A Long-Term Therapeutic Treatment For Patients With A Severe Gag Reflex

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A LONG-TERM THERAPEUTIC TREATMENT FOR PATIENTS WITH A SEVERE GAG REFLEX

STEPHAN EITNER, MANFRED WICHMANN, AND STEFAN HOLST

Abstract: “Hypnopuncture,” a combination treatment of hypnosis and acupuncture, provides a therapeutic treatment plan for long-term therapy for patients with a distinctive gag reflex. The treatment is applied independently of the cause. In cases of emergency treatment in dentistry, the immediate compliance of a patient is of utmost importance. The long-term goal of any therapeutic measure is control of the gag reflex. A new treatment protocol is illustrated in the case of a 50-year-old patient with a severe gag reflex. After only 5 visits, dental treatment could be conducted without any auxiliary means. Hypnosis is applied in the form of hypnosedation (not as psychotherapy), while stereognosis occupies a central position for desensitization.

Patients with distinctive gag reflexes are very difficult to treat not only in emergency situations but also during routine dental visits (Robb & Crothers, 1996). Procedures such as surface anesthesia of the palate and pharyngeal area (Al-Ashiry & Sala, 1993; Muir & Calvert, 1988; Tomioka, Uchida, Eguchi, & Nakajo, 1998), sedation (Reves, Fragen, Vinik, & Greenblatt, 1985; Robb & Crothers; Tomioka et al.), or general anesthesia (Reid, King, & Kilpatrick, 2000) are options. They allow for diagnostics and treatment but at the same time pose potential risk factors and are time consuming. Sedation with midazolam causes antianxiety effects, reliable hypnosis, and amnesia. They can be used for diagnostic and therapeutic procedures (Reves et al., 1985). In a case report by Tomioka et al., surface anesthesia was administered to sensitive areas of the oral cavity to control the gag reflex without success. Sedation with diazepam was also unsuccessful. The use of midazolam eliminated the gag reflex, but the patient was not able to communicate with and could not follow the instructions of the dentist. This was not a favorable outcome, because an accessible patient is favored in dentistry.

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Administration of propofol at subhypnotic doses did implement the desired conditions and results (Tomioka et al.).

Alternatives are psychotherapeutic intervention (Klepac, Hauge, & Dowling, 1982) or behavioral approaches (Neumann & McCarty, 2001). These are time-consuming but treat the cause. Reasons for uncontrollable gag reflexes can be psychogenic or pathophysiologic nature (Conny & Tedesco, 1983a; Kramer & Braham, 1977). According to Conny and Tedesco (1983a), nasal polyps, sinusitis, and chronic problems of the gastrointestinal tract can be pathophysiologic reasons for an exaggerated gag reflex. Anticipatory anxiety, learned, and operantly conditioned behaviors (Saunders & Cameron, 1997), special fear, depressive states (H. E. Schroeder, Schroeder, & Santibanez, 1986), and social reinforcement (Ramsey, Weinstein, Milgrom, & Getz, 1987) are discussed in the literature as causes of psychogenic gagging.

The depicted therapeutic approaches, like general anesthesia, sedation, and psychotherapeutic interventions, are time-consuming and cannot be realized in a general dental practice setting. In addition, anesthesiologists and psychotherapists are needed. This is why many patients are referred to dental clinics for treatment.

A dentist who considers treatment of a patient with a history of gagging is in need of a well-planned treatment (See Table 1). Hypnopuncture, a combination of hypnosis and acupuncture, meets these requirements.

Studies focus either on hypnosis (Bartlett, 1971; Clarke & Persichetti, 1988; Weyand, 1972) or on acupuncture/acupressure (Eizember, Tomaszewski, & Kerns, 2002; Fiske & Dickinson, 2001; Lu, Lu, & Reed, 2000; Vachiramon & Wang, 2002) to control the gag reflex. As early as

Table 1
Requirements for the Therapeutic Plan to Treat Patients with a Distinctive Gag Reflex

Demands are:
1. Simple application by a dentist without a psychological background
2. Possible integration into a dental practice setting
3. Containing no psychotherapeutic elements (these can only be controlled by specialists)
4. Long-term treatment result
5. Psychological and physiologic elements must be considered
6. Possible communication with the patient during the dental treatment procedure
7. No negative side effects
8. Increasing the threshold for gagging
9. Increasing the compliance of the patient
10. Integrating elements from dentistry
1952, Secter (1952) suggested hypnosis as a possibility for successful intervention. Recent literature focuses on acupuncture and acupressure of antigagging points. Cheng Jiang REN-24 (Vachiramon & Wang), one ear point that directly affects the gag and swallowing reflexes (Fiske & Dickinson, 2001) and Nei Guan P-6 (Lu et al., 2000) (see Figure 1).

