

## Commentary: Enuresis and ADHD in Older Children and an Adolescent Treated with Stimulant Medication: A Case Series

Philippe Robaey MD, PhD, FRCPC<sup>1</sup>

This interesting case series points again to the association between ADHD (especially inattentive symptoms) and PNE. Their concurrent improvement with stimulant treatment reported here, however, should not conceal that:

1. follow-up studies showed that ADHD persists well after children become dry (Baeyens, D., Roeyers, H., Van, E. S., Hoebeke, P., & Vande, W. J., 2007);
2. there are no double-blind randomized placebo-controlled trials (RCTs) on the effects of stimulants on PNE in children with ADHD; and
3. there is, however, one RCT (Sumner, C. R., Schuh, K. J., Sutton, V. K., Lipetz, R., & Kelsey, D. K. 2006), as well as case series (Shatkin, J. P. 2004) and open-label trials (Gepertz, S., & Neveus, T. 2004; Lundmark, E., & Neveus, T. 2009), on the efficacy of norepinephrine reuptake inhibitors.

This series also reminds us that functional immaturity of the brainstem plays a role in children with PNE, as well as in some children with ADHD—inattentive subtype, through a failure to inhibit involuntary responses (prepulse inhibition, PPI) (Ornitz, E. M., Russell, A. T., Hanna, G. L., Gabikian, P., Gehricke, J. G., Song, D., & Guthrie, D., 1999). This central deficit can be restored by desmopressin (Schulz-Juergensen, S., Rieger, M., Schaefer, J., Neusuess, A., & Eggert, P. 2007), one of the PNE mainstay treatments. Methylphenidate was also found to improve this deficit, but only to voluntarily attended prepulses (Ashare, R. L., Hawk, L. W., Shiels, K., Rhodes, J. D., Pelham, W. E., & Waxmonsky, J. G., 2010). It is not clear thus how methylphenidate might enhance micturition inhibition in response to a distended bladder during sleep. Decreasing sleep arousal threshold and allowing the enuretic child to awaken to void is an alternative hypothesis. It is, however, inconsistent with the reports that auditory arousal threshold was increased, not decreased, by stimulant medication in

hyperkinetic children (Busby, K., & Pivik, R. T. 1985), and that, more generally, children with ADHD do not have more night awakenings (Cortese, S., Faraone, S. V., Konofal, E., & Lecendreux, M. 2009).

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<sup>1</sup> Professor of Psychiatry, University of Ottawa, Research Director, Department of Psychiatry, Children's Hospital of Eastern Ontario Head, ADHD and Disruptive Behavior Clinic, Ottawa, Ontario

Corresponding email: probaey@cheo.on.ca