



DECEMBER 2015

Presentation **DIGEST**

Amputation: Avoidable or Not?

This is a brief summary of a presentation given at the annual conference of the Canadian Association of Wound Care, in Toronto, October 30, 2015. It has been produced with the financial support of Medtronic. The presenters were David Armstrong, DPM, MD, PhD, and Perry Mayer, MB, BCh, CCFP.



The decision to salvage or amputate a diabetic limb is one of the most difficult patients and clinicians face. Determining whether to amputate or not must be made on a case-by-case basis and requires an in-depth evaluation of each individual patient's physical, mental and socio-economic status.

The criteria can be divided into three categories: clinical, patient-focused and systemic. Clinically, peripheral arterial disease and progressing infection are the main reasons for lower extremity amputation, along with clinician ability and priorities. On the patient front, life-style, occupation, age, wishes, attitude, reliability, social support system, access to care and financial resources are

Dr. Mayer: The Italian Case

A 46-year-old male with diabetes was admitted to hospital with a severe limb-threatening diabetic foot infection (DFI). During 40 days in hospital the only treatment was a simple incision and drainage on admission and thereafter povidone iodine compresses to all wounds. X-rays showed osteomyelitis in the base of 4th metatarsophalangeal joint (MTPJ). No vascular studies were done. Infectious disease was consulted and started IV antibiotics. Orthopedics was consulted and recommended below-knee amputation (BKA) to treat the infected diabetic foot. The patient refused amputation despite repeated visits from the orthopedic team.

No further wound care was offered or performed. The only other consult arranged was for psychiatry to assess the patient as the treatment team felt he was not of sound mind because he refused amputation.

After presentation to our centre, vascular supply was assessed as being adequate for healing, glycemic control was optimized, the foot absolutely offloaded and wound aggressively debrided on a bimonthly basis in combination with advanced wound treatment. Within four weeks all wounds were granulated and on a healing trajectory. Wounds were fully healed after 12 weeks. Appropriate shoes and custom orthotics were dispensed and the patient returned to normal activities of daily living.

considerations. Regional/institutional policies may be in place to support or inhibit limb salvage vs. amputation.

The case studies presented here provide insight into some of the factors affecting the decision-making process.

Dr. Armstrong: A Tale of Two Soles

Case 1

A 42-year-old Mexican-American man with diabetes presented to the emergency room with a three-day history of left foot swelling, redness and pain associated with nausea, fever and chills. He reported having stepped on a nail one month prior. The patient was initially managed with oral analgesics and antibiotics and referral to a wound care centre for debridement and dressing changes. His condition failed to improve. The patient was a non-smoker with a history of hypertension, and myasthenia gravis. With an intensive regimen of advanced therapy, his wound had complete healing within three months.

Case 2

A 46-year-old Mexican-American man with diabetes, hypertension and hyperlipidemia presented

to the emergency department with a two-week history of acute progressive constitutional symptoms as a result of an infected plantar left foot ulcer that had been noted to have increased swelling, drainage and foul odour, along with the more recent development of an area of black, blistering skin. The underlying ulceration had been present for approximately one year and resulted from a skeletal malformation of the foot secondary to longstanding Charcot arthropathy. Despite surgical reconstruction of the foot at the time of initial arch collapse and ulceration, the patient had suffered from chronic, intermittent wound breakdown and repetitive infections requiring hospitalization and IV antibiotics. After considering his options the patient decided to undergo BKA in order to return to work so he could provide for his family.

At first glance these two cases might seem quite similar. Their ages, cultural and ethnic backgrounds were nearly identical. They each had a diabetic foot ulcer complicated by severe infection. From a technical and purely surgical standpoint, limb salvage was quite possible in each patient. However, distinct differences relating to the underlying cause, disease duration, bony involvement and architecture, workplace needs, and socio-economic realities resulted in the divergent decision pathways to move forward with a limb salvage approach in one patient and a below-the-knee amputation in the other.

What do these cases tell us?

The decision pathways toward amputation or limb salvage depend on a



number of factors that relate to the expertise and attitudes of the health-care professionals involved, the particular circumstances surrounding the patient and/or the policy realities in the health-care setting. Because the five-year post amputation mortality rate is 50%, every effort, including the use of endovascular advances, should be made where possible to implement strategies for salvaging limbs. With statistics indicating that 85% of non-accidental amputations are preventable, there is much room for improvement in the delivery of limb-salvage activities in the health-care sector. ■



Drs. David Armstrong (left) and Perry Mayer

Presentation Digest is a production of the Canadian Association of Wound Care (CAWC)—info@cawc.net.

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