A Comparison of the Clinical Effectiveness of Various Acupuncture Points in Reducing Anxiety to Facilitate Hypnotic Induction

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A COMPARISON OF THE CLINICAL EFFECTIVENESS OF VARIOUS ACUPUNCTURE POINTS IN REDUCING ANXIETY TO FACILITATE HYPNOTIC INDUCTION

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Abstract: This study determined if any acupuncture point (acupoint) known for its calming effects also aided hypnotic induction. Hypnosis was offered to 108 patients requiring minor surgical or dental procedures. All had a history of panic attacks and surgical or dental phobias that complicated or prevented treatment. Unpleasant intruding thoughts of imminent invasive treatments handicapped their ability to accept hypnotic induction; however, acupuncture therapy was proposed to the consenting patient to facilitate hypnotic induction and augment its effects. Each patient received one selected acupoint for acupuncture therapy. Of the 6 acupoints used (LI 4, H 7, SP 6, P 6, GV 24, and Ext-hn-21), GV 24 was best at enhancing hypnotic induction whereas LI 4 produced the best muscular relaxation and P 6 for reducing tension.

Both acupuncture and hypnosis can be effective for pain and anxiety control. Whereas acupuncture’s effect on pain control is well researched and documented, the hypnotic control of pain is less understood. Hypnosis has long been used to treat pain despite a lack of consensus on its mechanism of action. Dispute exists as to whether hypnosis decreases both physiological and psychological aspects of pain (perception vs. apperception) or just psychological (Alden & Heap, 1998; J. Barber, 1998; Chapman & Nakamura, 1998).

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Hypnosis is customarily defined as “the altered state of mind,” but “altered state” is so poorly understood that some researchers alternatively define hypnosis as a trance state characterized by a very relaxed, drowsy, and lethargic appearance (Conn & Conn, 1967; Fromm & Shor, 1972; Hilgard, 1965; Orne, 1962; Shor, 1972). In this trance state, the individual loses initiative to carry out one’s own plans, redirecting one’s attentions towards the instructions of the hypnotist and increasing susceptibility to suggestions (T. X. Barber, Spanos, & Chaves, 1974). Another definition characterizes hypnosis as behavior resulting from positive attitudes, strong motivations, and enhanced expectancies towards a situation in which the subject finds oneself, consequently increasing the willingness of the subject to follow the suggestions of the hypnotist (Wallace, 1981). Regardless of the definition accepted, during hypnosis, subjects appear capable of demonstrating many abilities typically not possible in a normal waking state (Wallace, 1981).

Individual hypnotizability varies from one individual to another. The most commonly employed tests or scales include the Stanford Hypnotic Susceptibility Scale, Forms A & B (Weitzenhoffer, & Hilgard, 1959), Stanford Hypnotic Clinical Scale (Morgan & Hilgard, 1978–1979), and Hypnotic Induction Profile (Stern, Spiegel, & Nee, 1978/1979). Each measures a person’s susceptibility to hypnotic suggestion by the number of suggestions with which an individual complies. An individual scoring low on a scale does not preclude his or her chances of being hypnotized; however, a low score greatly reduces the subject’s chances.

There are methods for possibly improving an individual’s susceptibility to hypnotic suggestion (Wallace, 1981), even for patients who genuinely want to be hypnotized but consistently fail to follow the suggestions of the hypnotist. In this case, there are various techniques and training procedures that can help increase an individual’s susceptibility level (Diamond, 1970), such as modifying susceptibility (a) by means of sensory alterations, (b) by varying the subject’s expectancies, (c) through a nonhypnotic training experience, and (d) through training in hypnotic or hypnotic-like behavior. White noise and monotony can also enhance hypnotic susceptibility and performance (Oswald, 1959). Psychedelic drugs, such as LSD-25 and mescaline, can also increase hypnotic susceptibility and subsequent responsiveness to hypnotic suggestion (Sjoberg & Hollister, 1965; Ulett, Akpinar, & Itil, 1972). Sensory restriction and isolation, for periods ranging from 30 minutes (Wickramasekera, 1969) to 6 hours (Pena, 1963; Sanders & Reyher, 1969), can also increase susceptibility in subjects normally deemed difficult to hypnotize.

