Obstetric Fistulae

An obstetric fistula is an abnormal communication between the female genital tract and the bladder, rectum, or ureters that occurs as a consequence of an obstructed labour.

Historically, obstetric fistulae have been a common and tragic outcome of pregnancy for women all over the world, including the UK. However, the advent of emergency obstetric care has made them a thing of the past in developed countries. Therefore the details of this problem and its management do not feature in many modern textbooks of obstetrics and gynaecology.

Unfortunately these terrible birth injuries are still a real and present danger for women in much of the world; the number of women living with the consequences of such birth injuries is approximately 2-5 million worldwide[1,2]. Estimates vary because by its very nature, fistula is a hidden problem. It is suffered by those least able to bring it to the world's attention; the young, geographically isolated and uneducated women of the poorest countries of the world, namely Africa and South Asia. It is an important topic to be aware of, and one that will be encountered on many electives or work placements in resource poor countries.

In the 1840s a gynaecologist called Dr J Marion Sims performed the first successful repairs of obstetric fistulae on slave women in the Southern States of America[3], and his techniques were augmented by the Drs Hamlin in Ethiopia earlier this century[4]. Before Sims it was widely believed that such injuries were incurable. These days there are many specialist fistula hospitals around the world which provide repairs to fistula sufferers free of charge.

Aetiology: The main cause of obstetric fistulae is **obstructed labour**.

Obstructed labour refers to the situation which arises when a baby cannot pass out through its mother's birth canal, and so becomes stuck in place. If a caesarean section or instrumental delivery is not performed, a prolonged and dangerous labour will result.

Risk factors for fistulae include:

- Becoming pregnant at a young age
- Stunted growth of mother (often due to malnutrition)

- Distance from hospital
- Rough terrain making travel to hospital difficult
- Lack of finance for obstetric care
- Paucity of trained birth assistants & inadequate perinatal care
- Cultural practices (e.g. child marriage)

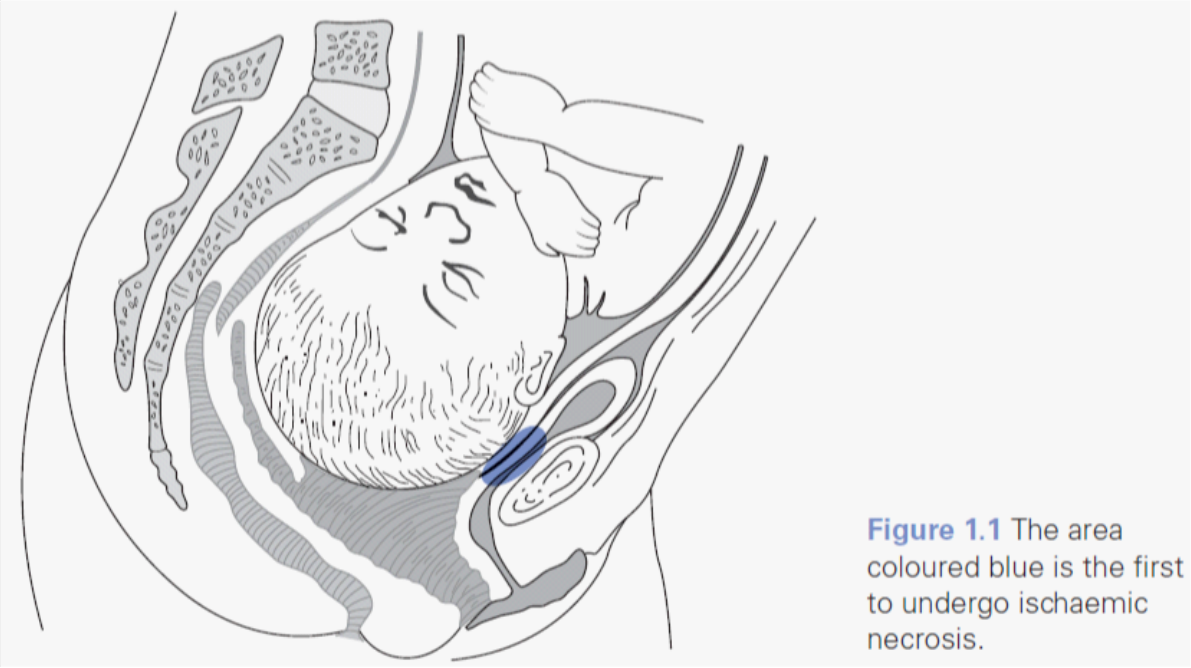

Figure 1.1 The area coloured blue is the first to undergo ischaemic necrosis.

