Untreated Gangrene in Patients With Peripheral Artery Disease

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The extent to which advanced stages of limb jeopardy are routinely tolerated in patients with peripheral artery disease is remarkable, given the emphasis on early diagnosis and therapy otherwise typical of cardiovascular medicine. This practice derives in part from a lack of patient education: patients fail frequently to seek medical consultation despite the development of black feet. In part, however, this practice is a function of physician attitudes: lower extremity ischemia is frequently permitted to progress to gangrene before definitive therapy is recommended. Unfortunately, "definitive therapy" often implies amputation. This was the case for patients whose limbs were photographed at the time of presentation and are illustrated in panels a through h (top two rows) of the accompanying composite figure.

Composite figure showing the extent of severely ischemic alterations that typically develop before patients and/or their doctors seek medical consultation regarding the basis for these findings and possible treatment options. In most of these cases, amputation ultimately was required. In panels i' through l', the appearance of the foot is shown after percutaneous revascularization of the patients whose limbs were photographed at the time of initial presentation shown in i through l in the row above. These patients illustrate one of the most difficult groups of patients seen by specialists in vascular medicine. Earlier diagnosis and institution of therapy clearly are required to prevent the development of such extensive disease, if the risk of amputation in these patients is to be reduced. It should be recognized, however, that when the extent of disease has reached even this degree, amputation and/or bypass surgery are not the only available treatment options. Percutaneous revascularization often may be successful in rescuing limbs of these patients; regardless of the subsequent incidence of restenosis, in the absence of recurrent foot, ankle, or lower leg trauma, such lesions will often remain clinically silent after satisfactory healing.
Earlier diagnosis and consideration of alternative therapies are required if the risk of amputation in these patients is to be reduced. In particular, it is important to understand that amputation and/or distal bypass surgery are not the only available treatment options. Percutaneous revascularization may often be successful in rescuing the limbs of such patients. The photographs shown in panels i through l (row three of composite figure) illustrate the appearance of gangrenous extremities at the time of referral for percutaneous revascularization; panels i' through l' (row four) show photographs obtained at 5, 24, 24, and 36 months, respectively, after eximer laser angioplasty performed successfully in each of these four patients. Even when restenosis complicates the subsequent course of these patients, the integrity of the healed site typically is preserved in the absence of lower extremity trauma. Moreover, even in far-advanced cases of gangrene in which total limb integrity cannot be fully preserved, percutaneous revascularization may often improve distal perfusion sufficiently to advance the site of amputation distally by facilitating healing of the residual stump. Ambulatory mobility and associated physical independence of the patient is thus optimized.

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Images in cardiovascular medicine. Untreated gangrene in patients with peripheral artery disease.

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Circulation. 1994;89:482–483
doi: 10.1161/01.CIR.89.1.482

Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
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