Many highly apprehensive patients facing invasive dental or medical procedures are so preoccupied with disturbing thoughts of the upcoming procedure that they are not able to follow the hypnotist’s suggestions to prepare them for the procedure, even though they could...
be hypnotized preoperatively. Until now, there has been hardly any study utilizing anxiety-reducing acupoints for hypnotic induction, and there is a paucity of acupuncture-hypnotism-related literature.

Of all the acupoints in the human body, several are particularly valuable for anxiety control (Gach, 1990; see Figure 1 here). Each has its own specific medical indication, but they also produce antianxiety effects to varying degrees. Their calming effects can be combined with sedatives to augment the medicinal effects of the sedative (Gach, 1990; Lu, Lu, & Lu, 2011). These acupoints can also be used with other complementary or alternative medicines such as hypnosis, eye movement desensitization and reprocessing (EMDR; Lu, Lu, & Lu, 2007), and alternating bi-lateral stimulation (ABLS; Lu, 2010).

**Figure 1.** Acupoints known for anxiety control, as discussed in Gach (1990).

**Method**

Subjects for this study were selected from those who tested hypnotizable but were not able to focus on the hypnotist’s instructions for hypnotic induction due to incessant intruding thoughts of the impending
invasive dental or medical procedure. We used the Hypnotic Induction Profile and the Morgan and Hilgard short forms of the Stanford Hypnotic Clinical Scale to evaluate and select patients for this trial.

We report a retrospective crossover trial of acupuncture and clinical hypnosis on 108 apprehensive patients (57 males and 51 females ages 5 to 78 years) requiring invasive minor surgical procedures such as dental extraction or drilling, cyst or skin lesion removal, abscess incision and drainage, scar tissue repair, etc. After obtaining the patient’s consent, we explained the nature of hypnosis and acupuncture to be used for anxiety reduction. Since acupuncture requires needle insertion, patients in this study did not have a phobia of needles. Patients were not on any medication nor received any sedative drug prior to this study.

To avoid distraction by electrical or continuing manual manipulation of the needle, no electrical acupuncture machine or manual stimulation was used except for the initial manual twirling of the needle clockwise and counterclockwise for about several seconds after insertion of the needle till the patient felt tingling, numbing, or Galvanic shock, signifying accurate depth and position of the acupuncture needle. A probing rod from the acupuncture machine was used, just before needle insertion to ascertain the correct location of the acupuncture site. Hypnotic induction was conducted for approximately 10 minutes after needle insertion, which is the average time for most acupuncture treatment to begin to take effect.

A certified practitioner of clinical hypnosis conducted the hypnotic induction. To facilitate induction, the patient was instructed to stare at a pattern design until the patient felt dizzy and his or her eyes wanted to close. The patient was then told to keep his or her eyes closed. The patient listened to a prerecorded tape under hypnosis that would lead to a relaxed state through guided imagery, which suggested that the treatment would be painless and the patient would enjoy a symptom-free life after treatment and be free of discomfort from the affected area.

Patients received acupuncture to decrease their anxiety and to prepare them for hypnosis. When the patient felt sufficiently calm enough to proceed with hypnosis, the patient was told to either gesture with his or her finger or verbally inform the hypnotist. Blood pressure, pulse, and blood oxygenation was measured using a pulse oximeter before, during, and after the acupuncture and hypnosis procedure to compare anxiety levels, degree of calmness, and effectiveness of acupuncture. Since acupuncture was the only method used during this study to induce calmness, comparing vital signs such as blood pressure and tachycardia throughout the procedure served as an objective measure of the acupuncture’s effectiveness. The operating team observed the patient’s behavior, and we also asked patients how much they felt the acupuncture helped them relax and if the acupuncture was slightly, moderately, or greatly helpful in achieving hypnotic induction. Each patient received only one acupuncture needle at the selected acupoint
Table 1
Experimental Results by Group

