5 In Theatre

The Anaesthetic

Spinal anaesthesia is the preferred method for all fistula cases. (Figure 5.1) Most fistula surgeons are used to giving the spinal anaesthetic themselves and then performing the operation. More anaesthetic nurses have been trained in most countries and this practice is now rare. Bupivacaine 0.5% in glucose (Marcain Heavy) is ideal as the longest acting anaesthetic, although lidocaine 5% in glucose 7.5% can have its duration extended by the addition of adrenaline (epinephrine). The technique favoured by some is to draw up adrenaline 1 in 1000 into the syringe, expel it and then draw up the lidocaine. The wetting of the inside of the syringe provides enough adrenaline.

Figure 5.1
This is a nice position for administering a spinal anaesthetic although not all patients can bend this far over. (Photograph courtesy of Kees Waalkdijk)

Figure 5.2
The patient is left sitting for about 5–10 minutes while the spinal anaesthetic takes, or some lie the patient down after a few minutes making sure her head is slightly raised up. The patient has her head and upper back raised on pillows in this photograph.

The usual dose is 2cm³ of lidocaine 5% in glucose 7.5% or 2cm³ of Marcain Heavy. Some surgeons sit the patient up for 5 minutes; others lie the patient down, head up slightly, and wait until she has loss of power and sensation before putting her legs up; yet others lie the patient down and put her legs up in stirrups straight away. Critically there should be no head-down tilt for at least 10 minutes until all the anaesthetic has been fixed—otherwise paralysis of the respiratory centre may be fatal via an ascending spinal anaesthetic. (Figure 5.2) When I give the spinal anaesthetic myself I prefer to sit the patient up until she starts to lose power in her legs, then lie her down and put her in position.

If circumstances force you to give the spinal anaesthetic yourself and operate without any anaesthetic back-up, then make sure you can finish the operation before the anaesthetic wears off. Less experienced surgeons would not feel comfortable operating without anaesthetic help and I would advise against it. Some patients require pethidine or occasionally ketamine to complete the operation, and unexpected emergencies can arise at any time.

There are surgeons who prefer the option of occasionally changing to an abdominal approach after assessment vaginally under spinal anaesthesia. If the patient was lying flat initially for 5 minutes, the spinal anaesthesia should be high enough to allow a lower abdominal approach, but it is essential to have anaesthetic back-up in case of difficulties during an abdominal operation.

Antibiotics

A few surgeons prescribe antibiotics throughout the post-operative period, while some prefer none.

It is well known that infection usually results from contamination during the operation, so it is common practice in the fistula community to give a single intravenous dose of gentamicin 160mg at the same time as the anaesthetic, before the operation starts. I add 400mg of metronidazole iv for cases of sphincter tears and recto-vaginal fistulae. This practice is largely based on an unpublished series that we did in Addis Ababa about 20 years ago. We swabbed the vaginas of 100 consecutive patients and all of them grew *E. coli* and almost all were resistant to ampicillin but sensitive to gentamycin. Adding Metronidazole for the rectal cases was not studied but it seems prudent.

We would continue with antibiotics for 24–48 hours, only if there has been accidental faecal contamination or if there is another infective indication.

Instruments

Basic Instruments

For simple fistulae, the following instruments are needed (Figure 5.3):

- Auvard speculum
- high quality dissecting scissors

Figure 5.3
A standard fistula set of instruments.

- toothed dissecting forceps
- Needle holder
- Suture scissors
- Allis tissue forceps
- artery forceps
- metal catheter
- small probe to identify the ureters
- no. 15 blade (not illustrated) and scalpel blade holder
- containers, such as kidney dish and galley pots.

Additional Instruments

For the full range of fistula surgery, some more specialised instruments are helpful.

Retractors

- Sims speculum for exposing the interior of the bladder
- small Langenbeck retractor for access to the vaginal fornices
- Auvard speculum. Ideally, this should be available with short and long vaginal blades and with different angulations.

Scissors

Most surgeons have their favourite scissors; ours are the following (Figure 5.4):

- Boyd-Stille tonsil scissors for fine dissection
- Thorek scissors, sharply curved at the tip
- Kelly fistula scissors for cutting through scar.

