

Why use a pain clinic? Management of neurogenic pain before and after referral

Huw T O Davies MSc¹ Iain K Crombie PhD¹ William A Macrae FFARCS²

¹Department of Epidemiology and Public Health, Dundee University and ²Department of Anaesthetics, Ninewells Hospital and Medical School, Dundee DD1 9SY, Scotland, UK

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Summary

Pain arising from damage or malfunction of the nervous system (for example postherpetic neuralgia, peripheral nerve injuries and the neuropathies) is often severe and resistant to standard analgesics. These patients are commonly seen in pain clinics where they receive a variety of treatments including psychotropic drugs (such as antidepressants and anticonvulsants), nerve blocks and stimulation. There is concern that the management of these difficult patients may be less than optimal where they are not seen by pain specialists.

We examined a cohort of 703 patients with long-established nerve-damage pain seen in ten outpatient pain clinics. We compared their use of treatments prior to referral with the management given in the pain clinic. The majority of patients (79%) had had their pain for over 1 year before being seen in the pain clinic, yet many had not tried simple and effective treatments prior to referral. Less than a quarter had received an adequate trial of antidepressants; only one in seven had been appropriately treated with anticonvulsants; and only one in 10 had tried a nerve stimulator. All these treatments were frequently provided in the pain clinic.

Referral of patients with nerve-damage pain to a pain clinic may greatly increase their access to therapies of proven value.

Introduction

Nerve-damage (neurogenic or neuropathic) pain is often severe and debilitating, and is commonly seen in pain clinics¹. It arises as a result of injury or dysfunction of the central or peripheral nervous system², and includes causalgia, postherpetic neuralgia, and the neuropathies. Even when no clear diagnosis is possible, neurogenic pain may be suspected if the pain is described as burning, tingling or shooting in nature, or if sensory disturbances are present.

Understanding about the pathophysiology and management of neurogenic pain is fairly recent³. Established treatments include antidepressants, anticonvulsants and stimulation^{4,5}. Widely used but unproven therapies include sympathetic blockade⁶, acupuncture⁷ and physiotherapy. Psychological therapies are now well recognized as being effective in dealing with the behavioural and cognitive aspects of the pain patient⁸.

There is clear evidence that neurogenic pain is not always well managed^{9,10}. In addition, surveys of clinicians who treat neurogenic pain have revealed much confusion and doubt about the value of therapies^{11,12}. This may prevent patients from receiving adequate care¹³.

The problem is not just whether patients try therapies, but whether they have them in an appropriate manner. For example, anticonvulsants are effective against trigeminal neuralgia, but whether they can be used successfully depends on the patient's tolerance of their side-effects. Thus appropriate prescribing of anticonvulsants should include careful dose escalation, monitoring of side-effects and recording that therapeutic levels have been achieved¹⁴. Similar prescribing considerations are important for antidepressants.

In this study, we examined the access of patients to the common treatments and the adequacy of use of these therapies. We looked at the management of neurogenic pain patients before and after referral to an outpatient pain clinic.

Methods

The study was carried out in 10 outpatient pain clinics in Scotland and the north of England between June and December 1992, using methods described in detail elsewhere¹⁵. All outpatients seen with neurogenic pain had information recorded on the nature and duration of pain, number of visits made to the pain clinic, and treatments tried, both prior to referral and during management at the clinic. The data were collected by the consultant (almost always an anaesthetist) using the patient's case notes and direct questioning of the patient.

Chronic pain patients have extensive medical histories and collecting detailed data on previous management which are both accurate and complete is impractical¹⁶. Thus only two questions were asked about the use of each treatment prior to referral: was the treatment used? (*yes, no, unsure*) and, if it was used, did the patient have an adequate trial of the treatment (*yes, no, unsure*). Adequacy of previous use was assessed using the subjective judgement of the pain clinic consultant based on all the currently available information.

