Keith Layton and Norman Beischer of Melbourne, John Lawson of Newcastle-on-Tyne, U.K., John Kelly of Birmingham, U.K. and finally Reginald and Catherine Hamlin of Ethiopia.
Up to date information about the present fistula situation in West Africa has been obtained by discussions in London with John Lawson and Una Lister, and from correspondence with Sister Ann Ward of St Luke's Hospital in Cross River State, Nigeria.
Checking the bibliography and obtaining photostats particularly of older papers has been a long and tiresome job, and without the dedicated help of Enid Meldrum and Kathy Hutton from the Medical Library at the Alfred Hospital, Melbourne, the list would have been incomplete and contained many errors. Most of the photographs originated in Ethiopia and others came from the Sudan, Indonesia, Nigeria, Australia and the United States of America and the hard work of preparing them for publication and producing the excellent line drawings to illustrate the colour photographs, was effected in the Visual Aids Department at the Alfred Hospital, Melbourne, by Cam Harvey, Caroline Hedt and Sharon Arnott.
The stanza by the 8th century Persian lyric poet Jami, which sets the fistula scene so admirably, was suggested by Richard Newing. Finally I offer sincere thanks to my daughter Jane who expertly typed the manuscript so many times.

Robert F. Zacharin
Melbourne, 1987

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Key to Diagrams

AC	Anal canal
AF	Allis forceps
AN	Aneurysm needle
AS	Anchor suture
BL	Bladder
CAF	Curved artery forceps
CX	Cervix
CCG	Chromic catgut
DS	Donor site
DT	Drain tube
Fc	Foley catheter
Gp	Gauze pad
GS	Guy suture
Mc	Metal catheter
MFG	Martius fat graft
NS	Nylon suture
Nu	Neourethra
P	Pointer
PCGS	Plain catgut suture
Pr	Probe
PS	Perineal suture
RAS	Reconstituted anal sphincter
S	Swab
SAF	Straight artery forcep
Sc	Scissors
SpS	Sphincter suture

SS Stabilizing suture
ST Scar tissue
TDF Toothed dissecting forceps
UC Ureteric catheter
V Vagina
VS Vaginal speculum
Vu Vulva

1

Historical Introduction

The Era Before James Marion Sims

There is a commonly held yet erroneous belief, that James Marion Sims, the father of American gynecology, was first to close a vesico-vaginal fistula, similar entirely to the statement, that Captain James Cook discovered Australia. The history of both endeavors shows that the real story is very different and in the case of both these great men, there were many who went before them.

Earliest recorded medical references and particularly in gynecology, have been found scattered through ancient Egyptian documents known as the papyri. Rare medical engravings, even antedating papyral sources were found on the doorpost of a tomb excavated in the necropolis of Saqquarah, Egypt. The tomb was that of an unknown physician who lived during the reign of King Atoty, the first king of the 6th dynasty, and the pictures represent incision of a boil on the neck and circumcision.

There are 7 papyri in all and gynecological references occur in the first two, the Kahun and the Ebers. Their translation became possible with the discovery of the Rosetta stone in 1799, which when deciphered, supplied the key to those ancient Egyptian scripts.

One of the oldest, the Kahun papyrus dates probably to about 2000 BC and was discovered in April 1889, by Flinders Petrie, an English archeologist at Kahun in the Fayyum area, south of Cairo. Painstakingly, scores of fragments were pieced together to reconstruct 3 registers of hieratic text, however many fragments were missing. In 1898, the document was deciphered by Francis Griffith, but although the gynecological portion was written in a clear script, the fragmentary condition of the document rendered the translation imperfect. A true perspective of the antiquity of the Kahun papyrus may be appreciated by realizing that oldest comparable texts from Babylon date from about 700 BC, old Chinese texts are certainly later than 200 BC whilst those from India intrude into the Christian era. Purchased by George Ebers, a German Egyptologist wintering in Egypt

in 1872, the Ebers papyrus was discovered allegedly between the knees of a mummy from the Theban acropolis. This papyrus which now is in the library at the University of Leipzig, is 65 feet long and 14 inches wide and consists of 108 columns each of about 20 lines, and dates to 1550 BC The gynecological reference in this papyrus deals with uterine prolapse, but at the end of page 3, two fragmentary prescriptions occur, one a cure for toothache, and the other relates possibly to vesico-vaginal fistula and warns the physician against attempting to cure it. "Prescription for a woman whose urine is in an irksome place: if the urine keeps coming and she distinguishes it, she will be like this forever." Certainly this is the oldest reference to vesico-vaginal fistula and indicates with clarity, the antiquity of the problem.

