Research Abstracts – December 2012

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The impact of DSM-5 and guidelines for assessment and treatment of elimination disorders
von Gontard A

Source
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Abstract
Elimination disorders are very common in children: 10 % of 7-year-olds wet at night (nocturnal enuresis), 2-3 % during daytime (diurnal urinary incontinence) and 1-3 % soil (faecal incontinence). In the past decades, many subtypes of elimination disorders have been identified with different symptoms, aetiologies, comorbid disorders and specific treatment options. The aim of the paper is to present a short overview of the proposed DSM-5, the ICCS and the Rome-III classification systems, of assessment and of treatment. The DSM-5 criteria no longer reflect current research data and a revision is needed. Classification systems of the International Children's Incontinence Society (ICCS) for enuresis and urinary incontinence and the ROME-III criteria for functional gastrointestinal disorders offer new and relevant suggestions for both clinical and research purposes. Assessment of most elimination disorders can be performed in paediatric and child psychiatric primary care settings. The standard assessment consists of a thorough history, frequency/volume charts, specific questionnaires, a full physical examination, sonography and urinalysis. If possible, a child psychiatric assessment is performed. In all other settings, screening with a validated behavioural questionnaire and referral if indicated is recommended. All other investigations are indicated only in complicated cases and if an organic cause is to be ruled out. Treatment is symptom oriented and based on the exact diagnosis of the type of elimination disorder. Counselling is recommended in every case. Most elimination disorders can be treated by specific treatment programmes integrating cognitive-behavioural elements. Nocturnal enuresis is best treated with alarms. Medication can be indicated in nocturnal enuresis (desmopressin), urge incontinence (anticholinergics such as oxybutynin, propiverine, etc.) and faecal incontinence with constipation (polyethylene glycol). Comorbid behavioural and emotional disorders require additional treatment

Bedwetting


Evaluation and treatment of nonmonosymptomatic nocturnal enuresis: A standardization document from the International Children's Continence Society
Franco I, von Gontard A, De Gennaro M; the members of the International Children's Continence Society

Source
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Abstract

PURPOSE:
This document represents the consensus guidelines recommended by the ICCS on how to evaluate and treat children with nonmonosymptomatic nocturnal enuresis (NMNE). The document is intended to be clinically useful in primary, secondary and tertiary care.

MATERIALS AND METHODS:
Discussions were held by the board of the ICCS and a committee was appointed to draft this document. The document was then made available to the members of the society on the web site. The comments were vetted and amendments were made as necessary to the document.

RESULTS:
The main scope of the document is the treatment of NMNE with drugs other than desmopressin-based therapy. Guidelines on the assessment, and nonpharmacologic and pharmacologic management of children with NMNE are presented.

CONCLUSIONS:
The text should be regarded as an expert statement, not a formal systematic review of evidence-based medicine. It so happens that the evidence behind much of what we do in the care of enuretic children is quite weak. We do, however, intend to present what evidence there is, and to give preference to this rather than to experience-based medicine, whenever possible.


Anti-diuretic hormone and genetic study in primary nocturnal enuresis
Fatouh AA, Motawie AA, Abd Al-Aziz AM, Hamed HM, Awad MA, El-Ghany AA, El Bassyouni HT, Shehab MI, Eid MM

Source
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Abstract

OBJECTIVE:
To investigate whether primary nocturnal enuresis (PNE) is related to a disturbance in anti-diuretic hormone (ADH) secretion pattern at night which may be genetically inherited.

SUBJECTS AND METHODS:
This study included 121 children aged 6-18 years with PNE and 45 matched healthy children as controls. Enuretic children were subjected to genetic evaluation and cytogenetic assessment (n = 99). Assay of ADH levels (9-11 am & 9-11 pm) was performed for cases (n = 99) and controls.

RESULTS:
There was a positive family history in 82.4% (autosomal dominant in 35.4% and autosomal recessive in 44.6%). ADH morning and evening values were reversed in cases vs controls with significant difference in morning level. Reversal of circadian rhythm was present in 71.7% of cases and normal rhythm in 28.3% of them. Morning and evening ADH levels revealed significant difference between patients with reversed rhythm and those with normal one, and with controls. Mode of inheritance had no influence on hormonal level. Chromosomal abnormality was detected in 3 cases with reversed ADH rhythm, involving chromosome 22 in two of them.
CONCLUSION:
PNE could be attributed in part to reversed ADH circadian rhythm which may be linked to chromosome 22


