A Study of Acupuncture Treatment for Enuresis in Children with Mental and Physical Handicap

Iuliu Floares

Summary
At a hospital for children with severe mental and physical handicap where the incidence of nocturnal enuresis exceeds 88%, a group of 128 children between the ages of 5 and 19 years (65% of those resident) were treated with acupuncture. The overall response showed good or very good benefit for 29% of patients, while 44% had none. The most responsive age group was the 10 to 14 year olds with 50% success; there was no difference between boys and girls. Children with the most severe mental retardation and those with day time faecal and urinary incontinence responded less well. The benefit felt by the whole hospital community at the reduction of bed wetting was substantial. The author believes that acupuncture for enuresis in mentally and physically handicapped children is an effective and worthwhile treatment.

Key words
Acupuncture, Clinical study, Enuresis, Incontinence, Infantile encephalopathy, Mental handicap, Physical handicap, Spastic paraplegia.

Introduction
The treatment of enuresis remains a problem in conventional Western medicine, while acupuncture has traditionally given good long-term results (1) but has been little used in the West. This clinical study of acupuncture in the treatment of nocturnal enuresis was carried out at a home for severely handicapped children where its incidence is high (in excess of 88%) compared to the normal population, for which medical literature reports anything from 5 to 41% (2).

Handicapped patients with mental and neurological disability may have nocturnal enuresis coexisting with day time incontinence, sometimes both urinary and faecal (50 to 60% in our unit), so any treatment that will improve the situation for even a small percentage of patients would prove highly popular with both staff and clients at hospitals for the handicapped, affecting the microclimate in the wards, improving patient comfort and reducing cleaning activity and wear of bedclothes.

Treatment of urinary disorders, and particularly enuresis, with acupuncture has been reported as successful by a number of authors (3-12) and the incidence of side effects and complications from acupuncture is low (13-15), so it was resolved to test the supposition that it may be helpful in enuretic children with mental and neurological handicap.

Method
A clinical series of acupuncture treatment for nocturnal enuresis was carried out at the Ungureni Camin Hospital in the Bacau District of Romania (16). This is a home for up to 200 severely handicapped children between 3 and 18 years of age. Patients below the age of 5, those incapable of cooperating with treatment and those whose physical condition restricted the use of needles (severe malformation or cachexia) were excluded from the study. The remainder (65% of the residents) who had been hospitalised at Ungureni for at least a year and who exhibited nocturnal enuresis at a level of 1-5 emissions per night, the quantity being visible as something between wet linen and a puddle (the mattresses are covered in plastic), were given acupuncture treatment.

Due to the long distance to the district hospital and the disruption caused by transfer of our handicapped patients to the hospital for treatment or investigation, our staff have given up requesting non-essential laboratory or other hospital investigations. So, throughout the period of treatment, the children were subject to clinical observation only, with further investigation available only if there was evidence of additional disease. Charts with space for daily recordings for each patient over the period of a month were held on the ward, with the duty nurse being responsible for noting wet or dry bed linen at the 5am nursing observation round each morning.

Despite being an experienced medical acupuncturist, I regarded it as difficult to establish
an energetic diagnosis, based on the traditional Chinese model, for severely handicapped children, so I chose to use a general acupuncture therapeutic formula as suggested in a standard text (17). The following points (18) were used as routine: CV.4 (Guanyuan), SP.6 (Sanyinjiao), ST.36 (Zusanli), BL.23 (Shenshu), BL.28 (Panguanshu), and at alternate sessions BL.32 (Ciliao). If only slight benefit was obtained after the initial course of treatment additional points, including at least one from an acupuncture microsystem, were added in an attempt to boost the response: the Enuresis point of auriculopuncture, hand acupuncture, or instep acupuncture, and sometimes KI.3 (Taixi), SP.9 (Yinlingquan), BL.40 (Weizhong), GB.34 (Yanglingquan), GV.20 (Baihui), Waihuaijian (for incontinents) and Shenjiao. Treatments were given 3 or 4 times a week, giving children two courses of 6-19 sessions each. Most had 10 treatments per course and all had two courses: the second to consolidate if the result with the first had been good, or to achieve a better response if it had been poor. The frequency of treatment depended on the availability of the medical acupuncturist (the author) who has sessions at the hospital three days a week, but sometimes attends on a fourth day.