The concept of hypnopuncture combines the immediate impact of acupuncture and the lasting effect of hypnosis for the first time. Physiologic and psychological factors are addressed simultaneously.

Oral stereognosis, the 3-dimensional perception in the oral cavity (Figures 2 & 3), occupies a central position in hypnopuncture. The following case report depicts the structured procedure to achieve predictable treatment results.

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**Figure 1.** From left to right: Cheng Jiang REN-24; Ear point; Nei Guan P-6.

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**Figure 2.** Stereognosis test with mirror under hypnosis before impression taking.
CASE PRESENTATION

1st Session: Preliminary Talk and Relaxation Exercise

After a preliminary evaluation (see Table 2), the following information was obtained. The 48-year old male patient was suffering from a distinctive gag reflex. No dental treatment had been conducted for 10 years. Even brushing the teeth provoked the reflex. The patient was referred to the clinic for treatment under general anesthesia. Instead of general anesthesia and psychological consulting, hypnosis was considered as an alternative. The patient was not acquainted with hypnosis but was very interested in improving his oral health status. This is a favorable precondition for the successful application of hypnosis.

The patient was nervous, anxious, and sweating excessively, and his breathing and pulse rate were increased. A completely closed collar of his shirt caused anxiety. When the patient talked about the issue, all parameters increased.

First, the patient determined his relaxation and safety anchor. A safety anchor is an imaginary situation or location where the patient feels comfortable and secure. Both were based on vacation experiences. Negative anchors were not mentioned.

An initial problem was to express a positive association aiming at the desired treatment result. The patient associated relaxation with calmness. His behavior was mainly influenced visually and kinesthetically by imaginary pictures in connection with positive feelings.
Special keywords or speech patterns, such as words or phrases with positive or negative associations for the patient and that were repeatedly used, could not be recognized in this case.

The first appointment ended with a relaxation exercise that was introduced as a convincer. “Hypnotalk,” a conversation between patient and therapist introducing hypnosis with metaphors, pictures, and/or stories, induced a shallow relaxation, leading to a measurable finger elongation on one hand.

Finger elongation can be used as a convincer, where the patient is asked to let the fingers of one hand grow. The neurophysiologic change correlating to this phenomenon is the decrease of the muscle tone in the fingers, which causes a tendon relaxation and a resulting increase of the distances between the joint surfaces. The finger elongation was established to initiate a state of trance quickly.

The patient was asked to fathom the reason for the observed finger elongation at home. This makes the patient focus on the measurable result of hypnosis. He or she learns to believe in hypnosis and his or her own capabilities. The patient was also persuaded that the gag

Table 2
Structured Preliminary Talk

1. Establishing a working hypothesis
2. Asking for motivation and expectations of the patient
3. Asking for previous relaxation experiences
4. Asking for positive and negative experiences
5. Determining a relaxation and tranquilizing anchor
6. Determination of a safety anchor
7. Formulating a positive goal

The supervisor has to:
1. Determine dominant senses (visual, auditory, kinaesthetic, olfactory, savor)
2. Gather facial expressions, gesture, key-words and speech patterns of the patient with positive or negative coupling
3. Built-up a “yes-set”
4. Initialize pacing, leading and pattern repeating
5. Educating the patient about background of hypnosis and acupuncture, and explanation of possible side effects

The following results can be extracted from the analysis:
1. Therapeutic measures
2. Therapeutic approach
3. Induction
4. Immersion
5. Return
reflex could be controlled the same way. No dental examinations were performed.

