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Cas Cliniques

Iliac crest skin defect reconstruction with local flap : an unusual technique

Couverture de la crête iliaque par un lambeau local : une nouvelle technique de reconstruction

Auteurs :
Sid'Ahmed Mohamed Limam[1], Yahya Tfeil[2], Abdel Aziz Beyrouk[1], Chivaa Mohamed Khouna Taleb Hama[4], Cheikh Ne[3]

Corresponding author : Sid'Ahmed Mohamed Limam
Head of Trauma, orthopedic & reconstructive unit, Sheikh Zayed's hospital, Nuakchott, Mauritania.
Phone number: + 222 49171711
E-mail: slimam2010@yahoo.fr

Affiliation des auteurs :
[1] Traumatology & Orthopedic and reconstructive surgery unit, Sheikh Zayed's hospital, Nuakchott, Mauritania
[2] Urology unit, Sheikh Zayed's hospital, Nuakchott, Mauritania
[3] Trauma & orthopedic and major burns center, Nuakchott, Mauritania
[4] Internal medicine unit, Sheikh Zayed's hospital, Nuakchott, Mauritania

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Abstract

Background :

Non-traumatic loss of skin and fascia is a challenging situation especially around a mobile joint like the hip, the exposure of the bones and joints pose a risk, especially when confronted with the impossibility of targeted wound healing due to the large surface area that is lost.

Case report :

We present the clinical course of a 65 years old woman, admitted for necrotizing fasciitis of the sacro-iliac area. She first underwent an extensive fasciotomy and drainage of sacro-iliac abscess; she presented with a significant loss of skin, managed by a local flap plasty.

Discussion:

Skin graft is not recommended because it can lead to retractions that can lead to functional impairment and suboptimal aesthetic results. The possible alternative remains reconstruction by a fasciocutaneous flap. A sub umbilical reconstruction flap which is an atypical procedure that was performed there by achieving a complete coverage of the affected area with satisfactory outcome.

Conclusion :

In well-selected cases, the appropriate use of such a flap is the preferable procedure in order to reduce length of recovery and patient morbidity.

Keys words : iliac crest • loss of skin • coverage • flaps

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Résumé

Introduction :

Les pertes de substance fascio-cutanée non traumatiques constituent un challenge thérapeutique, en particulier en regard d'une articulation mobile comme la hanche, la mise à nu des structures nobles (os, articulation, ...) est délétère, surtout devant l'inefficacité de la cicatrisation dirigée en raison de la grande surface perdue et de la mobilité articulaire..

Cas clinique :

une femme de 65 ans, admise pour une fascite nécrosante de la région iliaque sur abcès de l'ilio-psoas; elle a bénéficié d'une nécrosectomie large et d'un drainage de l'abcès iliaque; s'en est suivi une large perte de substance cutanée, une tentative de suture directe s'était soldé par un échec. Une reconstruction par un lambeau fascio-cutané sous ombilical a été réalisée, elle s'est compliquée d'une nécrose de la pointe du lambeau qui a bien évolué après une greffe de peau mince.

Discussion:

La greffe de peau n'est pas recommandée car elle peut entraîner une rétraction; ainsi, l'alternative possible reste la reconstruction par lambeau. Un lambeau sous ombilical inhabituel a été réalisé avec une couverture complète et un résultat satisfaisant.

Conclusion :

Dans des cas bien sélectionnés, l'utilisation appropriée de tels lambeaux est définitivement recommandée pour réduire le temps de guérison et la morbidité du patient.

Mots clés : crête iliaque • perte de substance • couverture • greffe • lambeau

Background

Bone and tissue exposure in the iliac area remains a challenge for plastic surgeons [1] due to various etiological factors such as trauma, malignant skin tumors, soft tissue tumors and infections which is rare [2]. Most repair methods provide inadequate closure of the defect because of the large area of tissue loss and exposure of the iliac crest [3].

There are a few reported cases using a pedicle transverse rectus abdominismyocutaneous (TRAM) flap to provide coverage of the large area of tissue loss. This is achieved by taking advantage of the large, loose and lax nature of the abdominal skin [4].

We report a case of a 65 years old woman, with history of necrotizing fasciitis of iliac crest region associated with a psoas abscess, treated 1 month ago with a large fasciotomy, radical debridement and drainage of the abscess. This was complicated by a large area of soft tissue and skin loss, with large exposure of the iliac crest and the greater trochanter.

We used local rotational fasciocutaneous flap to resolve the problem. Necrosis of the tip at the lower edge of the flap was observed which prompted the use of a skin graft there by achieving complete healing and weight bearing.