The response to treatment was monitored through evaluations at 3, 6, 12 and 18 months followed by a final general evaluation consisting of daily observations for a month. Evaluations were recorded as:

- **No benefit**: enuresis unchanged or having minimal improvement
- **Slight benefit**: enuresis intermittent, up to 50% of nights over a month, and with a reduction of volume
- **Good benefit**: enuresis reduced to between 3 and 5 nights a month
- **Very good benefit**: free of nocturnal enuresis or reduced to 1 or 2 nights a month

I started with a pilot group of 10 girls, each of whom had from 10 to 15 sessions of acupuncture. The response to this treatment was very encouraging and ensured an extension of the series. I then tried a group of patients whose age (18 years) was bringing them close to the time for transfer to an adult unit, and finally I tried treatment for younger patients. All have been included in the final results.

**Results**

During 1995 and 1996 the number of children resident in the Ungureni Camin Hospital varied from 168 to 200, the number of girls and boys being almost equal (105 boys and 95 girls). The incidence of enuresis ranged from 88 to 97.5% according to the age and severity of the admissions.

The group of children with nocturnal enuresis to whom acupuncture treatment was given consisted of 128 patients (63 girls and 65 boys) aged between 5 and 19 years (the patients over 18 had not yet been transferred to adult units because of administrative delay), the average age was 12.8 years, and the time since admission to Ungureni was from 1 to 16 years, with an average of 6.

All patients were mentally handicapped: the group was made up of 68 cases of chronic infantile encephalopathy, and 22 cases of locomotion disorders: comprising 2 cases of spastic paraplegia, 4 of paraparesis, 1 of tetraparesis, 5 of severe malformation of the lower limbs and 11 cases of epilepsy. Other associated illnesses included: 11 cases of squint, 5 of festering chronic otitis, 1 of large bowel disease, 2 of compensated congenital heart malformation and 6 patients with Aids or who were HIV carriers.

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A total of 2,513 acupuncture sessions was given: 1,352 in the first series of treatment and 1,161 in the second series. The pilot group of 10 girls was aged between 11 and 19 years and resulted in 6 cures immediately after the 10 to 15 treatments that each was given.

Overall the level of response shows that 37 (28.9%) out of the total 128 patients had good or very good benefit while 56 (43.8%) had none (Table 1). The results were further analysed according to age, sex, degree of mental handicap, initial severity of incontinence, and length of hospitalisation.

Dividing the ages into three groups (Table 2), success (good or very good) was noted in 16.6% of the 5-9 year olds, 50% of the 10-14 year olds and 31.5% of those over 14. Similarly, the failure rate was 56% of the 5-9 year olds compared to 32% of the remainder. In analysing the relationship between response and period of hospitalisation: the good response was seen in children over a range 1 to 10 years of hospitalisation with an average of 4.6 years, while the very good response was obtained over a wider range of children having 1 to 16 years of hospitalisation with an average of 8.4 years. There was no significant difference between results in the boys compared to girls (Table 3).

Good or very good results were obtained in
32.3% of the children with first or second degree mental retardation compared to 17.3% of the group with third degree mental retardation (Table 4). Similarly, the severity of urinary and faecal incontinence affected the result. Out of the 43 with faecal or daytime urinary incontinence only 13.9% had a good or very good result, with none of those who were doubly incontinent at night having significant benefit (Table 5).

Three of the mentally handicapped children also had Aids and three were HIV carriers. Their ages were between 3 and 9 years, 4 were male and 2 female, 5 had daytime urinary incontinence and one was also faecally incontinent. The benefit obtained in this sub-group was: none in 4 cases, slight in 1 and very good in 1.

Discussion

Patients entering this study had been resident at Ungureni for at least one year, most for many years, and during this time every effort had been made to cure their nocturnal enuresis, without success. Thus, although there was no formal control group, the patients had effectively acted as their own sequential controls. However it was evident that these children responded well to personal attention. This was demonstrated by the following case:

Case history: An 11 year old girl with chronic infantile encephalopathy, second degree mental retardation and autistic syndrome, unable to speak, had 8 sessions of acupuncture treatment with no improvement in her nocturnal enuresis. As no benefit appeared to have resulted, treatment was terminated before the 10th session. However, I then conducted an experiment in altering the doctor-patient relationship by creating a more relaxed atmosphere with maximum personal attention through sitting by the side of her bed, talking gently and caressing her during the acupuncture treatment sessions. Within a month she was able to keep herself dry. She had no further problems with enuresis until a year later when she required a further session of acupuncture because of a partial relapse. For her final evaluation at 18 months her response was categorised as very good.