Figure 5.4
Surgeons all have their favourite scissors. These are the most popular amongst fistula surgeons. They are extremely sharp, with a fine point in a) and c). a) Boyd Stille. b) Thorek. c) Stille-Matarasso.

Figure 5.5
These needles are exceptionally good for working in the difficult spaces of a fistula operation. a) A Monocryl on a 26mm 5/8 needle, b) is a 2-0 Vicryl on a 36mm 5/8 needle. Both are round bodied and very strong. They can be passed through the periosteum when needed.

Sutures and Needles

(See figure 5.5) Never use non-absorbable sutures because a stone may later form in the bladder.

The choice of suture may be determined by what is available. Some stocks of chromic catgut are unreliable, and we prefer to avoid its use as it dissolves so rapidly. Vicryl 2–0 and 3–0, would be the first choice of most surgeons, if available. Newer monofilament absorbable sutures are very nice to use.

For closure of the bladder, half circle, 26mm, strong, round-bodied needles are best. For more advanced fistula work, eyed J-needles are a great help but are now very hard to come by.

The perfect needle for a suture is a ready-mounted 5/8-circle 26mm needle with a 2–0 Vicryl, but this is expensive. We reserve it for suturing in difficult corners, circumferential repairs and deep situations. Once you have used 5/8-circle needles, you will never want to use anything else!

A larger cutting needle can be used for securing sutures through periosteum when needed, although the 5/8 needle from Ethicon is strong enough to do this.

Operating Table

An operating table that tilts to at least 50° and has shoulder rests and stirrups is advisable for the full range of surgery. (Figure 5.6) Simpler fistula repairs can be carried out with a more modest tilt and without shoulder rests.

Figure 5.6
A good table for fistula surgery. Note the steep tilt, secure shoulder pads and stirrups. The end leg rest is in place here but must come away.

Lighting

A simple spotlight is sufficient for easy cases. (Figure 5.7) In situations where the electricity supply is erratic, it may be necessary to operate by daylight. (Figure 5.8) Position the table close to a large window. In some hospitals, a full range of lighting equipment is available. (Figure 5.9)

As we operate in a variety of hospitals with unpredictable lighting (Figure 5.10), we prefer to have our own independent lighting source. (Figure 5.11) The clip-on lamp can be used

Figure 5.7
A simple spotlight.

Figure 5.8
Kees Waaldijk operating by daylight in Katsina.

Figure 5.9
A very sophisticated lighting system in Addis Ababa, Ethiopia.

Figure 5.10
A broken light—all too common.

Figure 5.11
Two examples of headlights: a) a simple light that can clip onto your glasses, b) a very nice, bright light on a headband. Both headlights have a battery that can be held in your shirt pocket and be switched on through your operating gown.

on one's own spectacles or supplied attached to a neutral spectacle frame. The rechargeable battery can be held in a pocket in your scrubs and switched on and off through a sterile gown and provides brilliant spot illumination for 4 hours.

Position on the Table

The steeper the head-down position, the better. (Figure 5.12) However, very high quality shoulder rests are essential for this, otherwise the patient will slide down the bed as you operate.

Figure 5.12
John Kelly demonstrating the correct head down position of a patient.

The patient's buttocks should be well over the end of the table and the thighs well flexed over the abdomen with stirrups. (Figure 5.13) If you want more Trendelenburg tilt you can place extra cushions or pillows beneath the patient's buttocks. (Figure 5.14)

Figure 5.13
When there are no shoulder rests, the patient's buttocks must hang over the end of the bed with the sacrum just off the end of the bed. Visibility will be impeded if it is too close to the bed and they will slip down. Note the thighs are well flexed.

Figure 5.14
This operating table did not tilt quite enough but you can raise the patient on the end of the bed by placing a pillow under her on the edge of the bed. This patient had her buttocks well off the end of the bed, the stirrups were nice and high lifting her legs out of the way and visibility was good for the surgeon, assistant and scrub.

Surgeon's Position

The surgeon should be in a comfortable position. (Figures 5.15 and 5.16)

Figure 5.15
The table is too low making the surgeon bend. The surgeon will end up with a bad back.

Figure 5.16
The operating field should be at eye level and the surgeon should maintain a good posture throughout.