The main analysis focuses on the proportion of patients who received an adequate trial of each treatment prior to referral, compared to the proportion who tried the treatments during pain clinic management. Pain clinic treatment was assessed separately for those patients who had made just one or two visits to the clinic and those who had made three or more. Differences are assessed using McNemar's test for paired proportions.

Table 1. Adequacy of management prior to referral to a pain clinic. Pain clinic consultants tried to gather information on prior management from all 703 patients seen with neurogenic pain

Treatment	(A) No. of patients with information on whether treatment tried (% of total)	(B) No. given treatment prior to referral (% of A)	Number who had an adequate trial (% of B)			(C) Adequate trial of treatment prior to referral to pain clinic (%)*
			Yes	No	Unsure	
Antidepressants	599 (85.2)	231 (38.6)	117 (50.6)	37 (16.0)	77 (33.3)	22.4
Anticonvulsants	607 (86.3)	184 (30.3)	77 (41.8)	27 (14.7)	80 (43.5)	14.6
Strong opioids	581 (82.6)	110 (18.9)	75 (68.2)	6 (5.5)	29 (26.4)	13.6
Temporary sympathetic nerve blocks	627 (89.2)	27 (4.3)	11 (40.7)	3 (11.1)	13 (48.1)	1.8
Other local anaesthetic and/or steroids	630 (89.6)	75 (11.9)	37 (49.3)	4 (5.3)	34 (45.3)	6.2
TENS	631 (89.8)	123 (19.5)	63 (51.2)	16 (13.0)	44 (35.8)	10.7
Acupuncture	633 (90.0)	39 (6.2)	13 (33.3)	2 (5.1)	24 (61.5)	2.1
Physiotherapy	623 (88.6)	200 (32.1)	107 (53.5)	2 (1.0)	91 (45.5)	20.1
Psychological therapy	621 (88.3)	21 (3.4)	8 (38.1)	2 (9.5)	11 (52.4)	1.3

*Percentage of those where information available on the use and adequacy of treatments is given
TENS=Transcutaneous electrical nerve stimulation

Results

A total of 703 individual patients with neurogenic pain were seen in the ten pain clinics during the 6 month period. At the time of observation, half the patients (52%) were new referrals, but about a third (36.7%) had already been seen in the pain clinic on at least two previous occasions. Most patients were referred by their general practitioner (54%), but over 10 different hospital specialties also sent patients, the most frequent being orthopaedic surgery (17%), general surgery (9%) and neurosurgery (8%).

Peripheral nerve injury (26%), chronic sciatica (22%), postherpetic neuralgia (12%), causalgia (7.3%) and neuropathy (5.3%) were the commonest conditions. About one patient in six (17.5%) could not be given a specific diagnosis; one patient in 20 (5.3%) had two neurogenic pain conditions.

Many patients had been in pain for long periods before being seen at a pain clinic: only 8% of patients were seen within 6 months of pain onset; four-fifths (79%) had had their pain for over 1 year before being seen.

Information was available for over 80% of patients on whether treatments had been tried prior to the pain clinic referral (Table 1). Over 30% of patients had been given antidepressants, anticonvulsants and physiotherapy; less than 5% had received temporary sympathetic nerve blocks or psychological therapy (Table 1). However, the adequacy of any previous treatment use was frequently in doubt. For example, although 231 patients were known to have tried antidepressants, only half had had an adequate trial in the opinion of the consultant in the pain clinic. Anticonvulsants and transcutaneous electrical nerve stimulation (TENS) were also often identified as being inadequately used. Thus despite the long periods since pain onset, less than one-quarter of patients had tried antidepressants adequately before referral to the pain clinic; only one in seven had tried anticonvulsants, and only one in 10 had had an adequate trial of TENS (Table 1).