In an obstructed labour, the baby's head presses against the soft tissues of the birth canal. If this continues for a prolonged period of time, the blood supply to the tissues is compromised, and ischaemia can result. Without medical intervention the baby eventually dies. A couple of days later the baby's head starts to become macerated and softens. If the mother has survived this long (maybe 3-5 days) she may now be able to give birth to her stillborn child. By this stage the mother will have sustained terrible crush injuries to the tissues of her pelvis, eventually resulting in necrosis of the vesicovaginal septum or other tissues, and leading to abnormal communications (fistulae) between her vagina and bladder or rectum. Incontinence follows, either of urine, faeces or both, which makes healing of the wound more difficult.

The fistula is only one of the sequelae of obstructed labour. These women often have intractable incontinence, and the constant leaking of urine with the associated smell can result in the women being shunned by their husbands and communities. Isolation and stigmatisation leads to increased poverty and worsening health problems. The pressure of the baby's head

may also damage the nerve supply to the pelvis and lower limb, resulting in foot drop or even rendering the woman immobile.

Obstructed labour injury complex [2,5] is a term used to describe the multiple insults to the physical and mental wellbeing of women affected by an obstructed labour, which of course includes the fistulae and stillbirths mentioned above but also:

- Incontinence & renal problems
- Amenorrhoea & secondary infertility
- Foot-drop, contractures and reduced mobility
- Skin problems
- Social isolation, depression & suicide

Even if an obstetric fistula sufferer is fortunate enough to find out about a fistula hospital, she still has to find a way to travel to the hospital despite her injuries, often over many miles of difficult terrain. The lack of knowledge about services coupled with the cost and difficulty of accessing them can lead to long delays in getting treated.

A ureteric fistula is an abnormal communication between a ureter and the birth canal. It can arise due to obstructed labour but is more commonly iatrogenic. It occurs when women in obstructed labour have a caesarean section, or when uterine rupture results in a hysterectomy. These procedures are carried out as emergencies by inexperienced doctors and can lead to ureteric damage and fistula formation[6].

Gynaecological fistulae can also be caused by trauma such as rape or some forms of female genital cutting, and is a problem in war torn countries where rape is used by soldiers as a means of subjugation and punishment. These non-obstetric injuries can be particularly severe not only because gangs of men can be involved in the attack, but also because objects such as gun barrels are sometimes used. Although the injuries sustained are slightly different, the same expertise and facilities are used to repair these wounds as for obstetric fistulae, and the psychological sequelae can be devastating. Social stigmatisation is common regardless of the cause of the fistula.

If a fistula patient presents in the first few days after injury, a small vesicovaginal fistula can sometimes be managed simply by catheterising the bladder which diverts the flow of urine and allows the defect to heal

naturally. However, for the reasons stated above, most patients present months or years after the formation of their fistula.

Surgery is therefore the main treatment for obstetric fistulae, with success rates greater than 80%[1]. The operations are often provided free of charge, as these women can be in extreme poverty, and even accessing the hospital can be a major challenge. Many charities support the numerous fistula hospitals, and some of the work is performed by surgeons from the developed world who give up a few weeks a year to serve these fistula pilgrims[7].

The damaged tissues are excised and the bladder freed from its connection with the vagina. The defects are then repaired and the patient catheterised for at least one week[6].

Prevention

The overarching cause of these fistulae is that of poverty, which increases maternal mortality in many ways. In addition to tackling poverty, other preventative measures include:

- Educating communities about the causes of fistulae
- Informing pregnant women when to attend hospital
- Challenging laws and attitudes regarding child marriage
- Combating malnutrition
- Birth control
- Providing trained birth assistants

Summary

It should be remembered that the women with obstetric fistulae are actually the survivors; they made it through labour alive. Obstetric fistula is a marker for maternal mortality. The good news is that awareness of these problems is increasing, and although there is still much work to be done, the World Health Organisation reports that global maternal mortality dropped by 47% between 1990 and 2010[8].

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Image:

Figure 1.1 taken from Hancock B, Browning A. **Practical Obstetric Fistula Surgery**. The Royal Society of Medicine Press Limited. London 2009. Page 1.

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