

Comment

The prevalence (60%) of echocardiographic abnormalities in every sixth case with left atrial or ventricular thrombi in this comparatively young patient sample was high. Given that three quarters of all patients under 50 in our catchment area who suffered from ischaemic strokes were included in the study, the figures may be regarded as fairly representative of this age group. The association of echocardiographic abnormalities with the predictors used seems proved. The presence of two or more predictors meant a 90% probability of an abnormal echocardiogram. On the other hand, 11 of the 34 patients without a predictor had an unexpectedly abnormal echocardiogram, one in five showing a left atrial or ventricular thrombus. In contrast with earlier findings,³ the carotid angiograms had no predictive value.

We conclude that echocardiography is worth while in ischaemic cerebrovascular disease. Because of the low incidence of cerebral ischaemia in patients aged under 50 (around 10 cases/100 000 a year) all these patients may be examined without undue demands on resources. Older patients may be selected for examination by using the predictors listed above. Echocardiography may be a decisive factor in choosing treatment, though the place of anticoagulants remains controversial.

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Transcutaneous electrical stimulation for ischaemic pain at rest

Patients with critically ischaemic legs often develop severe continuous pain at rest. Pain relief is often provided with intramuscular injections of opiates, which can lead to excessive drowsiness and respiratory problems before major surgery. Transcutaneous electrical stimulation can provide effective relief in several chronic pain syndromes¹; furthermore, electrical stimulation of the nervous system may affect blood flow to the extremities.² We report our initial findings of electrical stimulation on pain in patients with severe peripheral vascular disease.

Patients, methods, and results

Twenty consecutive patients who had had two weeks' continuous severe pain at rest in a critically ischaemic foot were allocated randomly (from a table of random numbers) to one of two groups within two hours of admission. One group received transcutaneous electrical stimulation for 48 hours and the other received sham stimulation. Both groups had equal access to intramuscular morphine 10 mg on demand if pain relief was inadequate. An index of ankle brachial systolic arterial pressure was measured with a Doppler probe before treatment. Pain was assessed every 12 hours on a standard 100 mm linear analogue scale³; patients were asked to record the average amount of pain experienced over each 12 hour period, and morphine requirements were noted. Two pregelled six inch electrodes were applied longitudinally to the thigh of the ischaemic leg, and transcutaneous stimulation was provided by a Wright Care transcutaneous electrical stimulation system (Dow Corning Wright, Berkshire). All patients had a short demonstration on the use of the device and were told that they might experience a tingling sensation. The light indicator on the stimulation device was covered by an opaque material, and the polarity of the batteries in the device was reversed for the patients receiving sham treatment.

Ten patients (mean age 64, range 44-75) received sham treatment and 10 (mean age 68, range 62-82) transcutaneous stimulation. There were four men and nine smokers in the control group and six men and seven smokers in the treatment group. Four patients in each group had had vascular surgery. In the control group (mean pressure index 0.16, range 0.0-0.54) eight patients had severe ischaemic changes in the feet while seven patients in the stimulated group had ulceration of

Mean (range) linear analogue pain scores in millimetres

	Initial	12 h	24 h	36 h	48 h
Sham group	70(30-100)	53(15-100)	58(20-99)	52(12-83)	49(10-91)
Stimulated group	72(43-100)	44(27-71)	29(5-55)	35(10-55)	30(3-48)
Mann-Whitney U test	NS	NS	p<0.02	p<0.05	NS

the toes or gangrene (mean pressure index 0.29, range 0.0-0.54; no significant difference). There was no significant difference in mean analogue scores for pain before randomisation (table). The mean of the four pain scores for each patient during treatment was 52.9 mm (range 15.5-82) in the sham group compared with 34.3 mm (range 11.3-53.5) in the stimulated group (p=0.06, Student's *t* test; 95% confidence interval -1.2 to 38.4). Patients receiving stimulation showed a trend towards lower linear analogue scores, which was significant at 24 and 36 hours (table). Six patients in the sham group compared with two in the stimulated group required supplementary analgesia (p=0.1698, Fisher's exact test). The mean morphine requirements were 3 mg (range 0-20 mg) in the group receiving stimulation compared with a mean of 23 mg morphine (range 0-60 mg) in the control group (0.05<p<0.06, Mann-Whitney U test). No untoward side effects were noted. All patients underwent arteriography at the end of the study and reconstructive surgery during their admission.

Comment

Urgent revascularisation is essential in patients with critically ischaemic feet. While they are awaiting angiography and assessment of fitness for vascular reconstruction pain relief is often provided by the intramuscular injection of opiates, with the attendant risks of respiratory depression, drowsiness, and bronchopneumonia. Alternative methods of providing analgesia without these side effects—for example, epidural morphine⁴—have not gained widespread acceptance because of the technical skill that is often required. In our study transcutaneous stimulation was found to be simple, safe, non-invasive, and acceptable to both patients and nurses. It may be of value in the treatment of rest pain, producing good pain relief and reducing narcotic requirements for patients awaiting reconstructive surgery.

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Discovery of occult legionella pneumonia in a long stay hospital: results of prospective serological survey

Pneumonia is the most common infection associated with death in the elderly, and legionellae are known to be a common cause. Legionnaires' disease was diagnosed by sputum culture and antibody seroconversion in a patient with acute pneumonia, who had been transferred to our hospital from a long stay hospital. As a result we initiated a prospective serological survey of all patients with nosocomial pneumonia in that hospital to determine whether legionella pneumonia was present but undiagnosed.

Methods and results

The study was performed from September 1984 to June 1985 in a 432 bed hospital for the long term care of elderly people, mostly men. Patients with fever or respiratory symptoms were sought daily. They were considered to have pneumonia if, in addition to a new pulmonary infiltrate, they fulfilled two major