It has been policy in Ungureni that the inherent stress of hospitalisation for these children should be countered by creating a friendly and jolly atmosphere between patients and staff with plenty of verbal and physical contact; thus the additional effect of a personal treatment should have been minimalised. None the less, there may have been some cases in which this extra attention could have been of importance in the response.

In the normal population nocturnal enuretics improve with increasing age, although a small proportion persist into adulthood. In the severely handicapped improvement is less likely and many

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**Table 1**

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>56 (43.8)</td>
</tr>
<tr>
<td>Slight</td>
<td>35 (27.3)</td>
</tr>
<tr>
<td>Good</td>
<td>13 (10.2)</td>
</tr>
<tr>
<td>V Good</td>
<td>24 (18.8)</td>
</tr>
<tr>
<td>n</td>
<td>128</td>
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</table>

**Table 2**

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>n</th>
<th>None</th>
<th>Slight</th>
<th>Good</th>
<th>V Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-9</td>
<td>60</td>
<td>34</td>
<td>16</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>10-14</td>
<td>30</td>
<td>7</td>
<td>8</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>15-19</td>
<td>38</td>
<td>15</td>
<td>11</td>
<td>2</td>
<td>10</td>
</tr>
</tbody>
</table>

**Table 3**

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>Good</th>
<th>V Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>63</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Boys</td>
<td>65</td>
<td>6</td>
<td>11</td>
</tr>
</tbody>
</table>

**Table 4**

<table>
<thead>
<tr>
<th>Mental retardation (degree)</th>
<th>n</th>
<th>Results obtained (number of cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>7</td>
<td>None 2 Slight 1 Good 4 V Good 0</td>
</tr>
<tr>
<td>II</td>
<td>92</td>
<td>None 34 Slight 30 Good 8 V Good 20</td>
</tr>
<tr>
<td>III</td>
<td>29</td>
<td>None 20 Slight 4 Good 1 V Good 4</td>
</tr>
</tbody>
</table>

**Table 5**

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Day urine</th>
<th>Day urine and faecal</th>
<th>Night urine and faecal</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>10</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Slight</td>
<td>2</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Good</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>V Good</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>14</td>
<td>26</td>
<td>3</td>
</tr>
</tbody>
</table>
remain enuretic as adults. So, although it may be argued that in this study the better response seen in older handicapped children and those who have been hospitalised for longer could be due to natural remission, it is more probable that the change is due to a combination of the acupuncture treatment with some age related neurological improvement.

In the same way, the better results associated with patients having less severe handicap (Table 4) is logically to be expected as they approach more nearly the normal population, but another consideration is their ability to cooperate in the treatment.

Despite the overall response for doubly incontinent patients being poor (Table 5), there was a small number of dramatically good results, making the time spent in treatment seem worthwhile:

A boy aged 16 years with second degree mental retardation, who had been hospitalised for three years after coming from a hostile environment, had daytime double incontinence, but achieved a very good response following the acupuncture. A 19 year old girl with chronic infantile encephalopathy, spastic tetraparesis and third degree mental retardation similarly had a very good result from the treatment: her daytime urinary and faecal incontinence ceased. An HIV positive boy aged 8 years, with second degree mental retardation and daytime double incontinence, also showed a very good response to acupuncture despite the poor results in other AIDS and HIV positive children.

Conclusion
It might be considered a pity that I did not provide a randomised control group out of these enuretic patients. However, my primary aim was to make as large an impact as possible on the extremely high incidence of bed wetting in the hospital. In this I believe the project to have been conspicuously successful.

Bearing in mind that this group of mentally and physically handicapped children is a particularly difficult one to work with, an overall 29% success rate in nocturnal enuresis is most encouraging, as the benefit felt by the whole hospital community through even a moderate reduction in the large number of enuretics is significant. In practical terms, the time spent in treatment is most likely to prove effective if devoted to the less handicapped children over the age of nine. None the less, even the reduced success rate associated with the more severely handicapped and with the younger age group is sufficient to justify the effort of treatment both in terms of quality of life and from an economic aspect, as the reduction in cost of staff time in changing and washing bed linen and cleaning patients will soon outweigh the cost of treatment.

Note
This study was awarded a prize at the Fourth Conference on World Traditional Medicine held in 1998 in San Francisco, USA (16).

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References
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