

Medial Hemisoleus Flap for Middle Third of the Tibia Defects

Imane El Aissaoui* and Samir El Mazouz

Keywords: Medial hemisoleus; Tibia defects; Chronic wound; Spinal anesthesia

Introduction

The anteromedial portion of the tibia lacks significant soft tissue coverage and is susceptible to open wounds which are most often of traumatic origin. In such cases, bone exposure and subsequent infection represent the most dreaded complications [1]. In order to prevent this, the soleus muscle flap, first described by Tobin in 1985, has proved to be an excellent treatment option [2-5].

Technically, the use of the entire muscle is not necessary especially when significant rotation of the flap is required [2,6]. In these cases, the medial hemisoleus which has consistent blood supply is the option of choice to cover the middle third of the tibia defects in order to reduce higher morbidity associated with open tibial fractures [7,8].

The authors report in this presentation a case from the series of patients presented with a chronic wound of the middle third of the tibia following an open fracture. The examination showed a skin defect which measured 8 × 4 cm. The skin around the wound was inflammatory, reddish, and sensitive. The initial attitudes consisted of blood transfusion, broad spectrum antibiotic therapy, analgesics, and anticoagulant prevention with enoxaparin. Adequate protein and carbohydrate caloric intake were ensured thanks to equilibrated alimentation. The patient has benefited from surgical debridements (Figure 1 A). The authors opted for a medial hemisoleus flap under spinal anesthesia in a supine position (Figure 1 B,C and D). The postoperative outcome was favorable.

Department of Plastic Surgery, IBN SINA Teaching Hospital, Rabat, Morocco

*Corresponding Author: Imane El Aissaoui, Department of Plastic Surgery, IBN SINA Teaching Hospital, Rabat, Morocco.

Received Date: 03-09-2023

Accepted Date: 03-28-2023

Published Date: 04-07-2023

Copyright © 2023 by El Aissaoui I, et al. All rights reserved. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

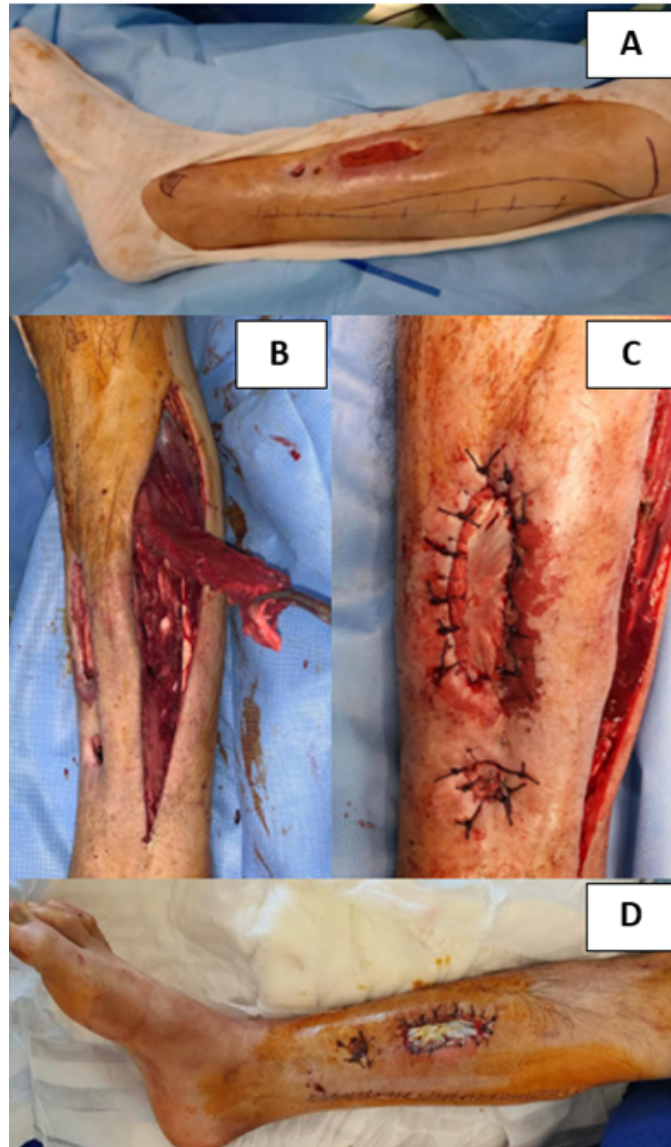


Figure 1: Intraoperative view of skin defect in the middle third of the tibia. A: Wound debridement and landmarks tracing of surgical approach; B: The harvested (medial hemisoleus) flap; C: The flap appearance at the end of surgery with a satisfactory pin-prick test; D: Clinical result at 1 week.

Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki. The authors certify that they have obtained all appropriate patient consent forms.

References

1. Perez JA, Rodriguez P, Liette MD, Masadeh S. Medial Hemisoleus Flap for Middle Third of the Tibia Defects. Clin Podiatr Med Surg. 2020;37(4):621-30. [PubMed](#) | [CrossRef](#)
2. Tobin CR. Hemisoleus and Reversed Hemisoleus Flaps. Plast Reconstr Surg. 1985;76(1):87-96. [PubMed](#) | [CrossRef](#)

3. Calderon W, Chang N, Mathes SJ. Comparison of the Effect of Bacterial Inoculation in Musculocutaneous and Fasciocutaneous Flaps. *Plast Reconstr Surg.* 1986;77(5):785-92. [PubMed](#) | [CrossRef](#)
4. Gosain A, Chang N, Mathes S, Hunt TK, Vasconez L. A Study of the Relationship Between Blood Flow and Bacterial Inoculation in Musculocutaneous and Fasciocutaneous Flaps. *Plast Reconstr Surg.* 1990;86(6):1152-62. [PubMed](#) | [CrossRef](#)
5. Klebuc M, Menn Z. Muscle Flaps and Their Role in Limb Salvage. *Methodist Debakey Cardiovasc J.* 2013;9(2):95. [PubMed](#) | [CrossRef](#)
6. Pu LL. Further Experience with the Medial Hemisoleus Muscle Flap for Soft-Tissue Coverage of a Tibial Wound in the Distal Third of the Leg. *Plast Reconstr Surg.* 2008;121(6):2024-8. [PubMed](#) | [CrossRef](#)
7. Pu LL. Successful Soft-Tissue Coverage of a Tibial Wound in the Distal Third of the Leg with a Medial Hemisoleus Muscle Flap. *Plast Reconstr Surg.* 2005;115(1):245-51. [PubMed](#) | [CrossRef](#)
8. Simon SR, Mann RA, Hagy JL, Larsen LJ. Role of the Posterior Calf Muscles in Normal Gait. *JBJs.* 1978;60(4):465-72. [PubMed](#) | [CrossRef](#)