TWO PILOT CONTROLLED TRIALS OF ARNICA MONTANA

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INTRODUCTION

Arnica montana is widely used by homoeopathic physicians as a first-line remedy for injuries, especially bruising injuries,[1, 2] and clinical experience suggests that it is often effective in such cases—sometimes dramatically so. I have for some time been interested in the possibility of testing Arnica against placebo in the hope of demonstrating the value of potentized solutions objectively. Previous work by Dr. R. Gibson at the Glasgow Homoeopathic Hospital[3] had suggested that this might be a practical idea.

METHODS AND APPARATUS

Bruises were produced on the flexor aspect of the forearms of subjects by means of a specially designed apparatus. This consisted of a weighted plunger with a rounded end (see Fig. 1), which was allowed to fall freely through a guide tube placed over the flexor muscles of the forearm. The

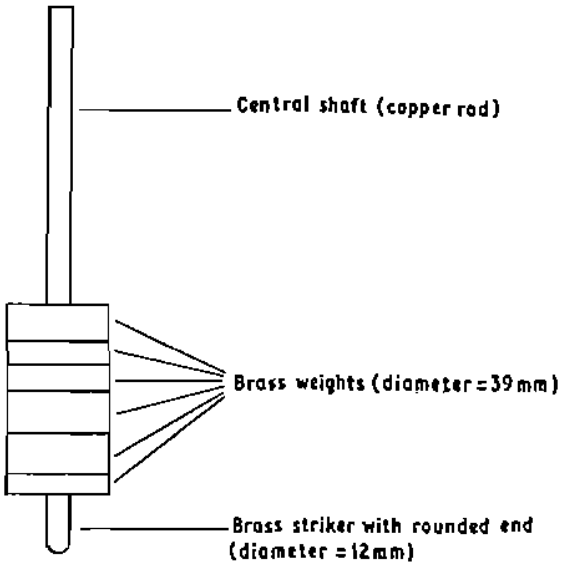

Fig. 1. Diagram (not to scale) to show the construction of the apparatus. The cylindrical brass weights fit just inside a piece of copper tubing (not illustrated), in which they slide freely. The force of the impact can be altered by removing one or more of the weights.

forearm was supported on a firm surface, and care was taken that the weight should fall midway between radius and ulna, approximately at the junction between the upper ⅓ and the lower ⅔ of the forearm. The weight of the falling component was 1041 g, and the distance through which it fell was 44 cm. In each case, volunteers were asked if they bruised unusually easily; if they said that they did, the weight was reduced to 471 g.

Preliminary experiments showed that, with the above technique, most volunteers produced a rather faint bruise measuring about 2 cm in vertical and horizontal diameters; the bruise usually appeared on about the third day and reached a maximum on the fourth day, after which it gradually faded, disappearing in about a week. Tenderness as a rule was very slight. A few people (about 10 per cent) showed no bruise, while "easy bruisers" (also about 10 per cent) produced much larger bruises, sometimes with haematoma formation, unless the weight was reduced. In "easy bruisers" a bruise was often visible within minutes of the blow.

The basis plan of the trials was as follows. Volunteers were given a tablet (either Arnica or placebo) and were then bruised; they were asked to take further tablets over the subsequent 12 or 24 hours and the bruise was measured in two diameters on the third or fourth day. A second bruise was then produced on the opposite forearm and the procedure was repeated. In this way, each subject acted as his or her own control.

Results were assessed in two ways, subjectively and objectively. Subjectively, volunteers were asked to say which (if either) of the preparations had prevented tenderness more effectively; in other words, they were invited to guess which preparation had been Arnica. Objectively, the colour and dimensions of the bruises were recorded and compared.

Two trials have so far been carried out, one using Arnica 30c and the other Arnica 10M.

The Arnica 30 Trial

This was double blind. It was performed on staff at the Royal London Homoeopathic Hospital and on students at the Missionary School of Medicine. On each occasion the subjects received either Arnica 30c or placebo; they took one tablet before being bruised, another 4 hours later and another before going to bed, and two further tablets were taken next day. The interval between the two bruises was 7 days in most cases, but in a few instances it was 4 days.

The Arnica 10M Trial

This was single blind and was performed on participants at the March 1976 Intensive Course at the Royal London Homoeopathic Hospital. It was not possible to make this trial double blind, owing to the shortness of the time available; the second bruise had to be inflicted 72 hours after the first,

and a 10M dose of Arnica would be expected still to be active at that time. Hence in this study all the subjects received placebo on the first occasion and Arnica on the second, although they were told that the trial was double blind and the tablets were given random numbers to preserve the appearance of a double-blind trial. Since the subjects were due to leave the course on the day after the second bruise had been inflicted, they were supplied with forms on which they were asked to record the size of their bruise, if any, and to make a subjective assessment of the relative efficacy of the two preparations they had taken. They were also asked for any comments they might have.

