Secondary Diurnal Enuresis Treated with Hypnosis: A Time-Series Design

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SECONDARY DIURNAL ENURESIS TREATED WITH HYPNOSIS: A Time-Series Design

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Abstract: A case of secondary diurnal enuresis (SDE) after a car accident was treated with hypnosis by means of the Hypnotic Trauma Narrative, an instrument created by the authors for use with children who have been exposed to traumatic events and develop either classic symptoms of posttraumatic stress disorder or manifest other psychosomatic symptoms. An ABAB time-series design with multiple replications was employed to measure the relationship of the hypnotic treatment to the dependent measure: episodes of diurnal incontinence. The findings indicated a statistically significant relationship between the degree of change from phase to phase and the treatment. Hypnosis with the Hypnotic Trauma Narrative was deemed efficacious as a method for the treatment of secondary diurnal enuresis. The patient was symptom-free at follow-up 6 months later.

DISORDERS OF ELIMINATION: ENURESIS

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000) indicates that the essential feature of enuresis is the repeated voiding of urine during the day or at night onto the bed or clothes. The episodes must take place at least twice a week for a period of at least 3 months and/or create clinically significant impairment in valued areas of the child’s life. The disorder is further subdivided into nocturnal or diurnal subtypes. There is also a combined subtype for those cases that present with both nocturnal and diurnal features.

Epidemiological figures of nocturnal enuresis indicate that up to 20% of school-aged children wet the bed, with 2.4% wetting the bed nightly (Bower, Moore, Shepherd, & Adams, 1996). There is a 3% prevalence of nocturnal enuresis in 15-year-olds (Bower et al.). The epidemiological
figures of diurnal enuresis, with at least one episode in the past 6 months, point to a 20% incidence level in school-aged children with a higher prevalence of this subtype in girls (Sureshkumar, Craig, Roy, & Knight, 2000).

The Role of Adverse Life Events in Secondary Enuresis

The development of secondary enuresis was examined in a birth cohort of New Zealand children studied to the age of 10 years. By this age, 7.9% of children had developed secondary enuresis. Analysis of the data suggested that the child’s level of exposure to adverse life events was associated with the onset of secondary enuresis (Fergusson, Horwood, & Shannon, 1990). The Israeli pediatric literature has documented enuresis a common complaint among children after an automobile accident, occurring concomitantly or without behavioral symptoms of posttraumatic stress disorder (PTSD). A case study of 5 children from Tel Aviv treated for minor physical complaints postautomobile accidents indicated that all 5 children developed secondary nocturnal enuresis (Eidlitz-Markus, Shuper, & Amir, 2000). All but 1 had additional behavioral symptoms typical of PTSD. The authors concluded that nocturnal enuresis can occur after a motor vehicle accident to purely psychological trauma concomitantly with or without PTSD symptomatology.

Treatment of Enuresis

Due to the lack of uniform identifiable causes for both nocturnal and diurnal enuresis, a host of treatment modalities has been employed in the quest to manage this condition. Pharmacotherapy has ample documentation in the enuresis literature (Black, 1983; Blackwell & Currah, 1973) with, for the most part, efficacious results as long as the treatment is kept in force. There is a substantial rate of relapse when treatment is discontinued (Bloom, 1993). Most pharmacological reports are directed at the nocturnal subtype. The literature of behavioral psychotherapy, primarily operant conditioning approaches, is well represented in the treatment of enuresis with a major emphasis on the pad-and-bell technique and dry-bed training. This orientation is, again, primarily structured for the treatment of the nocturnal subtype of enuresis (Azrin, Sneed, & Foxx, 1974).

Hypnotherapy of Enuresis

Hypnosis enjoys substantive representation in the literature of the clinical management of enuresis (Banerjee, Srivastav, & Palan, 1993; Crasilneck & Hall, 1985; Edwards & Van Der Spuy, 1985; Jacobs, 1962; Kohen, Olness, Colwell, & Heimel, 1984; Olness, 1975; Olness & Gardner, 1988; Stanton, 1979). Collison (1970) reported clinical results with the use of this modality of complete improvement in follow-up of
periods as long as 5 years. The degree of treatment efficacy in the clinical hypnotherapy of enuresis varies, but, for the most part, hypnotic treatment of enuresis appears to be appreciably successful. Olness reported impressive results using direct suggestion in hypnosis in 93% of 40 nocturnally enuretic patients ages 4 to 16 years old. Kohen et al., in a study of 257 children who were treated hypnotically for enuresis, documented 100% success in approximately 44% of their patients and significant improvement in 31% as measured at follow-up a year later. Bannerjee et al., in a comparative study of the management of nocturnal enuresis with hypnosis and imipramine therapy, reported no difference between hypnosis and imipramine therapy after 3 months of active treatment. At 9-months follow-up, the hypnosis group continued with a positive response, 68% versus 24% for the imipramine group who discontinued the medication after the initial 3 months of the study.