Maughs (1884) discussed "what the ancients knew concerning obstetrics and gynecology" and presented the contributions of Archigeres, 1st century AD, Philumenus, 2nd century, Oribasius, 4th century and Aetius, the most learned able, experienced and honest of all Greek compilers who practiced and wrote at Alexandria in the 6th century. While a remarkable range of knowledge was presented including mention by Archigeres of the dioptra or speculum vaginae, remarkably there was no reference to urinary incontinence or fistula.

Avicenna the renowned Arabo-Persian physician who died in 1037 AD, first recognized that urinary incontinence in the female may be due to a fistula following difficult labor. His textbook "Al Kanoun" one of the most famous medical books ever written, was used in medical schools both in Asia and Europe for more than five centuries. In the chapter on pregnancy prevention he gave the following advice and warning: "In cases in which women are married too young, and in patients who have weak bladders, the physician should instruct the patient in the ways of prevention of pregnancy. In these patients the bulk of foetus may cause a tear in the bladder which results in incontinence of urine. The condition is incurable and remains so till death."

Remarkably, no further reference to fistula appeared until the end of the 16th century, when several clear descriptions appeared simultaneously. Felix Platter, Basle (1597) in Israel Spach's great work (Fig. 1) "Gynaecorum" gave the following description: "As a sequence of a difficult first labour, the young country girl had the opening of the bladder rent to such a degree that there was a long gaping furrow in its place, and the open bladder could be seen. I have twice inspected it myself and discovered that it was so by using a probe. On account of this injury, there is a constant involuntary discharge of urine, and the surrounding parts become exco-


GYNÆCIORVM
SIVE
DE MVLIERVM TVM
COMMVNIBVS, TVM GRAVI-
DARVM, PARIENTIVM, ET PVER-
perarum AFFECTIBVS & MORBIS,
LIBRI
GRÆCORVM, ARABVM, LATINORVM
VETERVM ET RECENTIVM QVOTQVOT EXTANT, PAR-
tim nunc primùm editi, partim verò denuò recogniti, emendati,
necessarijs INDICIBVS ornati, & optimorum
Scriptorum autoritatibus illustrati.
Opera & studio ISRAELIS SPACHII MED. D.
& Profess. Argentinensis.
AVTORVM CATALOGVM POST PRÆ-
fationem inuenire licet.
Additi sunt etiam INDICES Capitum, Rerum ac Verborum in his me-
morabilium locupletissimi & fidelissimi.
SCIENTIA IMMVTA BILIS
Cum Priuilegio S. CAESAREAE Maiestatis.
ARGENTINAE,
Sumptibus LAZARI ZETZNERI.

Figure 1. Title page of Israel Spachs "Gynaecorum"

riated and inflamed." Luiz de Mercado (1597) a physician of Valladolid seems first to have used the term "fistula" rather than the usual word "ruptura" when he wrote, "what an empty and tragic life is led by the affected victims and how great are their embarrassments—uncontrolled urine runs from the fistula with ease" (Shorter 1984).

Professor D. E. Derry (1935) described the pelves of five women of the 11th dynasty in Egypt, and Queen Henhenit (circa 2050 BC) one of the wives of King Mentuhotep II was of special interest. Her mummy had been buried in chambers below the terraces surrounding the pyramid of King Mentuhotep II at Deir-el-Bahri, at Thebes. The funerary temple of Mentuhotep II was discovered by Edouard Naville, and both sarcophagus and mummy were sent to the Metropolitan Museum of Art in New York, in 1907, in acknowledgement of financial support for his archeological