<table>
<thead>
<tr>
<th>Acupuncture Point</th>
<th>Yintang</th>
<th>Hoku</th>
<th>Neikuan</th>
<th>Shenmen</th>
<th>Anmien</th>
<th>Sanyinjiao</th>
</tr>
</thead>
<tbody>
<tr>
<td>( n ) (Total = 108)</td>
<td>18</td>
<td>21</td>
<td>16</td>
<td>19</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>Significantly enhanced hypnotic induction</td>
<td>17 (94%)</td>
<td>15 (71%)</td>
<td>10 (63%)</td>
<td>12 (63%)</td>
<td>11 (52%)</td>
<td>2 (15%)</td>
</tr>
<tr>
<td>Muscle relaxation</td>
<td>5 (28%)</td>
<td>18 (86%)</td>
<td>11 (69%)</td>
<td>13 (68%)</td>
<td>17 (81%)</td>
<td>4 (30%)</td>
</tr>
<tr>
<td>Noticeable tension reduction</td>
<td>11 (61%)</td>
<td>16 (76%)</td>
<td>14 (86%)</td>
<td>15 (79%)</td>
<td>16 (76%)</td>
<td>6 (46%)</td>
</tr>
</tbody>
</table>

at a time. We compared the effectiveness of the acupoints to determine how they influenced hypnosis and used a patient’s ideomotor signal to determine the participant’s ability to follow hypnotic induction and suggestions. The ideomotor signal is a gesture by the subject’s digital finger that signifies imagery state during hypnosis. Lidocaine HCI 2% was then used for the dental procedure, surgical excision for cyst removal, or incision/excision biopsy.

There are six known acupoints that have calming effects (Gach, 1990), yet there exists no known literature on which acupoint is better suited for hypnotic induction. Therefore, we randomly tested the six acupoints with no preexisting preference so that data collection was equal among all six acupoints. The number of times a patient received acupuncture treatment for hypnotic induction varied on the number of medical or dental appointments needed. If therapy using one acupoint was not particularly effective the first time, we would utilize another acupoint during a subsequent appointment to determine if the new acupoint was more effective. As a result, some patients received therapy on more than one acupoint at various times throughout the study, although only one acupoint was tested during an appointment. Some patients did not want to receive acupuncture therapy (needle insertion) in the face, namely the Yintang acupoint, and we selected other acupoints for their therapy while maintaining a random and equal distribution of acupoints tested for better data collection. Both the acupoints and number of patients receiving therapy at each point is listed in Table 1.

Results

Of the six acupoints, the Yintang (GV 24) acupoint had the best results for hypnotic induction for facilitating deeper trance states for the
subsequent medical procedure. The Yintang (GV 24) acupoint allowed patients to focus better enabling them to listen more attentively to the hypnotist’s instructions during panic attacks. The effectiveness of the other five points are listed in decreasing order: Hoku (LI 4), Anmian (Ext-hn 21), Shenmen (H 7), Neikuan (P 6), and Sanyinjiao (SP 6). The full results are shown in the Table 1.

Of all patients that were able to enter the trance state, all but 1 in the Yintang group was able to complete the invasive surgical procedure. The 1 outlier of this group required only light sedation with nitrous oxide inhalation to complete treatment during the appointment. In the non-Yintang groups, the number of patients requiring light or moderate sedation with the parenteral administration of sedation increased. Depending on each individual case, we found a direct correlation between the patient’s trance-state level and the need for sedation, that is, the deeper the trance, the less need for sedation.

Among those who could not be successfully hypnotized and needed to be rescheduled for treatment under pharmacological sedation, 4 (of 15) were from the Hoku group, 3 (of 11) from the Anmien group, 5 (of 12) from the Shenmen group, 3 (of 10) from the Neikuan group, and 2 (of 2) from the Sanyinjia group. Nevertheless, the outcome of combining acupuncture therapy with hypnosis remains impressive considering that many of these patients were previously unable to undergo simple procedures such as oral examination, prophylactic cleaning, or palpation examination for cysts, skin lesions, etc.

