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Non-operative Treatment of Advanced Limb Ischaemia: the Decision for Palliative Care

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Objectives: to identify and describe patients with advanced limb ischaemia who were selected for palliative care, rather than surgical intervention.

Design: case-note review of patients identified from a prospective register.

Materials and methods: thirty patients (22 female; median age 87 years) were identified during 1993–1998, for whom a clearly documented decision was made for palliative care, rather than major amputation or possible revascularisation.

Results: two-thirds of the patients had limiting cardiac problems, two-thirds were immobile, and 47% had suffered a stroke. Half had three or more important co-morbidities. Twelve (40%) had unsalvageable acute ischaemia. There were clear records of the decision about non-intervention being made by a consultant in 87%; being discussed with the patient in 43%; and with known relatives in 90%. Survival after this decision ranged from <24 hours to 42 days (median 3.5 days).

Conclusion: there is a small subgroup of patients with advanced ischaemia who are best treated palliatively, and who have not been well described before. Recognising these patients, recording discussions about their management, and a high standard of terminal care are all important.

Key Words: Amputation; Arterial disease; Palliative care.

Introduction

The definitive treatment of a severely ischaemic limb is usually revascularisation (if possible) or amputation. For some patients, however, limb ischaemia may be one part of the process of dying.¹ Neglected acute ischaemia of the whole of one or both lower limbs is usually a fatal condition. Patients whose life might be saved by major amputation may refuse surgery. Acute-on-chronic limb ischaemia may be caused by another premorbid condition, such as myocardial infarction with cardiac failure, or it may occur in a patient who is chronically too ill and frail even to contemplate a major operation.

Both quality of life and operative risk are important factors in deciding when to choose palliative care in preference to surgery.^{2,3} Such decisions are never easy and should involve the patient's family, carers, and all members of the team looking after the patient in hospital – in addition to the patient, whenever this is practical.

We realised several years ago that these patients often escaped documentation: frequently because they were seen as vascular surgical referrals on other hospital wards, and never came formally under the care of a vascular surgeon. This omission was one of the stimuli for starting a comprehensive register of all patients seen outside the normal outpatient clinic and surgical admission system in our vascular unit.

Recently, Davies *et al.*⁴ have drawn attention to the lack of published information about patients with critical limb ischaemia for whom only palliative care is offered. We present details of a consecutive series of patients with limb ischaemia for whom decisions were made for palliative and terminal care, rather than amputation or attempted revascularisation.

Patients and Methods

Surgical referral of all patients with limb ischaemia in the Exeter district is to two consultant vascular surgeons – either directly from primary care, or by referral from other hospital consultants. Since 1993 a prospective handwritten register has been kept of all

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referrals, in addition to the computerised records of patients booked through outpatient clinics. This register includes a note of a management plan and/or definitive treatment. The register was scrutinised for the six years 1993–1998 inclusive, selecting patients for whom a diagnosis of limb ischaemia was not associated with a record of vascular investigation (usually arteriography), treatment (revascularisation or amputation), or a note that the situation was not sufficiently severe for intervention. Casenotes of all these patients were reviewed.

Patients included in this study were those for whom a clear written record was found of a decision to offer palliative or terminal care, rather than to revascularise or amputate a severely ischaemic limb. Thirty such patients were identified – eight male and 22 female, aged 55–95 years (median 87 years). During the same time interval, some 700 surgical revascularisation procedures and 300 major amputations were done for arterial occlusive disease on our unit.

The following information was recorded for each patient, as documented in the medical notes and nursing record:

Domicile prior to admission
 Existence of a relative or carer
 Referring specialty
 Major comorbidities
 Mobility
 Details of the ischaemic limb
 The decision for palliative care:
 most senior doctor involved
 discussion with patient and/or their relatives
 main reason for the decision
 Place and nature of subsequent management
 Interval between the decision for palliative care and death.

Results

Before admission to hospital 16 (53%) patients were living in their own home – five independently and 11 with carers. Three (10%) were cared for in residential homes, and 10 (33%) were dependent on nursing care in nursing homes. The domicile of one patient was unknown. Overall, 24 (75%) were recorded as having a close or caring relative. Twenty patients (67%) were documented as immobile (unable to stand or walk, or only able to do so with help), while nine were independently mobile, and the mobility status of one was unknown.

Table 1. Referring specialties.