2nd Session: First Hypnosis Experience, Dental Diagnostics with Hypnopuncture and Stereognosis

For the second appointment, dental diagnostics and a minor restorative treatment were planned. Hypnopuncture was utilized. The patient seemed more relaxed compared to the first appointment. He had no explanation for the finger elongation but was optimistic that he would control his gag reflex the same way.

Hypnosis was initiated interactively with the triple-sense technique (Table 3). This method is based on addressing visual, kinesthetic and auditory senses. The induction took 10 minutes. Breath frequency and heart rate were reduced noticeably by this method. Posture and facial expression relaxed. Trance immersion resulted from a virtual flight to the relaxation scene of the patient. Placement of the acupuncture needles at Cheng Jiang REN-24 and the antigagging point were coupled kinesthetically with the trance state.

Stereognosis was the chosen therapy, and the gag reflex was appreciated as a physiological reaction.

Different dental instruments were placed in the mouth. The patient was asked to feel and identify these with his tongue (Figures 2 & 3). Each instrument remained in the oral cavity for 30 seconds. Hypnopuncture and stereognosis enabled the patient to tolerate instruments touching his tongue. This allowed intraoral examination and treatment of the first left premolar with a filling. The patient swallowed normally during the procedure. The return and the posthypnotic phase were used to reinforce the positive experiences.

Table 3
Protocol for the “Triple-Sense” Method

<table>
<thead>
<tr>
<th>Phase I - Spot fixation (eyes open):</th>
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<tbody>
<tr>
<td>• Three visual stimuli / impulses (15 seconds each)</td>
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<tr>
<td>• Three kinaesthetic stimuli / impulses (15 seconds each)</td>
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<td>• Three auditory stimuli / impulses (15 seconds each)</td>
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<td>• One auditory stimuli / impulses (15 seconds each)</td>
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</table>

Phase II – The same protocol is repeated as in phase I (eyes closed)
For “homework,” he was also asked to practice the relaxation exercises according to the triple-sense method and stereognosis with common objects, such as a toothbrush, spoon, fork, etc.

3rd and 4th Sessions: Treatment and Hypnopuncture

Treatment was conducted according to the proceedings of Session 2. The degree of difficulty increased. In Session 3, a filling was accomplished in a mandibular molar, and in Session 4 a maxillary impression was taken. The patient tolerated all procedures well. Hypnosis was conducted as hypnosedation with a short stereognosis test. A sound trance state was reached faster than before, and the same acupuncture points were used. The return and the posthypnotic phase were used to reinforce the positive experiences again.

The patient was also asked to continue relaxation exercises and stereognosis. He left the clinic with a new self-confidence based on the achieved results.

5th Session: Treatment Without Hypnopuncture

For this appointment, the delivery of two cast restorations was planned with hypnopuncture. The patient was calm, relaxed, and very positive. His physiologic parameters were normal. He was not sweating, and his breath frequency and heart rate were within normal range.

When hypnopuncture was initiated, the patient asked to be treated without it. He was convinced that he could control the swallowing reflex. He focused on the appointment and was able to relax. When seated, the patient closed his eyes for further relaxation. Only local anesthesia was administered for placement of the restorations. No further intervention to control the gag reflex was necessary.

Afterward, the patient was proud and relieved that he could be treated like any other patient. In total, seven more appointments were necessary to finish all restorative and prosthetic treatments. Compliance was excellent and perfect control of the swallowing reflex was not a problem anymore. Only for impression taking was acupressure of Cheng Jiang REN-24 and light relaxation used to support the procedure.

DISCUSSION

The present case report demonstrates the successful therapy of a severe gag reflex. Whereas conventionally either hypnosis or acupuncture is applied to control the swallowing reflex (Bartlett, 1971; Chate, 2001; Clarke & Persichetti, 1988; Eizember, et al., 2002; Fiske & Dickinson, 2001; Lu, et al., 2000; Rootenberg, 1979; Secter, 1952; Vachiramon & Wang, 2002; Weyand, 1972), both measures were employed in combination. As stated in the literature, no single technique will solve each patient’s problem (Conny & Tedesco, 1983b). In a study by Eli and
Kleinhauz (1985), hypnosis is considered a tool for an integrative approach in the treatment of a gagging reflex. Nitrous oxide and suggestions were combined by Rosen (1981) to treat patients with a gag reflex.