Treatment of Secondary Diurnal Enuresis

The literature on treatments of secondary diurnal enuresis is influenced by clinical and theoretical assumptions that the etiology of this subtype is primarily a product of detrusor instability or dysfunctional voiding and as such it is important to rule out neurological or urological causes (Caldwell, Edgar, Hodson, & Craig, 2005). Moreover, the assumption is made that children with diurnal enuresis are more resistant to treatment and vulnerable to relapse than children with the nocturnal subtype (Fielding, 1980). Most treatments are physiological and include a combination of urotherapy (teaching the patient to relax pelvic-floor muscles during voiding), imposing regular voiding regimens, anticholinergic therapy, and controlling fluid intake (Caldwell et al.). Studies of biofeedback methods (Rhodes, 2000; Schulman, Colish, Von Zuben, & Kodman-Jones, 2000) aimed at teaching control of pelvic floor musculature report satisfactory results with diurnal enuresis cases. Simple behavioral therapy, also aimed at strengthening pelvic floor muscles, has been reported effective as well (Wiener et al., 2000). However, in a critical review of empirical studies of existing methods for treating daytime enuresis, Sureshkumar, Bower, Craig, and Knight (2003) concluded that no intervention to date has been proved to be of benefit to children with daytime urinary incontinence. Even though most reports on enuresis concur that there are psychological bases and psychological precipitants in cases of secondary diurnal enuresis, negligible emphasis is made as far as describing specific psychological and behavioral treatment approaches.

Hypnotic Treatment of Secondary Diurnal Enuresis

The hypnosis literature is devoid of unique and/or specialized therapeutic approaches for secondary diurnal enuresis.
CASE STUDY

A 13-year-old Hispanic girl was referred for evaluation and treatment by a pediatric urologist. The doctor’s diagnosis, after an extensive urological work-up at a children’s hospital, was secondary diurnal enuresis postautomobile accident. History indicated that the patient was sitting in the rear right seat of the family vehicle when it was rear-ended. As a result of the impact, the passengers received minor contusions and bruises. The patient was transported to a local emergency room for routine examination and was discharged with a referral to an orthopedist physician to follow the course of a strain in her lumbar area. During follow-up with the orthopedist, she reported daily episodes of diurnal urinary incontinence since the accident, and a referral to a children’s hospital was made. Both pediatric urological and neurological examinations were unremarkable, and the case was referred for psychological treatment.

The patient was seen for psychological care about 3 months postaccident and reported daily episodes of diurnal enuresis. She reported a history of daily episodes of urinary urgency also. These instances were accompanied by a significant flow of urine or, at times, by just a few gotitas or drops. She denied symptoms of depression. She was oriented and evidenced good concentration and attention skills. There was no evidence of disorders of perception or of thinking. The patient denied the use of alcoholic beverages; she does not use drugs and is not sexually active. She did not complain of intrusive images of the accident and was not having instances of experiencing revivification. She denied recurrent dreams of the accident. She is not afraid of riding in cars. Her memory of the accident was an image of seeing herself amidst family members who were all crying and screaming. The patient’s history of psychiatric and psychological illnesses was negative. There was a positive family history of psychiatric and psychological care for anxiety disorders, bi-polar disorder, and depression.

This child was a good historian and was cognizant, as well, of the times she had been socially impaired due to this problem. The patient was considerably anxious with respect to the wetting problem and the potential social ramifications for a girl her age. The wetting forced her to decline social invitations as well as to forgo a host of school-related social affairs. Fearing that she would wet herself and be ridiculed by her peers was the driving force behind her social isolation. In general, her primary and only complaint was the daytime enuresis and the anxieties that it created.

