

Field research in humanitarian medical programmes

Treatment of neuropathic pain in Sierra Leone

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Abstract

A pilot study was carried out among 223 war wounded and amputees in Sierra Leone in 2001 to investigate whether an intervention using proven medication for clinically diagnosed neuropathic pain would work in a developing country with limited health services. Compliance with medication was assessed in 79 patients and their pain and mood scores were assessed by questionnaire before medication and 6–10 months later. The pain and mood scores of 33 patients who stopped taking medication were compared for the initial and follow-up assessments indicating that, although the scores showed an improvement at follow-up, there was no significant improvement. Compliance was reasonable in 46 patients who continued with their medication, with 86.5% of possible doses collected, although many had difficulty understanding how to take the drugs properly. Their pain and mood scores showed significant improvement at reassessment indicating that pain will be reduced with a longer duration of treatment. This study showed that it is possible to run an effective intervention for neuropathic pain in Sierra Leone with intermittent expert involvement and MSF have been able to develop a protocol for the assessment and treatment of neuropathic pain that may be useful in other difficult settings in which they work.

Keywords: amputation, neuropathic pain, amitriptyline, carbamazepine, Sierra Leone

Introduction

Pain clinics are a recent development in western medicine and they have been integrated into well-established medical care systems that are already providing many other services. In some developing countries there are virtually no health services, but many patients suffer chronic pain. Sierra Leone is a West African country that has been torn apart by civil war over the last 10 years (de Jong *et al.*, 2000). Terror was used extensively on the population and amputation, particularly upper limb amputation usually with a machete or axe at gun point, was widespread. There was a peaceful election in May 2002.

Médecins Sans Frontières (MSF) has been working in Sierra Leone for over 8 years. The Murray Town War Wounded and Amputees camp in Freetown housed approximately 150 upper limb amputees together with their families as well as other people injured in the conflict. We undertook a pilot study to investigate whether it is possible to treat patients with neuropathic pain, using proven therapy, in a developing country where the health care infrastructure had been virtually destroyed by war.

Methods

Previous studies conducted in 2000 had identified that pain was a problem for many of the amputees (Lacoux *et al.*, 2002). In January 2001, an intervention was introduced for neuropathic pain which included assessment, explanation, and medication (amitriptyline and carbamazepine). These drugs were chosen for their efficacy (McQuay *et al.*, 1995, 1996) and because they were on the MSF essential drugs list.

Interviews were conducted via interpreters who had been trained in the use of questionnaires. Some of the measures used for pain or mood were translated into the common local language, Krio, an adaptation of the English language. For pain a Krio word scale, 'none, small, half half, and serious', and a number scale, 0–10, were used. For mood a Krio visual analogue scale (VAS) was developed (Figure). Comprehension was sometimes a problem with these methods.

When the clinical diagnosis of neuropathic pain was made, medication was offered. Those who were started on medication returned weekly for their tablets. Dosage was escalated as follows: level 1, amitriptyline 25 mg and carbamazepine 200 mg once daily; level 2, amitriptyline 50 mg and carbamazepine 200 mg twice daily; level 3, amitriptyline 75 mg and carbamazepine 200 mg 3 times a day. At each weekly review patients could remain on their current dosage level or move to an adjacent level. The same doses of amitriptyline were used alone in women of childbearing age as carbamazepine is occasionally associated with neural tube defects.

Outcome was assessed 6–10 months later in November 2001, and we investigated compliance, pain, mood, and function.

Results

Two hundred and twenty-three patients (171 male, 52 female, mean age 38 years, range 2–75 years) were seen for initial assessment in 2001; 128 were upper limb amputees with 23 bilateral. The initial assessment for most patients was made in the period January–March 2001. After the initial assessment, 55 patients were never started on medication (group 1) leaving 168 to possibly start medication and be reassessed at a later date. Group 2 consisted of those patients who started medication and then stopped and group 3 of those who started medication and continued. In November 2001, 83/168 (49.4%) patients were reassessed, including 53 upper limb amputees.