Cheng Jiang REN-24 is an established acupuncture and acupressure point to control swallowing (Vachiramon & Wang, 2002). Lu et al. (2000) use Nei Guan P-6 to control gagging, whereas Eizember et al. (2002) use the point for the prevention of emesis in patients receiving activated charcoal. For Fiske and Dickinson (2001), manipulation of the antigagging point on the ear is sufficient for dental treatment.

A drawback of acupuncture is that the psychological state of a patient is not considered. Acupuncture needs a relaxed environment. Patients with a long history of unsuccessful treatment attempts (Foster, Owens, & Newton, 1985) are often in exceptional psychological circumstances. In cases like this, the dentist can become part of an anxiety-aversion response for the patient (Saunders & Cameron, 1997). Excessive gagging can be seen as a consequence of protracted extreme fear or anxiety of dental phobia (Roberts, 1994; H. E. Schroeder et al., 1986; U. Schroeder & Santibanez, 1978). The success of acupuncture in such cases is questionable, because compliance is negatively affected by the anxiety level. Although a positive long-term therapeutic effect cannot be obtained by acupuncture alone, it is an excellent tool in situations of immediate care. The additional time needed is only 2 to 3 minutes (Fiske & Dickinson, 2001). Acupuncture can build confidence and initiate or accompany long-term therapeutic effects.

The psychotherapeutic approach of hypnosis is used to treat anticipatory anxiety, learned and conditioned behaviors (Saunders & Cameron, 1997), special fear, depressive states (H. E. Schroeder et al., 1986), alcoholism (Elsberry, 1992), and as a social reinforcement (Ramsay et al., 1987).

In general, the knowledge and education of a dentist is inadequate to perform psychotherapy. For this, the professional competence of psychiatrists, psychotherapists, and psychologists is needed. In a case report by Muir and Calvert (1988), psychological techniques such as biofeedback and relaxation assist during impression taking; these techniques are performed by a psychologist. A psychotherapeutic intervention, described by Klepac et al. (1982), is as time consuming as the traditional psychological behavior therapy. Nine appointments were necessary before a dentist could start work (Wilks, 1985). A dentist should avoid evaluating psychogenic factors, because a psychotherapeutic intervention should not be attempted by him or her. This is controversial in the literature (Kramer & Braham, 1977; Saunders & Cameron, 1997). The meta-analysis by Revenstorf (1999) shows that no clinical studies on hypnosis for the treatment of gagging dental patients have been reported.
The introduced concept of hypnopuncture combines the positive elements of hypnosis and acupuncture. Dental treatment can be carried out after two or three appointments. The long-term goal of hypnopuncture is the patient’s (and dentist’s) control of the gag reflex, not suppression. Patients experience their first “gag-free” dental appointment by the fourth or fifth visit. The basic principle is the application of hypnosedation in dentistry. Elements of acupuncture and dental-treatment steps are used for trance induction and immersion. Compliance is established through hypnosedation. Stereognosis generates a new intraoral perception that is comparable to desensitization (Mantecchini, Bassi, Pera, & Preti, 1998). Barsby (1994) used plastic disks for conditioning and desensitization in a similar setting. Confidence is built, because the patient is directly involved in coping strategies like stereognosis and triple-sense. This approach is also emphasized by Clarke and Persichetti (1988) for reducing the gag reflex.

A cautiously structured treatment plan with positive experiences that superimpose negative ones is recommended. Difficult procedures such as impression taking should not be considered in the beginning. It is important to convey to the patient that the swallowing reflex is not necessarily a pathological state (Wilks, 1985) or a malfunction. The swallowing reflex is a protective physiologic reflex.

The elimination of the severe gag reflex through hypnopuncture after five visits in the presented case can be attributed to the suggestion that the initial therapy could be finished after five or six appointments.

Since treatment completion, the patient is on a regular recall program. He is now able to control his swallowing and gag reflex well. The hypnosis used over all sessions utilized “ego strengthening,” “relaxation,” “light trance,” and “desensitization,” as described by Amundson, Alladin, and Gill (2003) for initial hypnosis therapy.