Drugs for nocturnal enuresis in children (other than desmopressin and tricyclics)
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Source
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Abstract
BACKGROUND:
Enuresis (bedwetting) is a socially stigmatising and stressful condition which affects around 15% to 20% of five-year olds and up to 2% of young adults. Although there is a high rate of spontaneous remission, the social, emotional and psychological costs to the children can be great. Drugs (including desmopressin, tricyclics and other drugs) have often been tried to treat nocturnal enuresis

OBJECTIVES:
To assess the effects of drugs other than desmopressin and tricyclics on nocturnal enuresis in children and to compare them with other interventions

SEARCH METHODS:
We searched the Cochrane Incontinence Group Specialised Register of trials (searched 15 December 2011), which includes searches of MEDLINE and CENTRAL, to identify published and unpublished randomised and quasi-randomised trials. The reference lists of relevant articles were also searched

SELECTION CRITERIA:
All randomised trials of drugs (excluding desmopressin or tricyclics) for treating nocturnal enuresis in children up to the age of 16 years were included in the review. Trials were eligible for inclusion if children were randomised to receive drugs compared with placebo, other drugs or behavioral interventions for nocturnal enuresis. Studies which included children with daytime urinary incontinence or children with organic conditions were also included in this review if the focus of the study was on nocturnal enuresis. Trials focused solely on daytime wetting and trials of adults with nocturnal enuresis were excluded

DATA COLLECTION AND ANALYSIS:
Two review authors independently assessed the quality of the eligible trials and extracted data. Differences between review authors were settled by discussion with a third review author

MAIN RESULTS:
A total of 40 randomised or quasi-randomised controlled trials (10 new in this update) met the inclusion criteria, with a total of 1780 out of 2440 children who enrolled receiving an active drug other than desmopressin or a tricyclic. In all, 31 different drugs or classes of drugs were tested. The trials were generally small or of poor methodological quality. There was an overall paucity of data regarding outcomes after treatment was withdrawn. For drugs versus placebo, when compared to placebo indomethacin (risk ratio [RR] 0.36, 95% CI 0.16 to 0.79), diazepam (RR 0.22, 95% CI 0.11 to 0.46), mestorelone (RR 0.32, 95% CI 0.17 to 0.62) and atomoxetine (RR 0.81, 95% CI 0.70 to 0.94) appeared to reduce the number of children failing to have 14 consecutive dry nights. Although indomethacin and diclofenac were better than placebo during treatment, they were not as effective
as desmopressin and there was a higher chance of adverse effects. None of the medications were effective in reducing relapse rates, although this was only reported in five placebo controlled trials. For drugs versus drugs, combination therapy with imipramine and oxybutynin was more effective than imipramine monotherapy (RR 0.68, 95% CI 0.50 to 0.94) and also had significantly lower relapse rates than imipramine monotherapy (RR 0.35, 95% CI 0.16 to 0.77). There was an overall paucity of data regarding outcomes after treatment was withdrawn. For drugs versus behavioural therapy, bedwetting alarms were found to be better than amphetamine (RR 2.2, 95% CI 1.12 to 4.29), oxybutynin (RR 3.25, 95% CI 1.77 to 5.98), and oxybutynin plus holding exercises (RR 3.3, 95% CI 1.84 to 6.18) in reducing the number of children failing to achieve 14 consecutive dry nights. Adverse effects of drugs were seen in 19 trials while 17 trials did not adequately report the occurrence of side effects

AUTHORS’ CONCLUSIONS:
There was not enough evidence to judge whether or not the included drugs cured bedwetting when used alone. There was limited evidence to suggest that desmopressin, imipramine and enuresis alarms therapy were better than the included drugs to which they were compared. In other reviews, desmopressin, tricyclics and alarm interventions have been shown to be effective during treatment. There was also evidence to suggest that combination therapy with anticholinergic therapy increased the efficacy of other established therapies such as imipramine, desmopressin and enuresis alarms by reducing the relapse rates, by about 20%, although it was not possible to identify the characteristics of children who would benefit from combination therapy. Future studies should evaluate the role of combination therapy against established treatments in rigorous and adequately powered trials


**Association between sleep and behavioural problems among children with enuresis**
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**Source**
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**Abstract**

**AIM:**
This study was conducted to describe sleep problems in a sample of children with enuresis and to investigate the association between sleep and behavioural problems

**METHODS:**
In this cross-sectional study, 100 children with enuresis were recruited from paediatric enuresis clinic. The children's sleep problems and behaviours were assessed by the Children’s Sleep Habits Questionnaire and Child Behaviour checklist

