Case Report

Rotation flaps in the treatment of ischial pressure sores – the bigger the better

JP Garner^{*,1} and TC Teo¹

¹Queen Victoria Hospital, Holtye Road, East Grinstead, West Sussex RH19 3DZ, UK

Pressure sores are a common problem in paraplegic patients or those otherwise immobilised for long periods of time. Their surgical management is predominantly undertaken by plastic surgeons but other surgeons will also treat them from time to time. We present a case of an ischial pressure sore treated by a general surgeon with a small buttock rotation flap that subsequently broke down with recurrence of the pressure sore. The subsequent surgical management under our care was compromised by his earlier surgery but nevertheless achieved a satisfactory outcome. The need to perform repeat surgery in the future must therefore be borne in mind when planning the initial operation, so that the maximum number of reconstructive options are preserved.

Spinal Cord (2000) **38**, 571–572

Keywords: paraplegia; ischial pressure sore; rotation flap; recurrence

Clinical case

A 45-year-old man was referred to us for excision and closure of a recurrent left ischial pressure sore. He had been paraplegic since a fall 20 years previously but was otherwise fit and well. He had an attempted closure of his pressure sore by general surgeons at his local hospital one year previously using a small buttock rotation flap but this failed shortly after surgery and remained unhealed (see Figure 1). No cause for the failure of this flap was identified. At operation the recurrent sore was excised and another buttock rotation flap raised which was much smaller than was considered ideal. Its size was constrained by the pre-existing surgical scar which also necessitated adaptation of the flap design to allow coverage of the excised area as well as direct closure of the secondary defect (see Figure 2). Fortunately his wounds healed well (see Figure 3) and he was discharged from hospital 16 days after operation with a healthy intact repair and without sitting restrictions. Regrettably no further assessment of wheelchair cushioning or sitting arrangements were undertaken but there has been no recurrence of the pressure sore in the 17 months since surgery.

Discussion

Pressure sores are an increasingly common clinical condition managed by plastic surgeons as well as

general surgeons. Before embarking on this type of surgery it is essential that a thorough assessment of the patient be made including precipitating causes, nutritional status, intercurrent infections and social circumstances in order that these conditions are optimised. At operation it is important to bear in mind the various reconstructive options available and ensure that the procedure undertaken will not compromise any future reconstructive possibilities. This is particularly pertinent since various studies have shown that surgery for closure of pressure sores has a high recurrence rate.^{1,2}

Many pressure sores can be closed directly without significant tension. For those sores that are too large or complex to be safely treated by direct closure the gluteal myocutaneous rotation flap is an ideal option for the further management of ischial pressure sores and is associated with an initial healing rate of over 90%.³ If executed properly it is also a relatively simple procedure to re-raise the flap and rotate it further into a recurrent ischial sore. For this to be possible the initial flap must be designed as large as possible, even though the sore may look unimpressively small.

Ideally in this patient a much larger flap would have been raised but the viability of its leading edge would have been compromised by the scarring associated with the original surgery. Additionally, the small size of the original flap severely reduced the number of possible re-rotations that it could withstand and if this flap subsequently fails it is likely that a hamstring V-Y advancement flap would be necessary, an option

*Correspondence: JP Garner, 16 Aisne Road, Deepcut, Camberley, Surrey, GU16 6SS, UK

Figure 1 Recurrent left ischial pressure sore and previous surgical scar

Figure 3 Post operative photograph showing the healed flap

Figure 2 Previous surgical scar and the markings for the preferred larger rotation flap

associated with increased scarring and poorer healing rates.³

Many authors would consider a 16 day hospital admission too short in these circumstances, often employing lengthy graded sitting regimes for 6 weeks

or longer.^{1,4} In Foster's study³ however the average hospital stay was only 21 days (16.5 days in those without a complicated past medical history) and was associated with very low recurrence rates.

In clinical practice the surgical treatment of ischial pressure sores is often undertaken by a wide range of surgical specialties. If direct closure is not possible or has already failed the gluteal myocutaneous flap should be considered as the next treatment of choice. It must be designed as large as possible so as not to limit future reconstructive options in the event of a recurrent pressure sore.

References

- 1 Disa JJ, Carlton JM, Goldberg NH. Efficacy of operative cure in pressure sore patients. *Plast Reconstr Surg* 1992; **89**: 272–278.
- 2 Relander M, Palmer B. Recurrence of surgically treated pressure sores. *Scand J Plast Reconstr Hand Surg* 1988; **22**: 89–92.
- 3 Foster RD, Anthony JP, Mathes SJ, Hoffman WY. Ischial pressure sore coverage: a rationale for flap selection. *Br J Plast Surg* 1997; **50**: 374–379.
- 4 Netscher D, Clamon J, Fincher L, Thompson R. Surgical repair of pressure sores. *Plast Surg Nursing* 1996; **16**: 225–233.