Lateral Femoral Condyle Fracture and Patella Dislocation in Below-the-Knee Amputation

Case Report

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ABSTRACT: Treatment of a 42-year-old patient with below-the-knee amputation from 15 years ago who presented with lateral femoral condyle fracture and patella dislocation is described. In addition, the advantages of transtibial over transfemoral amputation are discussed.


INTRODUCTION

Amputation results in physical and functional loss and, often, severe psychological trauma caused by an altered and distorted body image. Whether by accident or design, the more proximal the loss that occurs, the greater the likelihood of a progressive reduction in the ability to move, work, and play, and sometimes to survive. Our first responsibility must be to avoid amputation; thus, all possible alternatives must be explored.

After the decision to amputate has been made, efforts should focus on achieving the most distal level consistent with the causal condition and a well-healed nonsensitive stump to reduce energy requirements to ambulate when wearing the prosthesis.3-5

CASE REPORT

A 42-year-old man with traumatic below-the-knee amputation from 15 years ago was examined by the orthopedics department on presentation to the emergency clinic with a lateral femoral condyle fracture and patellar dislocation following a fall (Figure 1). Physical examination revealed no skin problems over the amputation stump. The attempted closed reduction for patella dislocation was not successful. Thus, an emergency operation was planned. While the patient was under general anesthesia, a distal lateral knee incision was made. The lateral condyle fracture was anatomically reduced and fixed with two cancellous screws and a Kirschner wire (Figure 2). After the fracture was repaired, the reduction was assured and the stability checked. Range of motion exercises began on postoperative day one. Postoperative computerized tomography images showed excellent fracture reduction and patellar stability (Figure 3). In the postoperative third month, the lower extremity prosthesis was attached, and the patient was able to walk initially with partial weight bearing and later with full weight bearing.

At the 2-year follow-up, the patient was pain free and satisfied with the outcome of the operation (Figure 4).

DISCUSSION

Below-the-knee amputation is the most crucial of lower limb amputations because it is the most proximal
level by which near-normal function is available to a wide spectrum of lower limb amputees. The consensus is that salvage of the knee joint is of prime importance for successful rehabilitation. However, a disappointingly high proportion of transfemoral, in contrast to transtibial, amputation procedures still occur.

The advantages of the transtibial procedure are well described in the literature. Waters assessed the energy consumption and demonstrated that the more proximal the amputation, the more energy required to walk. The transtibial amputees were more physically active than transfemoral amputees. Other advantages of transtibial amputations are improved balance, ease of attaching and removing the prosthesis, and the likelihood of accurate fitting due to the bony contours.

Extremity fractures of below-the-knee amputees are problematic, particularly for young and active patients. In patients with good function of the knee joint, the treatment of fractures by preserving the knee joint will provide the ability to perform daily activities and will preserve the lower extremity function.

The case presented in this report had a lateral femoral condyle fracture, along with a patella dislocation. The patient requested fracture stabilization, rather than a re-
vision amputation, because he was able to use his knee comfortably before the incident. After the reduction of lateral femoral condyle fracture, the patellar dislocation was reduced, and when union was completed, the patient was able to use his prosthesis without any difficulties performing his daily activities. He returned to his active life before the accident.

REFERENCES