### Discussion

This study was triggered by our accidental discovery that acupuncture facilitated hypnotic induction and boosted hypnotic effect, allowing patients to accept more invasive treatments. This study was designed to compare and evaluate the effectiveness of acupoints for hypnotic induction. This study did not measure the degree of relaxation of specific acupoints since relaxation can occur as a result of hypnotic trance and not necessarily from acupuncture therapy. Postoperatively, we obtained feedback from every patient regarding his or her acupuncture experience in relation to hypnosis. Our impression was that using the Yintang acupoint enabled patients to better concentrate on the hypnotic suggestion. Although to varying degrees the calming effects of the other acupoints were also beneficial to concentration, which is essential to successful hypnosis, none were as effective as the Yintang acupoint. Stimulating the Yintang acupoint enabled patients to enter a deeper trance state, which could explain why more patients in this group could tolerate an invasive procedure without sedation. Although the Yintang acupoint produced the best hypnotic effect, some patients
primarily women) had reservations about this acupoint due to concerns of cosmetic scarring resulting from insertion of the acupuncture needle despite being advised otherwise. Indeed, patients allowing us to acupuncture this point found no indications of scarring afterwards.

The Hoku and Anmien acupoints seemed to produce a more relaxing effect on patients, as indicated by the slower heartbeat and lower blood pressure revealed by the pulse oximeter and the operating team’s observation of the visible easing of tension in the patient. Hoku acupoint patients seemed to relax their skeletal muscles more than other groups and experienced significantly less pain than any other acupoint group, which may be due to the cerebrospinal fluid beta-endorphins released by the stimulation of this particular acupoint (Ikezono, 1983; Lu & Lu, 1992).

The Shenmen acupoint was most effective in slowing heartbeat (tachycardia) triggered by anxiety and panic attacks. As a result, patients in this group were more relaxed and less anxious than the Yintang group, albeit less able to focus on following the hypnotist’s instructions and suggestions. The Sanyinjiao acupoint was much more effective for women than men in reducing anxiety and stress. This acupoint is traditionally used for treating obstetric and gynecological problems and for regulating the menstrual cycle.

We also found that muscle relaxation had little relation to hypnotic facilitation. The extent of muscle relaxation and tension reduction was not necessarily proportional to the depth of hypnotic induction produced by acupuncture. In fact, stimulation of the Yintang acupoint produced the least amount of muscle relaxation of all six acupoints. While a Hoku patient might relax under hypnosis while progressing to the trance state, this is probably due more to the hypnosis than acupuncture. Acupuncture or hypnosis can produce relaxation and tension relief at a later stage of a procedure but not at the beginning during the hypnotic induction stage.

It is possible that a combination of acupoints could produce even better effects for hypnotic induction, but for this trial study, we were more concerned with identifying which acupoint was more beneficial to facilitating hypnosis. Future research is needed to determine what, if any, combination of acupoints will produce the best results.

A discussion of acupuncture versus acupressure is also merited. It is a generally well-known fact in the acupuncture field that acupressure is less effective due to its superficial effect on the surface area only. In order for acupuncture or acupressure to be effective, the patient must feel a numbing, tingling, heavy, or swelling sensation at the acupoint (most acupoints are located deep under the epidermis in the tissue), which only an acupuncture needle can reach. Most acupuncture needles are typically as thin as a hair and cause little pain during insertion and once in place, whereas acupressure requires significant pressure
on a broader area with that force typically dissipating in deeper tissue. The consistent pressure required for acupressure is also more difficult to maintain. To establish and individualize the appropriate amount of pressure at the acupoint, apply firm pressure with thumb or device until the patient feels a tingling or numbing sensation short of pain.

Acupressure at the Yintang acupoint can actually cause some patients to experience headaches due to the thin muscular layer of the forehead. If the clinician wishes to use acupressure instead of acupuncture, lighter pressure is required to avoid inducing a headache in the patient; however, the effect will not be as profound as with an acupuncture needle.

We tested 5 patients (not part of this study) using acupressure at the Yintang acupoint. Of this group, 2 patients were successfully hypnotically inducted, 2 complained of headache due to pressure on the acupoint, and 1 experienced no effects. In fact, 3 of the group noted that the pressure on this acupoint actually distracted them from following the hypnotic instructions. A characteristic of acupuncture is that once the needle is inserted to the correct position and depth, the subject feels no pressure or discomfort to distract him or her. If the clinician wants to perform fingertip acupressure at the Yintang acupoint, we suggest the clinician take care not to obstruct the patient’s view of the object being used for eye fixation or to impair a patient’s ability to engage in focal concentration. This might require the clinician to either stand behind the patient or to bend or curve their finger backward while applying pressure. We did not test acupressure on the other five acupoints examined in this study, but we note that the other five acupoints have more muscular layers to cushion and absorb pressure. Conversely, those muscular layers may cause some difficulty in consistently obtaining the desired degree of penetration of pressure for effectiveness at the acupoint, depending on thickness of muscle and the adipose layers underneath the skin. Acupressure can be effective but its effects will not be as profound as with acupuncture.2