Formulation

There is consensus about the psychological role that adverse life events play in the development of secondary diurnal enuresis
SECONDARY DIURNAL ENURESIS

(Caldwell et al., 2005; Kodman-Jones, Hawkins, & Schulman, 2001). Psychological factors appear to carry greater etiological weight in the development of secondary diurnal enuresis than in the other subtypes (Caldwell et al.; Jones, Rrustemi, Shahini, & Uka, 2003; Sureshkumar, Bower, et al., 2003). That being said, and in light of the fact that there was an obvious contiguous temporal relationship between the date of the accident and onset of symptoms, psychological factors were strongly suspected in the etiology of this case. As a result of these factors, this child’s condition was conceptualized as a traumatic process devoid of manifest posttraumatic symptomatology. Instead, it was further formulated, that diurnal enuresis became the tangible manifestation of the unconscious traumatic process. With that hypothesis in mind, treatment was accordingly structured to address the traumatic elements of the accident. It was assumed that once the repressed impact from the accident resolved, the child would become continent of urine and return to a premorbid level. A similarly formulated and correspondingly indirect approach to treatment was successfully employed with three end-stage terminally ill patients for the management of intractable pain, nausea, and vomiting (Iglesias, 2004). A similar indirect approach to treatment was also successfully employed in the hypnotic care of two children with PTSD in complicated bereavement reactions (Iglesias & Iglesias, 2005/2006). Moreover, an indirect approach was also successfully employed in the hypnotic care of three children with trichotillomania (Iglesias, 2003).

Based on the work of Frederick & Phillips (1992), the principal intervention employed was predicated on the principle of age progression as an ego-strengthening technique. Moreover, age progression techniques contribute to the enhancement and strengthening of the individual’s ego structures (Hartland, 1965a, 1965b; Stanton, 1989; Torem, 1990). Phillips and Frederick (1992) elaborate on this point and add, “When an individual achieves a positive view of the future, in a hypnotic state, she/he is already viewing an ego that has been positively enhanced in the mirror of the mind” (p. 100).

**Method**

The hypnotic care of this case was theoretically based on the definition of secondary diurnal enuresis (SDE) in the *DSM-IV-TR* (American Psychiatric Association, 2000). This case met the criteria for SDE including voiding of urine into clothes, a frequency of at least twice a week for at least 3 consecutive months, and clinically significant impairment in social areas.

The patient was treated with hypnosis using the Hypnotic Trauma Narrative, an instrument created by the authors for use with children who have been exposed to traumatic events and develop either classic symptoms of PTSD or manifest the effects of the exposure through
other psychosomatic channels (Iglesias & Iglesias, 2005/2006). No direct references to enuresis were made during this child’s treatment. She was deemed an above-average hypnotic subject as measured by the Stanford Hypnotic Clinical Scale for Children Standard Form (Ages 6–16) (SHCS:Child; Morgan & Hilgard, 1978/1979). Hypnosis was initially induced with a classic eye-fixation technique (Hammond, 1990). Subsequently, hypnosis was abbreviated into eye-closure and a deepening strategy like the “safe place” (Olness & Gardner, 1988). At this point, the narrative and suggestions from the Hypnotic Trauma Narrative (Iglesias & Iglesias) were delivered to the patient:

You’re old enough to know that when you look through a telescope things that are far away look much closer. Important events in our lives can also be viewed as though you were looking through a telescope that brought them close to you. When you do that, you gain access to even the minutest details of the image that you are examining. At that point, you could see more than you need to see and could become stuck with certain images and unable to let them go. This can be overwhelming, because the details that you seem stuck on are upsetting and hurtful. There is an alternative—you can turn the telescope around and view the same picture from the wide lens and then things can seem very, very far away. When that happens, you may not realize it, but many details of the image that you are examining get lost and are no longer available. Events that take place in life can be examined from either end of the telescope. . . . Now, I ask that you see yourself looking through the wide lens of a telescope at one event that has taken place in your life that needs to be viewed from a less painful perspective, so that you can be well again. Look through the eye of your mind into the wide end of the telescope. This offers you the ability to see things in a far away, far away, far away space, place, and time. By placing them far away, you’re able to see them in a more manageable fashion and elements of that image that used to upset you are no longer so noticeable. Of course, horrible events in our lives do not simply disappear, but with the passage of time the details of the painful event get blurry, you start forgetting, and your mind makes room for current memories.

Your mind is also capable of giving you a picture of yourself a week from today, a month from today, 3 months from today, and even a year from today. . . . It’s fun to be able to look ahead and to get a glimpse of what our lives will be like in the future. As we now look ahead . . . and I wonder if you are able to project ahead a week. . . . I wonder if you can move ahead a month or 2 or 3, and I wonder if you are old enough to be able to see a year into the future. As you look ahead, no matter how far into the future, you find yourself able to accept all of the happy memories that you have not given yourself the opportunity to enjoy. As you put everything that is painful in its proper perspective, you grow and strengthen inside, as well as outside, and you become more mature and older. Also, any complaints that your body has been voicing that are no longer necessary can quietly follow in the same direction as the images
that you are looking at through the wide lens of the telescope. As these complaints become a thing of the distant past, never to trouble you again, you become well and able to move ahead with the assignments that are appropriate for someone your age.