Follow-up is difficult in a country where large population movements due to war are occurring but, fortunately, the population in this camp was relatively stable. There was movement over time of patients between our designated groups, especially those who dropped-out from group 3 to group 2.

Group 1

The reasons for 55 patients not starting medication as assessed in March 2001 were: not neuropathic pain (41); young age (2); pregnant (2); psychiatric (1); logistic (4); declined treatment (2); and missing (3). This demonstrates that an appropriate clinical assessment is required to determine whether neuropathic pain is present. General medical consultations also occurred.

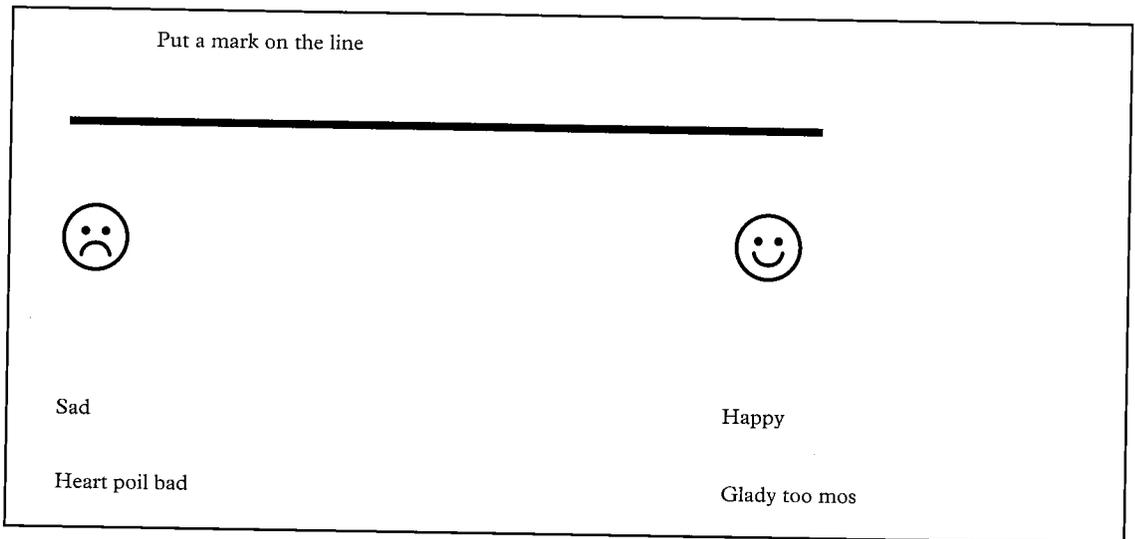


Figure. A Krio visual analogue scale for measuring mood developed for use with patients with neuropathic pain in Sierra Leone, 2001.

Group 2

Forty patients started medication in March 2001 and then stopped. The numbers in this group increased with time as more patients stopped medication, which is not surprising in a country with enormous social upheaval.

A survey of this group in July 2001 revealed that 37 of the then 60 patients had taken medication for < 1 month and 23 had taken medication for > 1 month. The reasons for stopping medication were: drug side effects or rumours from friends about this (27); reasons such as going away, travel, work, or forgetting (16); their pain improved (9); their pain did not improve (5); and unrelated beliefs such as associated with malaria (3).

In a sample of 33 patients in November 2001, the pain scores (number and word scale) and mood VAS at assessment and at reassessment were compared (Table). The mean number of weeks of treatment in this group was 11.9 weeks. All 3 scores showed an improvement at reassessment although this was not significant (Table). When the upper limb amputees were selected the improvement was also not significant.

Group 3

Those patients who had started medication and continued numbered 128 in March 2001. However, the number of patients in this group decreased over time and 47 patients taking medication were reassessed

in November 2001. The mean number of weeks of treatment possible for 46 patients was 38.6; the mean number of missed weeks of treatment for 44 patients was 5.0; and the mean number of weeks of treatment for 44 patients was 33.4. Thus, compliance was reasonable with 86.5% of possible doses collected. There were also significant improvements in pain, mood, and employment. Stopping taking drugs for long periods was due to reasons such as illness and travelling away, and for short periods was due to forgetting and to competing interests such as skills training arranged by the government or non-governmental organizations (NGO). On questioning 51 of the 128 patients, 34 (67%) correctly described how to take their tablets and 17 (33%) did not.