Case report :

This is a case of a 65 years old woman, who is otherwise healthy, presenting with a necrotizing fasciitis of the iliac region with a psoas abscess, treated in our department by radical debridement and fasciotomy. Her presentation was complicated by a loss of cutaneous surface area, exposing the entire iliac region from the iliac crest all the way to the greater trochanter into the proximal third of the thigh [image 1]. A suture attempt was made without results. We proceed to a reconstruction using a peninsular rotation flap under the umbilicus. The area of coverage was satisfactory [images 2, 3, 4].

Postoperative outcomes was marked by necrosis of the flap's lower edge [image 5], which we treated with fasciectomy and a thin skin graft. At the patient's last visit the scar was remodeled [image 6]. She could walk without crutches. However, a moderate hip flessum was noted.



Figure 1 : Iliac loss of skin



Figure 2 : Incision & flap's



Figure 3 : End of flap's dissection



Figure 4 : Cover of wound



Figure 5 : Necrosis of the flap's tip



Figure 6 : Final result after skin graft

Discussion :

A review of the surgical literature regarding cases of non-traumatic skin loss shows that the collaborative effort of both plastic and general surgery in the surgical management of such cases is crucial. Reconstruction may be performed in a stepwise manner to achieve satisfactory aesthetic results [5].

The various choices of flap surgery for large iliac crest area skin defect along with the upper part of the thigh with damaged ipsilateral inferior epigastric artery are horizontal pedicle/free TRAM flap from the opposite non affected inferior epigastric artery or bipedicled transverse abdominal flap or a reverse latissimus dorsimus culocutaneous flap [3,5,6].

The choice and the type of flap for any tissue defect with associated exposed vital structures such as nerves, tendons, blood vessels and bones depends on the site, the nature of the lesion [7], the availability of non-injured vascular pedicle, the surgical experience of the performing surgeon and the facilities provided in the hospital. Taking into account the scar of the lateral aspect of the thigh in a reported surgical procedure of a femoral neck fracture as well as the severing of the ipsilateral inferior epigastric artery along with a contusion over the symphysis pubis due to trauma [1], we proceeded to a second surgical intervention that involved the reconstruction by using a peninsular rotation under umbilical flap to give adequate tissue coverage to the large tissue defect over the exposed iliac crest bone extending to the trochanter. This case illustrates that definitive reconstruction can be successfully undertaken, thereby negating the need for large areas of skin graft, which can lead to retractions with consequent functional impairment and suboptimal aesthetic results [1, 3-5].

Conclusion :

Closure of non-traumatic tissue loss with expose diliac crest in the inguinal regionis a surgical challenge for any plastic surgeon. In this case, complete healing of the defect was achieved by optimum use of loose lower lateral abdominal skin fashioned into a transverse flap. In well-selected cases, the appropriate use of such flaps is definitely recommended to reduce healing time and morbidity for the patient.

Références

[1] Sabapathy SR, Venkatramani H, Martin Playa P The use of pedicled abdominal flaps for coverage of acute bilateral circumferential degloving injuries of the hand .Trauma Case Reports 2015, 1(3-4):25-31 DOI: 10.1016/j.tcr.2015.08.001 PMID: 30101172 PMCID: PMC6082436
[cited 2019 Apr 8]. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6082436/

[2] Jun C S, Jeong HS, Woo H H Reconstruction of a Posterior Trunk Defect using a Pedicled Dorsolateral Posterior Intercostal Artery Perforator Flap. Arch PlastSurg2014;41:598-600 [cited 2019 Apr 8]. Available from: https://www.researchgate.net/publication/266567900

[3] Howard D W, Jose C A-E, Brian HC, Ramon A. DeJ. Versatility of Free Cutaneous Flaps for Upper Extremity Soft Tissue Reconstruction. J Hand Microsurg2017;9:58–66. [cited 2019 Apr 8]. Available from : https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5578827/

[4] Prasad V, Morris SF. Propeller DICAP flap for a large defect on the back-case report and review of the literature. Microsurgery. 2012 Nov; 32(8):617–21.

[5] Shin JC, Song JH, Heo WH. Reconstruction of a Posterior Trunk Defect using a Pedicled Dorsolateral Posterior Intercostal Artery Perforator Flap. Arch Plast Surg. 2014;41(5):598–600.

[6] Naik NG, Karandikar S. Bipedicled transverse abdominal flap for coverage of exposed iliac crest due to post traumatic tissue loss in left inguinal region. Int J Res Med Sci. 2016;4(3): 966–8.

[7] Sabapathy SR, Venkatramani H, Martin Playa P. The use of pedicled abdominal flaps for coverage of acute bilateral circumferential degloving injuries of the hand. Trauma Case Rep. 2015 Aug29;1(3–4):25–31.