The limited use of antidepressants and anticonvulsants prior to referral is in marked contrast with pain clinic management (Figure 1). After being seen in the pain clinic on three or more occasions, 69% had tried antidepressants and almost half (45%) had tried

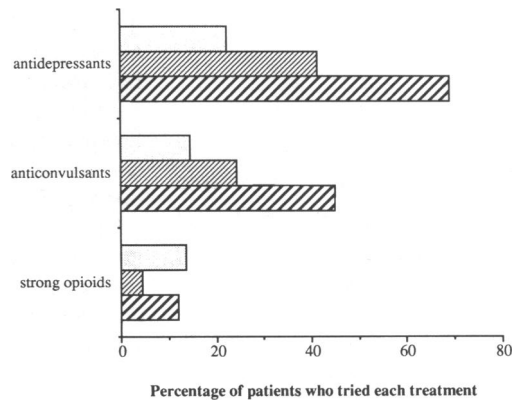


Figure 1. Use of drugs pre- and post-referral to a pain clinic. □ = Adequate trial pre-referral to a pain clinic; ▨ = after one or two visits to a pain clinic; ▩ = after three or more visits to a pain clinic

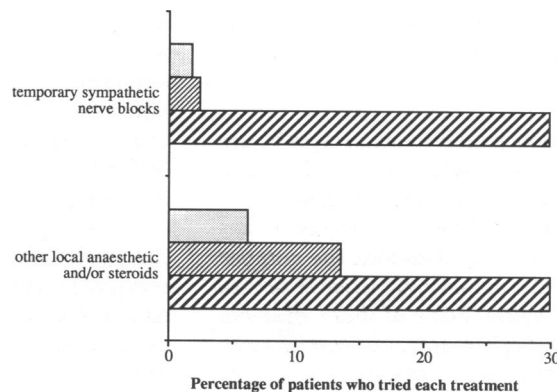


Figure 2. Use of injections pre- and post-referral to a pain clinic. See Figure 1 for key to symbols

anticonvulsants ($P < 0.001$ in each case). Other differences were even more striking (Figure 2). Less than 2% of patients had received an adequate trial of sympathetic nerve blocks prior to referral, and only 6% had tried injections of local anaesthetic or steroids. After referral to the pain clinic almost a third of patients received these treatments ($P < 0.001$ in each case).

TENS was also widely used in the pain clinics (Figure 3): 66% of patients had tried TENS by their

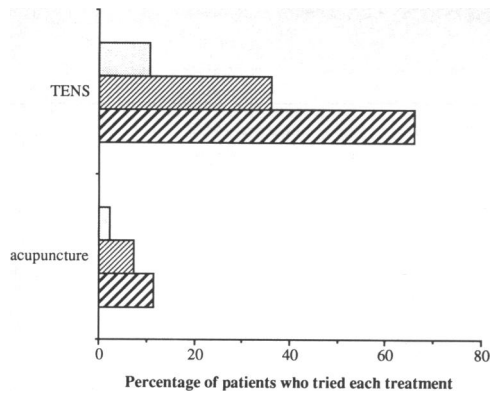


Figure 3. Use of stimulation pre and post-referral to a pain clinic. See Figure 1 for key to symbols

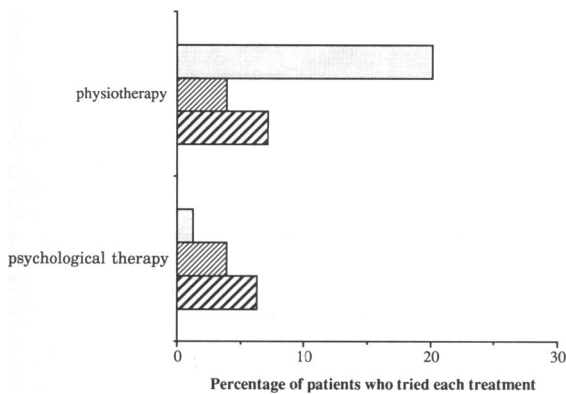


Figure 4. Use of physiotherapy and psychological therapy pre and post-referral to a pain clinic. See Figure 1 for key to symbols

third visit, compared to only 11% who had received an adequate trial of TENS pre-referral ($P < 0.001$). However, the neurogenic pain patients in this study rarely got the chance to try acupuncture: just 2% had had acupuncture prior to referral and still only 11% had tried it after three or more visits to the pain clinic. Physiotherapy and psychological therapies were likewise not routinely available for neurogenic patients within these pain clinics (Figure 4).

