


Hyperactive Children: Could They Have Sleep Disordered Breathing?

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Suneela Cherlopalle, MD¹, Manasa Enja, MD¹,
Murali K. Kolikonda, MD¹, and Steven Lippmann, MD¹

To the Editor:

Sleep disordered breathing (SDB) is underdiagnosed in children and difficult to differentiate from attention deficit hyperactivity disorder (ADHD).^{1,2} Both may present with similar symptoms of inattention, hyperactivity, irritability, and daytime sleepiness.

Sleep disordered breathing includes primary snoring or obstructive sleep apnea, which are surprisingly common among children with hyperactivity.^{1,2} Adenotonsillar hypertrophy is the primary cause of obstructive sleep apnea between the ages of 2 and 8 years, coinciding with the age onset of ADHD, thus creating a difficult differential diagnosis.¹ Sleep in these cases may be adequate in duration, but fragmented with frequent arousals that result in daytime dysfunction.² Intermittent hypoxia during apnea causes inflammatory vascular changes in the brain, resulting in neurocognitive dysfunction, while sleep fragmentation causes inattentiveness.

Approximately 25% of children with signs of ADHD also have evidence for SDB²; about 28% of those scheduled for adenotonsillectomy exhibit criteria for ADHD (vs 7% for surgical controls). At 1 year post-adenotonsillectomy, 50% of them no longer meet the criteria for ADHD.³ Among adenotonsillectomy subjects with ADHD symptoms, 78% no longer evidenced ADHD after 6 months.⁴ Significant snoring is reported to be 2 times more common in children with ADHD than in other pediatric populations.² It is important to screen for SDB in children who present with hyperactivity and/or inattention.¹

Children with ADHD-like symptoms should be screened for signs of sleep disorders, such as snoring,

apneas, and/or awakenings accompanied by gasping.^{1,2} When SDB is suspected, assessment includes a history, physical examination, X-ray of the neck, and fiberoptic endoscopy to rule out adenotonsillar hypertrophy. Polysomnography is the definitive means to diagnose SDB.^{1,2}

Since SDB is rarely suspected in hyperactive children, detailed screening and diagnostic evaluation are critical.¹ Psychostimulant treatment of a child with SDB may result in more sleep disturbance and dysfunctional behavior.

References

1. Sedky K, Nazir R, Carvalho KS, Lippmann S. Attention deficit hyperactivity disorder and sleep disordered breathing in children. *J Pediatr Biochem*. 2013;3(2):61-67.
2. Owens JA. Neurocognitive and behavioral impact of sleep disordered breathing in children. *Pediatr Pulmonol*. 2009;44:417-422.
3. Dillon JE, Blunden S, Ruzicka DL, et al. DSM-IV diagnoses and obstructive sleep apnea children before and 1 year after adenotonsillectomy. *J Am Acad Child Adolesc Psychiatry*. 2007;46:1425-1436.
4. Li HY, Huang YS, Chen NH, Fang TJ, Lee LA. Impact of adenotonsillectomy on behavior in children with sleep-disordered breathing. *Laryngoscope*. 2006;116:1142-1147.

¹University of Louisville School of Medicine, Louisville, KY, USA

Corresponding Author:

Steven Lippmann, 550 S Jackson Street, ACB First Floor Clinic,
Louisville, KY 40202, USA.
Email: sblipp01@louisville.edu