**RESULTS:**
The most frequently reported sleep problems were in daytime sleepiness, bedtime resistance and sleep anxiety subscales. Children with T-scores ≥ 60 in internalising, externalising and total behavioural problems had higher scores on daytime sleepiness subscale and total score than children with T-scores < 60. Multivariate logistic regression analysis revealed that daytime sleepiness subscale was significantly related to behavioural disturbances

**CONCLUSIONS:**
Sleep problems are common among this sample of children with enuresis, and the presence of sleep disturbance such as daytime sleepiness could explain the association between enuresis and disturbed daytime behaviour
**Altered brain activation during response inhibition in children with primary nocturnal enuresis: an fMRI study**

Lei D, Ma J, Du X, Shen G, Tian M, Li G

**Source**

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**Abstract**

Nocturnal enuresis is a common developmental disorder in children, and primary nocturnal enuresis (PNE) is the dominant subtype. The main purpose of this study was to investigate brain functional abnormalities specifically related to motor response inhibition in children with PNE using fMRI in combination with a Go/NoGo task. Twenty-two children with PNE and 22 healthy children, group-matched for age and sex, took part in this experiment. Although no significant between-group differences in task performance accuracy were observed, PNE patients showed significantly longer response times on average. There were several brain regions with reduced activation during motor response inhibition in children with PNE: the bilateral inferior frontal gyri, right superior and middle frontal gyri, right inferior parietal lobe, bilateral cingulate gyri and insula. Our data indicate that response inhibition in children with PNE is associated with a relative lack of or delay in the maturation of prefrontal cortex circuitry that is known to suppress inappropriate responses. This result might give clues to understanding the pathophysiology of PNE.

**Constipation**


**Acupuncture for treatment of hospital-induced constipation in children: a retrospective case series study**

Anders EF, Findeisen A, Nowak A, Rüdiger M, Usichenko TI

**Source**

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**Abstract**

**OBJECTIVE:**

Acupuncture is a promising option in the treatment of functional bowel disorders. The aim of this study was to evaluate the feasibility and acceptance of acupuncture for the treatment of hospital-induced constipation (HIC) in children

**METHODS:**

Bilateral stimulation of acupuncture point LI11 was applied in 10 children with HIC using fixed indwelling acupuncture needles (0.9 mm long) before considering starting conventional local constipation therapy with laxative suppositories. The clinical records were studied retrospectively for feasibility, acceptance and effectiveness of acupuncture

**RESULTS:**

Acupuncture was feasible in all children and application of the indwelling needles was tolerated without fear. Side effects were not observed. After a median of 3 days of HIC, all children defaecated within 2 h after LI11 stimulation. No patient required conventional local constipation therapy.
CONCLUSIONS:
Acupuncture for the treatment of HIC is feasible and acceptable. Its effect should be verified in a randomised controlled trial.

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Efficacy and quality of life 2 years after treatment for faecal incontinence with injectable bulking agents

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Abstract

BACKGROUND:
Stabilized non-animal hyaluronic acid/dextranomer (NASHA®) Dx gel as injectable bulking therapy has been shown to decrease symptoms of faecal incontinence, but the durability of treatment and effects and influence on quality of life (QoL) is not known. The aim of this study was to assess the effects on continence and QoL and to evaluate the relationship between QoL and efficacy up to 2 years after treatment.

METHODS:
Thirty-four patients (5 males, mean age 61, range 34-80) were injected with 4 × 1 ml NASHA Dx in the submucosal layer. The patients were followed for 2 years with registration of incontinence episodes, bowel function and QoL questionnaires.

RESULTS:
Twenty-six patients reported sustained improvement after 24 months. The median number of incontinence episodes before treatment was 22 and decreased to 10 at 12 months (P = 0.0004) and to 7 at 24 months (P = 0.0026). The corresponding Miller incontinence scores were 14, 11 (P = 0.0078) and 10.5 (P = 0.0003), respectively. There was a clear correlation between the decrease in the number of leak episodes and the increase in the SF-36 Physical Function score but only patients with more than 75% improvement in the number of incontinence episodes had a significant improvement in QoL at 24 months.

CONCLUSIONS:
Anorectal injection of NASHA Dx gel induces improvement of incontinence symptoms for at least 2 years. The treatment has a potential to improve QoL. A 75% decrease in incontinence episodes may be a more accurate threshold to indicate a successful incontinence treatment than the more commonly used 50%.