Discussion

Patients suffer neurogenic pain for long periods before they are even referred to a pain clinic, and endure additional delays while they wait for their first appointment¹⁷. The main finding of this study is that referral to a pain clinic greatly increases the number of treatment options, giving patients greater access to therapies of proven value. Some of these effective treatments such as antidepressants, anticonvulsants and TENS could be given outside of pain clinics. Our study suggests that this often does not happen. Even when appropriate therapies had been tried prior to referral, they had often not been used adequately.

Management prior to referral may be worse than assessed by the pain clinic consultants. The pain clinic consultant used all the available information from the patient, the referral letter and the case notes to determine if previous treatments had been used appropriately. Using subjective judgements in this way has been shown to uncover fewer cases of inappropriate care than when explicit criteria are used¹⁸.

The management patients received prior to referral was not always easy to assess. This in itself poses a

problem: if pain clinic consultants cannot gain a clear idea of previous management how can they plan the future direction of treatments? More effective communication between the referrer and the pain clinic, including clear details of the therapeutic options already pursued, should prevent omission or unnecessary repetition of treatments in pain clinics.

Despite the obvious benefits to patients of pain clinic referral (increased access to treatments), some areas of concern emerge. For example, the mainstays of neurogenic pain treatment, antidepressants and TENS, were tried by less than three-quarters of patients, even after they had been seen on three or more occasions. We cannot be sure that all patients in pain clinics who may benefit received the appropriate treatments, or that treatments were always administered quickly, carefully and correctly to maximize that benefit. Further studies are needed to examine the adequacy of care within pain clinics themselves.

The major weakness of pain clinics revealed by this study is the paucity of psychological assessment and management. One of the clinics in this study found a third of their patients had sufficient symptoms to be classified as psychiatric cases and a further quarter had minor neurotic symptoms and features of illness behaviour¹⁹. Another UK study also found high levels of mental illness in pain clinic patients²⁰ and showed that their presence and severity may be underestimated by the pain clinic anaesthetists.

Psychological interventions have been shown to give good results for chronic pain⁸. Yet less than 10% of the neurogenic pain patients in this study had tried any psychological therapies even after three or more visits to the pain clinic.

The major barrier to the use of psychological therapies is lack of resources²¹. Only two clinics in this study had a psychologist or psychiatrist on the pain clinic team (and in one the psychologist left without being replaced). Psychological therapy in the other clinics consisted mostly of relaxation and biofeedback delivered by an anaesthetist. The scope for forward referral for psychological assessment and management was also strictly limited because of a shortage of local expertise. Pain clinics in the UK have a long way to go before they will reach the standards for multidisciplinary pain treatment facilities set out by the International Association for the Study of Pain²².

Our data provide a novel approach to illuminating the contribution of pain clinics. Evaluating pain services in terms of clinical outcomes is essential but has many methodological pitfalls²³. Yet health services can also be assessed using measures of process²⁴: *what is it that pain clinics do to patients that others cannot or do not do?* This study suggests that neurogenic pain patients seen in pain clinics have greater access to previously untried treatments of potential therapeutic benefit.

Accumulating evidence suggests that the early treatment of nerve-damage may prevent some of the central and peripheral changes which make chronic neurogenic pain so difficult to relieve²⁵. Pain clinics need to raise the profile of their services to encourage the early referral of patients with neurogenic pain. Any increase in referrals, especially urgent referrals, will however require a corresponding increase in resources, as pain clinics are already substantially over-burdened¹⁷. Local initiatives to develop referral

guidelines²⁶ and protocols for early drug management (eg specifying indications, compounds and dosing information) may do much to ensure that patients with neurogenic pain have speedy access to effective pain relief.

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