ANTERIOR FLAP FOR COVERAGE FOLLOWING HIP DISARTICULATION FOR OSTEOMYELITIS

M. VANCABEKE, L. HARPER, W. PENDERS, P. PUTZ

The use of a posterior myocutaneous flap is the most common method of coverage following hip disarticulation. Other options for coverage following hemipelvectomy have been described mainly when the conventional flap is unavailable owing to tumor involvement. We report a case of hip disarticulation for a decubitus ulcer with underlying osteomyelitis of the proximal femur ; coverage was obtained using an anterior myocutaneous flap. In this case, two previous unsuccessful attempts at wound coverage prior to the hip disarticulation using a lateral and a posterior flap made the anterior flap the best available option for closure. Complete healing was achieved within two months.

Keywords : hip disarticulation ; osteomyelitis ; anterior myocutaneous flap.
Mots-clés : désarticulation de la hanche ; ostéomyélite ; lambeau myocutané antérieur.

INTRODUCTION

Kirk first reported his experience in hip disarticulation in 1943 (1). Several authors have since described modifications improving the technique either by reducing blood loss or by aiding prosthetic use (2, 3, 4). Nowadays, the most commonly used methods of coverage following hip disarticulation use posteriorly-based musculocutaneous flaps from the gluteal region. If the posterior flap is unavailable, use of an anterior myocutaneous flap has been reported. We describe here such a case.

CASE REPORT

A 59-year-old paraplegic and insulin-dependent diabetic male patient presented with a large decubitus ulcer in the region of the trochanter which appeared a few years after intramedullary nailing for a fracture of the femoral shaft. His past medical history revealed a posttraumatic right midcalf amputation, a left femoropopliteal arterial bypass and a peptic ulcer.

At first, a myocutaneous flap based on the tensor fascia lata was used to close the ulcer. The intramedullary nail was removed during the operation. A second attempt was made using a posterior myocutaneous flap.

Both attempts having failed, the patient presented with a recurrence of his trochanteric ulcer which exposed the femur (fig. 1). The various specimens taken showed not only the presence of *Staphylococcus aureus* in the ulcer, but also osteomyelitis caused by *Pseudomonas aeruginosa*. In the absence of any improvement despite appropriate local and systemic treatment (by antibiotics and parenteral nutrition), it was decided after discussion with the patient to perform a hip disarticulation with closure using an anterior myocutaneous flap (fig. 2). After two months' further treatment with antibiotics, full cutaneous healing and a return to normal inflammatory blood parameters was achieved.

DISCUSSION

Coverage following hip disarticulation for osteomyelitis (20 to 30% of hip disarticulations)

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Fig. 1. — Decubitus ulcer before the operation.

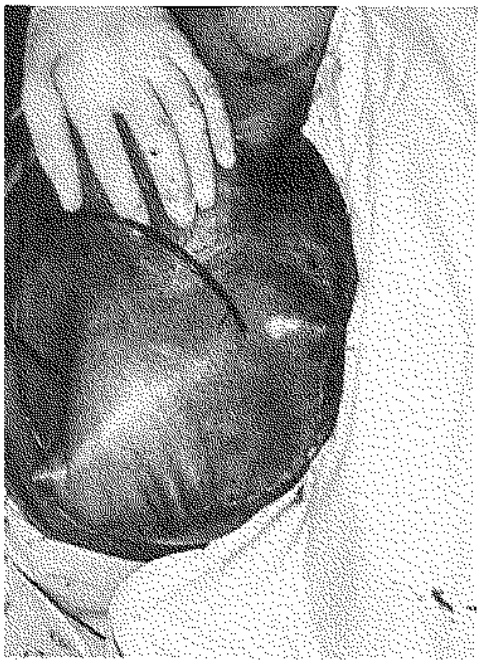

Fig. 2. — Closure with an anterior myocutaneous flap following hip disarticulation.

rarely poses any problems (5, 6). Indeed, hip disarticulation and hemipelvectomy have been performed for the last 50 years with few modifications in either the technique or the indications, with the posterior flap being the most commonly used method of coverage. However, it was originally in cases when tumor involvement of the buttock prevented the use of the posterior flap for coverage after hemipelvectomy that other flaps were described. The use of an anterior flap was therefore first described by Frey in 1976 (7) and then by Sugarbaker and Chretien in 1981 (8). Since then in cases where neither the conventional posterior nor anterior flaps were available, other methods have been reported : an island pedicled myocutaneous flap consisting of tissue from the anterior thigh just above the knee (9), a rectus abdominis myocutaneous flap pedicled on the inferior epigastric vessels (10), an external oblique myocutaneous flap (11), a myocutaneous flap based on the adductor muscles (12) or even in cases of decubitus ulcers, total thigh myocutaneous flaps (13).

In the present case, a lateral and then a posterior rotation flap had been used for wound coverage alone, prior to the hip disarticulation. Therefore, when the hip disarticulation was finally performed, closure using the anterior flap became the best available option. Therefore in cases of osteomyelitis, although the posterior flap remains the best option for closure following hip disarticulation or hemipelvectomy, the anterior flap offers a good alternative if it is unavailable. Furthermore, it is reported to suffer little from skin flap necrosis, and to offer good support for a prosthesis (though in this case a prosthetic aid following the disarticulation was not considered) (14).

In conclusion, we describe the use of an anterior myocutaneous flap for closure of a hip disarticulation defect that was not amenable to closure using the conventional posterior flap.

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SAMENVATTING

M. VANCABEKE, L. HARPER, W. PENDERS, P. PUTZ. Anterieure flap voor bedekking van heup na disarticulatie voor osteomyelitis

Het aanwenden van een posterieure myocutane flap is het meeste aangenezen voor bedekking van een defect na heupdesarticulatie. Andere opties, na hemipelvectomie, werden uitvoerig beschreven wanneer deze klassieke flap onbruikbaar is door tumorale ingroei. We rapporteren een geval van heupdesarticulatie, wegens decubitus ulceratie op onderliggende osteomyelitis van de proximale femorale, behandeld met een anterieure myocutane flap. In dit geval waren twee voorafgaande pogingen voor bedekking van de heupregio na disarticulatie door een laterale en posterieure flap succesvol zodat de beste optie voor sluiten een anterieure flap is. Volledige heling werd bekomen na twee maanden behandeling.

RÉSUMÉ

M. VANCABEKE, L. HARPER, W. PENDERS, P. PUTZ. Utilisation d'un lambeau myocutané antérieur après désarticulation de la hanche pour ostéomyélite.

Le lambeau musculo-cutané postérieur et la technique de fermeture la plus couramment utilisée suite à une désarticulation de la hanche. D'autres options ont été décrites, principalement dans des cas d'hémipelvectomie, quand l'envahissement tumoral rend inutilisable le lambeau classique. Nous décrivons un cas de désarticulation de la hanche pour escarre trochantérien avec ostéomyélite du fémur proximal, avec fermeture par lambeau musculo-cutané antérieur. Dans le cas présent, c'est suite à l'échec de deux tentatives de fermeture de l'escarre, d'abord par un lambeau latéral puis postérieur, que le lambeau antérieur devint la meilleure option disponible pour la désarticulation. La guérison complète fut obtenue après deux mois de traitement.