RESULTS

The Arnica 30 Trial

Eleven subjects participated. One produced no bruise with either placebo or Arnica and is therefore excluded from the objective assessment.

Objective Assessment

Bruise markedly smaller after Arnica: 1
Bruise markedly smaller after placebo: 2
Little difference: 7

Subjective Assessment

Preferred Arnica: 3
Preferred placebo: 6 (strong preference in 1 case)
No preference: 1

The Arnica 10M Trial

Replies were received from 15 subjects. Two of these had no bruise with either preparation and are therefore excluded from objective assessment.

Objective Assessment

Bruise markedly smaller after Arnica: 6*
Bruise markedly smaller after placebo: 0
Little difference: 7

* In 3 cases there was a well-marked bruise after placebo but no bruise at all after Arnica.

Subjective Assessment

Preferred Arnica: 10 (strong preference in 6 cases)
Preferred placebo: 3
No preference: 2

These figures are set out in more detail in Table 1.

TABLE 1

Case No.	Bruise Measurement after placebo*	Bruise Measurement after *Arnica**	Preference
1	4.0	0.3	*Arnica*
2	5.0	1.6	*Arnica***
3	1.0	0	*Arnica***
4	3.0	5.0	*Nil*
5	4.0	7.5	*Arnica***
6	10.0	0.6	*Arnica***
7	6.3	5.0	*Arnica*
8	3.0	0	*Arnica***
9	5.0	2.3	*Arnica*
10	6.0	0	*Arnica***
11	3.0	3.0	*Arnica*
12	0	0	*Nil*
13	4.0	6.4	Placebo
14	3.8	4.0	Placebo
15	0	0	Placebo

* Figures produced by multiplying vertical and horizontal bruise diameters (cm)
** Strong preference

DISCUSSION

So far as the first trial is concerned, it seems to show fairly conclusively that there is no point in using this technique to try to assess the efficacy of Arnica in potencies as low as 30c. This is somewhat unexpected, since clinical experience suggests that Arnica 30 is by no means ineffective in the treatment of accidental trauma. It is tempting to speculate that there may be some important differences between the clinical and experimental situations, though it is difficult to specify exactly what these might be.

The results of the 10M trial, however, do strongly suggest that Arnica 10M was effective in counteracting the effects of experimental injury. Of the 12 subjects who showed a bruise of some kind, 10 thought that Arnica had been more effective than placebo and 6 of these thought that the difference was marked; one of these 6 described the difference as quite amazing, and another said that there was haematoma formation after placebo but not after Arnica. No subject showed a strong preference for placebo.

Unfortunately, the number of subjects who took part is too small for satisfactory statistical analysis; this is all the more disappointing because the trial was conducted on an Intensive Course and therefore might have been expected to yield a larger number of volunteers. In spite of this limitation, however, statistical analysis revealed some interesting trends. In particular, subjects who preferred Arnica also tended to have smaller bruises, whereas those who preferred placebo did not have correspondingly smaller bruises. In other words, there was a correlation between subjective and objective findings in the case of those who preferred Arnica but not in the case of those who preferred placebo. This difference almost reached statistical significance.

Another point of interest is the difference between the results of the two trials. The fact that Arnica 30 was ineffective whereas Arnica 10M apparently was effective is in accord with homoeopathic theory, according to which a higher potency would be expected to be more effective than a lower one.

A major difficulty in a study of this kind derives from the duration of action of remedies; this difficulty is largely peculiar to Homoeopathy. According to Gibson Miller, the duration of action of Arnica (potency unspecified) is 6-10 days.[4] Unfortunately, we do not know how this time was arrived at or how reliable it is, but it seems safest to regard it as at best a rough estimate. It is possible that more detailed studies of the type described in this paper will eventually provide more reliable figures. Meanwhile, our relative ignorance about the duration of action of remedies poses a problem to the experimenter, since in a double-blind trial he does not know how long to allow between the two bruises. Too short a period would invalidate the results if Arnica was given first, while if the period was too long it might be difficult for the subject to remember accurately how much tenderness he had experienced after the first bruise. Probably at least a week's interval should be allowed if Arnica 10M is being used, and 14 days might well be safer.

Another important question is the reproducibility of the bruise on each occasion. In general, reproducibility with this technique appears to be fairly good, although the preference for placebo over Arnica found in the first trial might make one question this. A curious feature, found in both trials, was that many people reported the second impact as being more painful than the first *at the time*. (In the 10M trial, this effect would of course have been expected to favour placebo.)

Another interesting finding, reported by two subjects in the 10M trial, was the occurrence of generalized aching after the second dose (i.e. after Arnica). This may of course have been coincidental, but it would be worth looking out for in any subsequent experiments.

In spite of its shortcomings, the 10M trial was undoubtedly encouraging and I hope to extend it during the coming months. If the method finally proves successful it will provide valuable objective evidence of the physiological activity of a potentized solution; moreover, it will provide a means of studying the relative efficacies of different potencies (200, CM, etc.).

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