During a period of 5 weeks (baseline), data were collected on the dependent measure: the number of episodes of diurnal incontinence. During this baseline period, the following procedures took place: (Week 1) phone consult with the referring pediatrician; (Week 2) diagnostic interview with mother; (Week 3) diagnostic interview with child; (Week 4) joint interview with mother and child to review treatment plan; (Week 5) assessment of hypnotizability and first induction. At Week 6, treatments (Hypnosis Phase I) with the Hypnotic Trauma Narrative commenced and continued on a weekly basis for 5 weeks of individual sessions of half-hourly duration. Due to transportation difficulties, treatment was subsequently interrupted for 3 weeks (Interruption); however, data were collected during this interruption period. Treatment was then resumed for five additional visits (Hypnosis Phase II). Data were collected and analyzed in weekly increments throughout the study. A follow-up was carried out 6 months later in a joint visit with the child and her mother.

Statistical analysis of the data was conducted with ITSACORR (Crosbie, 1993) an interrupted time-series analysis procedure that employs an accurate estimate of autocorrelation and better control of Type I error. ITSACORR provides three statistical tests. The first is an omnibus $F$ test for the determination of an overall effect. If this test is nonsignificant, the analysis ends at this point with a conclusion that the degree of change from one phase to the other is not statistically significant. If the omnibus $F$ test is significant, one then proceeds to examine the two remaining tests: the $t$ test for intercept and the $t$ test for slope. This allows one to determine whether the problem being treated has changed significantly from the first to the second phase (i.e., the intercepts of the two phases are different) and/or if the trend (of getting better or worse) has changed from the first to the second phase (i.e., the slopes of the two phases are different; Borckardt & Nash, 2002). A pertinent point to keep in mind is that although ITSACORR can maintain an acceptable level of Type I error with as few as 5 scores per phase, this is not an optimal length and, according to Crosbie, should be considered the absolute minimum. These authors recommend 10 to 20 measures per phase in order to obtain a better estimate of autocorrelation.

**RESULTS**

Result of the ITSACORR omnibus $F$ test for the presence of an overall effect between baseline and Hypnosis Phase I was significant at the
The Steady-State (SS) Intercept was 14.71 at baseline and 0.42 at Hypnosis Phase I. The corresponding t test for intercept was significant at the $p = .002$ level. The SS slope was −1.116 at baseline and 0.54 at Hypnosis Phase I. The corresponding t test for slope was not significant at the $p = .07$ level.

Result of the ITSACORR omnibus $F$ test for the presence of an overall effect between Hypnosis Phase I and interruption was significant at the $p = .01$ level. The SS intercept was 3.60 at Hypnosis Phase I and 29.85 at interruption. The corresponding t test for intercept was significant at the $p = .01$ level. The SS slope was −0.18 for Hypnosis Phase I and −5.49 for interruption. The corresponding t test for slope was significant at the $p = .03$ level.

Result of the ITSACORR omnibus $F$ test for the presence of an overall effect between interruption and Hypnosis Phase II was significant at the $p = .04$ level. The SS intercept was 11.62 for interruption and 3.13 for Hypnosis Phase II. The corresponding t test for intercept was significant at the $p = .04$ level. The SS slope was −1.27 for interruption and −0.56 for Hypnosis Phase II. The corresponding t test for slope was not significant at the $p = .64$ level.

These findings indicated that there was a statistically significant probability that hypnotic treatment with the Hypnotic Trauma Narrative was responsible for the successful therapy of this case of secondary diurnal enuresis. Omnibus $F$ tests indicated significant overall changes between the phases of this study. There was a statistically significant change between the baseline period and Hypnosis Phase I. The change between Hypnosis Phase I and interruption was also statistically significant. Last, the change between interruption and Hypnosis Phase II was also statistically significant. Said differently, the symptom levels improved during the first treatment phase, recurred during the interruption of treatment phase, and once again demonstrated improvement during the second treatment phase (Figure 1). According to Borckardt and Nash (2002), “when the results follow this pattern, one can make a strong argument that the intervention caused improvement” (p. 186). The patient was symptom-free at follow-up 6 months later.

