Abstract  Arthroscopic revision of intra-articular infection is more and more accepted. To our knowledge, there is no description of endoscopic management of an infected amputation stump. This paper presents the case of a 54-year-old man after a Syme amputation of his left leg because of diabetic gangrene of the foot. A local infection of the stump was treated successfully with two endoscopic debridements and lavage. Additionally, the patient received local antibiotics by the application of antibiotic collagenous fleece and chains. This therapeutic management combined with early weight-bearing produced a stable stump.

Key words  Arthroscopy • Syme amputation

Introduction

The human foot is sometimes described as a mirror of systemic diseases [11]. Patients suffering from diabetes mellitus often show symptoms in their feet. Vascular diseases are the most common primary factors responsible for the pathogenesis of foot lesions in diabetic patients [9]. Diabetic patients evidence an arteriosclerosis identical to that in the non-diabetic population, but they develop these lesions earlier and to a greater degree [3]. Capillary disease, which is the usual pathophysiological consequence of arteriosclerotic lesions, may be the prime cause of inadequate vascular delivery, especially to the distal foot [16].

Ischaemic lesions, such as ulcers and even necroses, are easy portals for infecting organisms [11]. Thus, diabetic patients with such ischaemic tissue lesions commonly suffer from intra-articular infections, osteomyelitis and even gangrene. Currently, a radical surgical treatment like amputation is recommended.

Even after radical surgical treatment, however, infection is an important contributing risk factor to the morbidity of diabetic patients with foot problems [11]. Tissue hypoxia and impedance of peripheral perfusion caused by diabetic microangiopathy contribute to the rapid progression of infection and the delayed response to treatment [16]. In the case of a local infection of the stump, quick, adequate surgical treatment is very important to minimize the risk of a re-amputation. Radical debridement lavage is commonly recommended, in combination with local and systemic antibiotics.

Recently, some studies were able to show impressive results with arthroscopic revisions of intra-articular infections [2, 4, 6, 7, 12, 13]. To our knowledge, no arthroscopic revision after a stump infection has been published. We present the case of a patient operated on arthroscopically after an infection of his Syme stump.
Fig. 1 Radiograph, left distal lower leg, anteroposterior (AP) and lateral views; status 11 days after Syme amputation

Fig. 2 Arthroscopy technique of the Syme stump

Fig. 3 Blue-stained infected tissue after methylene blue injection during arthroscopic debridement

Fig. 4 Arthroscopic tibial bone debridement with a burr

Fig. 5 Radiograph, left distal lower leg, AP and lateral views; healed Syme stump without any signs of infection