Hypnopuncture exhibits considerable advantages when compared to any other kind of medical intervention. Stress factors that can be harrowing and nerve wrecking for all concerned are eliminated (Robb & Crothers, 1996; Weyand, 1972). Negative side effects are nonexistent.

Exclusion criteria for this proceeding are psychological disease patterns (ICD 10), uncontrolled bleeding disorders, and pregnancy. If general anesthesia or sedation is administered, no long-term effects are obtained, the procedure has to be repeated at each appointment, and an anesthesiologist is needed (Roberts, 1994). This is acknowledged by Robb and Crothers (1996). Only reeducation and psychological techniques including hypnosis can lead to a permanent reduction of a gag reflex. It seems that only these approaches allow the delivery and incorporation of complete dentures in patients with gagging problems (Bartlett, 1971; Morse, Hancock, & Cohen, 1984; Murphy, 1979; Noble,
LONG-TERM THERAPY FOR SEVERE GAG REFLEX

2002; Wilks, 1994). The successful management of oral hypersensitivity and aversive behavior can have significant health benefits (Reid et al., 2000) and a positive economic impact. Other therapeutic approaches such as control of hyperventilation are controversial (Barsby, 1997; Wilks, 1997). Techniques from kinesiology such as the temporal tap (Boitel, 1984; Zach, 1990) and progressive relaxation (Zach, 1989) require further evaluation. However, there seems to be a potential for integrating these into existing concepts.

The salting of the tongue for the temporary elimination of the gag reflex (Friedmann & Weintraub, 1985) must be considered therapeutically insignificant.

CONCLUSION

Hypnopuncture is an integrated therapy of hypnosis and acupuncture. A lasting long-term control of a severe gag reflex is the intention. It has a psychological and physiologic impact and can be applied by a dentist with advanced training in hypnosis and acupuncture. The hypnotherapeutic concept is based on hypnosedation and a positive superposition of negative experiences. Stereognosis establishes a new intraoral sensibility, and at the same time the patient is actively involved in problem solving.

The described case report demonstrates the effectiveness of the concept for patients with a distinctive gag reflex. After five appointments, the patient was able to tolerate dental treatment through operator control without any auxiliary means.

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Un concept thérapeutique à long-terme pour des patients ayant un réflexe de haut-le-cœur grave

Stephan Eitner, Manfred Wichmann, et Stefan Holst

Résumé : « l’Hypnopuncture » est un mélange de traitement par l’hypnose et d’acupuncture. Il offre un concept de thérapie à long-terme pour des patients souffrant de réflexes de haut-le-cœur grave. Ce concept est appliqué
indépendamment de la cause du symptôme. Dans les cas de traitement dentaire urgent, la compliance immédiate du patient est vitale. Le but à long-terme de n’importe quelle mesure thérapeutique est de contrôler le réflexe de haut-le-coeur. Un nouveau protocole de traitement est illustré par le cas d’un patient de 50 ans souffrant de graves réflexes de haut-le-coeur. Après seulement 5 visites, le traitement dentaire pu être effectué sans l’aide d’autres moyens auxiliaires. L’hypnose est appliquée sous forme d’hypnosédation (et non en tant que psychothérapie), alors que la « stéréognosis » occupe une place centrale dans la désensibilisation.

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Un concepto terapéutico a largo plazo para pacientes con reflejo severo de vómito

**Stephan Eitner, Manfred Wichmann, y Stefan Holst**

Resumen: La “hipnopuntura” es un tratamiento combinado de hipnosis y acupuntura. Propone un concepto terapéutico para la terapia a largo plazo con pacientes con un reflejo de vómito severo. El concepto se aplica independientemente de la causa. En el caso del tratamiento de emergencia en la odontología, la conformidad inmediata del paciente tiene enorme importancia. La meta a largo plazo de cualquier medida terapéutica es el control del reflejo de vómito. Se ilustra un protocolo nuevo de tratamiento en el caso de un paciente de 50 años de edad con un reflejo severo de vómito. Después de sólo 5 visitas, el tratamiento dental se pudo realizar sin ningún medio auxiliar. La hipnosis se administró en la forma de hypnosedativo (no como psicoterapia), mientras que la stereognosis ocupó una posición central para la insensibilización.

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