In the sample of 47 patients in November 2001, the pain scores (number and word scale) and mood VAS at assessment and at reassessment were compared (Table) and all 3 scores showed a significant improvement at reassessment.

Employment in group 3

Employment is an indicator of function. Several NGOs are involved in training (soap making, tailoring, gara dying). We compared employment in November 2001 with earlier in the year and scored this as, in our opinion, improved employment (13), worsened employment (1), or the same (36). There was a significant improvement in employment (McNemar's test (Yates'

Table. Pain and mood scores assessed by questionnaire in patients with neuropathic pain in Sierra Leone, 2001

	Assessment Mean (SD)	Reassessment Mean (SD)	<i>P</i> (two-tailed)
Group 2			
Number scale (<i>n</i> = 26)	5.96 (1.96)	4.81 (2.47)	0.068
Word scale (<i>n</i> = 27)	2.52 (0.70)	2.11 (1.05)	0.118
Mood VAS ^a (<i>n</i> = 16)	45.1 (24.8)	57.1 (22.9)	0.198
Group 3 ^b			
Number scale (<i>n</i> = 42)	5.60 (1.82)	3.02 (2.32)	<0.001
Word scale (<i>n</i> = 43)	2.70 (0.56)	1.44 (0.91)	<0.001
Mood VAS ^a (<i>n</i> = 36)	51.6 (24.2)	69.6 (15.5)	0.001

^aVAS, Krio visual analogue scale for measuring mood.

^bThere were significant improvements in pain and mood scores for group 3 at reassessment.

correction), $\chi^2 = 6.2$, 1 d.f., $P < 0.05$). Unfortunately 19 were still relying on begging and other direct aid.

Discussion

This pilot study highlights the burden of suffering due to chronic pain, in particular neuropathic pain, as a result of war. Assessing pain is difficult, as is determining whether a treatment has helped the pain. These problems are common to pain work in the developed world. In Sierra Leone cultural differences and social instability compound the difficulties.

The good level of compliance to medication shows that it is feasible to use drug therapy, and suggests that patients found the drugs helpful, however one-third of the patients had difficulty understanding how to take the drugs correctly.

Comparing groups 2 and 3 indicated greater improvement in pain scores with a longer duration of treatment, and this is not surprising (McQuay, 1995, 1996). It is not clear whether this improvement is due to the treatment or patient selection. The initial (assessment) pain scores of groups 2 and 3 were not significantly different suggesting that the initial pain level was not a primary determinant for stopping or continuing medication.

Increasing stability in the country is also likely to have an influence on improving pain, for example the anxiety of not knowing the fate of family members and of having an uncertain future will open the 'gate' and can result in more pain. The natural history of neuropathic pain is for a degree of improvement with time.

The personal contact by aid workers with civilians severely affected by war and the witnessing and documenting which is part of assessment may have added humanitarian value (Robertson *et al.*, 2002).

This intervention was time limited, both intentionally and because of the logistic difficulties of following patients after dispersal to their home areas. The time limitation for medication was stated early on. The therapeutic importance of giving accurate information to patients with pain is accepted. Information such as we believe that you have pain, the pain does not mean anything bad is happening inside you, the damage has been done but further damage is not happening, physi-

cal activity and using the prostheses will help your pain, there is no cure for this pain but it usually gets less with time, are all important messages.

Information will become available on follow-up data after cessation of medication to look for any sustained improvement.

Conclusions

- It was possible to run an effective intervention for neuropathic pain in Sierra Leone with intermittent expert involvement.
- There are unmet needs in the area of pain, and simple measures can make an impact on them.
- Logistical constraints, in particular the national medical infrastructure and training, make it difficult for such an intervention to function in the long-term.
- MSF have been able to develop a protocol for the assessment and treatment of neuropathic pain that may be useful in the other difficult settings in which they work.

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