Specialty	Number of patients
Surgery	13
Medicine (including neurology)	9
General practice	6
Dermatology	1
Oncology	1

**Table 2. Major comorbidities:
 (a) numbers of patients affected by each comorbidity.**

Type of morbidity	Number of patients
Cardiac	20
Stroke	14
Respiratory	11
Diabetes	8
Renal failure	7
Malignancy	6
Dementia	5
Parkinson's disease	1
SLE	1

(b) numbers of comorbidities per patient.

Number of comorbidities (above)	Number of patients
1	9
2	6
3	9
4	5
5	1

The specialties who referred the patients for vascular surgical advice are shown in Table 1. Table 2 shows the major comorbidities of the patients.

Twelve patients (40%) presented with acute ischaemia but an unsalvageable limb. Among those with a more chronic history, six (20%) had gangrene of all or part of the foot, two had extensive ulceration or necrosis, and 10 had severe ischaemia with rest pain but no gross trophic lesions.

A consultant vascular surgeon was recorded as being directly involved with the decision for palliative care in 26 (87%) patients: one decision was made by a senior registrar and three by registrars. Consultation with an anaesthetist was documented in two cases. Discussion about the decision for palliative care with the patient was recorded in 13 (43%) cases, and with the relatives in 22 of those with known close relatives (90%).

Treatment after the decision not to intervene surgically was by analgesics alone (usually opiates) in 22 (73%) and expectant care in six (20%). One patient was given antibiotics and one patient heparin for a period of time after the decision for palliative care. Most patients – 21 (70%) – were managed in the acute hospital until the time of their death, but six (20%)

went to nearby community hospitals and two (7%) returned to their own homes.

The interval between the decision for palliative care and death ranged from less than 24 h (in seven patients) to 42 days, with a median of 3.5 days.

Discussion

All surgeons recognise that there are a few patients for whom advanced limb ischaemia is best left untreated,^{1,4,5} either because death is inevitable, because the chance of survival is minimal, or because quality of life is already tragic.

Recognising the patient who will inevitably die is an important skill,^{1,2} and depends on clinical experience. When a confident diagnosis of imminent death is made, then the medical decision to withhold treatment is straightforward, and the main tasks are provision of good analgesia and sympathetic counselling of the family. Patients who reasonably refuse intervention after careful advice and families who decline treatment for a terminally ill relative create circumstances in which decision-making is also relatively uncomplicated. The most difficult patients are those for whom the balance of medical and humanitarian considerations sway against intervention, but for whom amputation might save life, albeit of very poor quality. When these patients and their families turn to surgeons for advice, they need a clear but sensitive prognosis of what is likely to happen if operation is done, or if palliative care alone is used, together with guidance on which seems "best" from a medical point of view. Many patients are too ill or mentally compromised to contribute to this discussion; if their relatives concur with a plan for palliative care, then it seems kind to tell them that they should not feel the burden of this decision – it is medical advice with which they have agreed.

The National Confidential Enquiry into Perioperative Deaths³ has highlighted the need to make thoughtful decisions against operation for some patients. These decisions should be made at a senior level, and direct involvement of a consultant surgeon was recorded in 87% patients in this series. Like decisions about resuscitation,⁶ the patient should be consulted whenever this is practical and reasonable (43% in this series). Discussions both with close relatives (recorded in 90%), with other carers, and with the nursing and other members of the hospital team are also fundamental. It is vital that these discussions are recorded in the notes: first, to make the management

plan clear to anyone involved with the patient; secondly for subsequent audit (for example, the present study); and third for medicolegal purposes.

Our patients constituted a very elderly group (median 87 years) and the majority had multiple comorbidities affecting both their chances of survival and their likely quality of life. In particular, two-thirds were immobile, two-thirds had limiting cardiac disease, and the prevalence of stroke was high (47%). In this context it is interesting to note that advanced age, major amputation, and stroke were the three significant predictors of poor survival in a recent major study of patients with critical limb ischaemia.⁷ Most of our patients would have faced amputation, for which there is a substantial perioperative mortality in the very elderly,⁴ especially in a setting of irreversible acute ischaemia.⁸

Although there are occasional references to palliative care for selected patients with advanced acute⁵ and chronic^{1,4} ischaemia, we can find no other publication which presents explicit details about them. They are perhaps patients whom surgeons would prefer to forget, and they constitute a very small proportion of those referred with critical ischaemia: during the six-year interval of this study 317 major amputations were performed by our unit, compared with the 30 patients treated palliatively. It is important not only to recognise this group of patients, but to offer them the best possible care: this may mean involvement of an acute pain team, specialists in palliative care, hospice facilities, or occasionally a high level of medical and nursing support in their own home. Vascular trainees should be educated in these principles, so that they can manage these patients sensitively and well.

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