Conclusion

There are six acupoints known for their calming effects and all, to varying degrees, are beneficial for hypnotic induction. By far, the

2At the Ying Tang acupuncture point (located between the eyebrows) an auricular acupuncture needle, which is shaped like a little tag pin, is recommended for use with the provided adhesive tape due to the limited depth of the acupuncture point. This auricular needle may stay in place during the whole hypnosis procedure, if the clinician prefers, and may be removed at the end of the dental or medical procedure. To deepen the effects of the acupuncture, the clinician may gently and rapidly tap the needle for 10–15 seconds as needed.
Yintang acupoint produced the most desirable hypnotic induction result. The combination of acupuncture and hypnosis is most beneficial for patients whose medical condition contraindicates pharmacological sedation or who cannot tolerate the side effects of sedation. These include individuals allergic to sedative(s), pregnant women, medically compromised patients, etc.

**References**


Ein Vergleich des klinischen Effektes unterschiedlicher Akupunkturpunkte zur Reduktion von Angst, um hypnotische Induktion zu erleichtern

Dominic P. Lu und Gabriel P. Lu


Stephanie Reigel, MD

Comparaison de l’efficacité clinique de divers points d’acupuncture dans la réduction de l’anxiété, afin de faciliter l’induction hypnotique

Dominic P. Lu et Gabriel P. Lu

Résumé: Dans le cadre de cette étude, les chercheurs ont tenté de déterminer si un point d’acupuncture (acupoint), connu pour ses effets calmants, favorisait également l’induction hypnotique. On a offert un traitement d’hypnose à 108 patients en attente d’interventions chirurgicales ou dentaires mineures.
Tous avaient des antécédents de crises de panique et de phobies chirurgicales ou dentaires compliquant ou empêchant un traitement. Des pensées désagréables et importunes de traitements agressifs inhibaient leur capacité d’accepter une induction hypnotique. On leur a toutefois proposé un traitement d’acupuncture afin de faciliter l’induction hypnotique et d’en intensifier les effets. Chaque patient consentant a reçu un traitement d’acupuncture sur un point sélectionné. Parmi les six acupoints sélectionnés (LI 4, H 7, SP 6, P 6, GV 24 et Ext-hn-21), le GV 24 a été le plus efficace dans l’amélioration de l’induction hypnotique; le LI 4 a produit la meilleure relaxation musculaire; et le P 6 a été le plus efficace pour réduire la tension.

JOHANNE REYNALD
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Comparación de la eficacia clínica de varios puntos de acupuntura para la reducción de ansiedad para facilitar la inducción hipnótica

Dominic P. Lu y Gabriel P. Lu
Resumen: Este estudio determinó si alguno de los puntos de acupuntura (acupuntos) conocidos por sus efectos calmantes también facilitaba la inducción hipnótica. Se les ofreció hipnosis a 108 pacientes que requerían una intervención quirúrgica o dental mínima. Todos tenían una historia de ataques de pánico y fobias a intervenciones quirúrgicas o dentales que complicaban o prevenían el tratamiento. Pensamientos invasivos desagradables sobre tratamientos invasivos inminentes interferían con su habilidad para aceptar la inducción hipnótica; sin embargo, se les propuso una terapia con acupuntura a los pacientes que consintieron para facilitar la inducción hipnótica y aumentar sus efectos. Cada paciente recibió un acupunto seleccionado para la terapia con acupuntura. De los 6 acupuntos utilizados (LI 4, H 7, SP 6, P 6, GV 24, and Ext-hn-21), GV 24 fue el mejor facilitando la inducción hipnótica, mientras que LI 5 produjo la mejor relación muscular y P 6 reducción de tensión.

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