Although the ABAB design controls for many of the threats to internal and external validity (Shadish, Cook, & Campbell, 2002) and it is certainly superior to the AB design with respect to available inferences, randomization of treatment and baseline-phase beginnings and endings need to be present in order to allow for causal inferences. Unfortunately, the interruption phase and Hypnosis Phase II occurred naturalistically. The onset and duration of these phases were not manipulated by the researchers. This leaves room for several competing explanations of the observed effects other than the treatment caused it. This limitation must be a consideration in this study. Nonetheless, this case study brings to light important findings that deserve further attention.
DISCUSSION

The role of psychological factors was strongly suspected in the etiology of this case. As a result, this child’s condition was conceptualized as a traumatic process devoid of manifest posttraumatic symptomatology. Instead, it was further formulated that diurnal enuresis became the tangible manifestation of the unconscious traumatic process. With that hypothesis in mind, treatment was accordingly structured to address the traumatic elements of the accident. Conceptually, the results are assumed to be associated with the treatment’s capacity to assist in resolving the repressed impact from the accident. As was further hypothesized, once the repressed trauma resolved, the child became continent of urine and returned to a premorbid level. The principal intervention employed was predicated on the principle of age progression as an ego-strengthening technique. Age progression techniques contribute to the enhancement and strengthening of the individual’s ego structures (Hartland, 1965a, 1965b; Stanton, 1989; Torem, 1990). Phillips and Frederick (1992) elaborated on this point and added, “When an individual achieves a positive view of the future, in a hypnotic state, she/he is already viewing an ego that has been positively enhanced in the mirror of the mind” (p. 100).

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**Sekundäre diurnale Enuresis behandelt mit Hypnose: Ein zeitreihendesign**

Alex Iglesias und Adam Iglesias

Zusammenfassung: Ein Fall von sekundärer diurnaler Enuresis (SDE) infolge eines Autounfalls wurde mit Hypnose behandelt. Eingesetzt wurde das Hypnotic Trauma Narrative, ein Instrument, welches die Autoren für den Einsatz an Kindern entwickelt haben, wenn diese traumatischen Ereignissen ausgesetzt waren und klassische Symptome von posttraumatischer Belastungsstörung oder andere psychosomatische Symptome zeigen. Es wurde ein ABAB Zeitreihen-Design verwendet, um den Zusammenhang zwischen Hypnosebehandlung und der abhängigen Variable (Episoden diurner Inkontinenz) zu messen. Es zeigte sich ein statistisch signifikanter Zusammenhang zwischen dem Ausmaß der Veränderung von Phase zu Phase sowie der Behandlung. Hypnose mit dem Hypnotic Trauma Narrative stellte ein wirksame Methode zur
Behandlung von SDE dar. Der Patient war nach 6 Monaten weiterhin symptomfrei

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L’énurésie diurne secondaire traitée par l’hypnose : Un modèle de série chronologique

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Résumé: Un cas d’énurésie diurne secondaire (EDS) causé par un accident de voiture a été traité par voie de narration du traumatisme sous hypnose, une méthode mise au point par les auteurs et utilisée auprès d’enfants ayant été exposés à des événements traumatiques et qui présentent des symptômes classiques du syndrome de stress post-traumatique ou qui manifestent d’autres symptômes psychosomatiques. Un modèle de série chronologique A-B-A-B, accompagné de répétitions multiples des expériences, a été utilisé pour mesurer la relation entre le traitement hypnotique et la variable dépendante: les crises d’incontinence diurne. Les résultats ont indiqué une relation statistiquement significative entre le degré de changement d’une phase à l’autre et le traitement. La narration du traumatisme sous hypnose a été jugée efficace comme méthode de traitement de l’énurésie diurne secondaire. Le patient ne présentait toujours pas de symptômes lors de l’examen de suivi effectué six mois plus tard.

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Enuresis secundaria diurna tratada con hipnosis: Un diseño serial

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Resumen: Tratamos un caso de enuresis secundaria diurna (SDE) después de un accidente automovilístico con hipnosis por medio de la Narrativa Hipnótica de Trauma, un instrumento creado por los autores para el uso con niños expuestos a sucesos traumáticos que han desarrollado los síntomas clásicos de trastorno por estrés postraumático o manifiestan síntomas psicosomáticos. Usamos un diseño de serie ABAB con repeticiones múltiples para medir la relación del tratamiento hipnótico a la medida dependiente: los episodios de incontinencia diurna. Los resultados indicaron una relación estadísticamente significativa entre el grado de cambio en cada fase y el tratamiento. Consideramos eficaz a la hipnosis con la Narrativa Hipnótica de Trauma como un método para el tratamiento de enuresis secundaria diurna. En el seguimiento a 6 meses el paciente no mostraba síntomas.

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