

Seizures and Coma after Desmopressin for Nocturnal Enuresis

An 11-year-old girl was advised desmopressin nasal spray for nocturnal enuresis present since early childhood. Her routine urine examination, urine cultures, urine specific gravity and X-ray of the lumbosacral spine done before starting treatment were normal. She was advised 1 puff (10 µg per actuation) in each nostril. The first night she took 2 puffs and the second night since she was not sure of drug delivery, she took 3 puffs (30 µg). At 3 am that night she got up with a shriek, had a generalized tonic clonic seizure. She was rushed to her treating physician who referred her to our hospital. At admission she was agitated, disoriented, incoherent and violent. General physical examination was normal. Neurological examination besides extremely abnormal higher mental functions did not reveal any focal neurological deficit.

Her serum sodium was 115 meq/L and the rest of the biochemical parameters were normal. Her CT head was normal. Her hyponatremia was corrected initially with 3% saline and subsequently with normal saline. IV furosemide was started additionally to correct the acute water intoxication along with volume restriction. Her serum sodium was corrected in 48 hours. She remained agitated and violent for the first 48 hours and slowly improved over the subsequent 4 days. She was discharged on day 7 with no neurological deficit.

The use of desmopressin for nocturnal enuresis was based on the discovery that antidiuretic hormone (ADH) secretion in primary nocturnal enuresis does not show the

normal increase during sleep and thus urine production stays high(1). Desmopressin acts by causing water retention effects on the distal nephron with no vasopressor effects. Success rates are said to be similar to imipramine, but it is considered to have fewer side effects and more rapid onset of action as compared to imipramine. The commonest side effect is nasal irritation. Hyponatremia and water intoxication have been reported sporadically in literature and can be theoretically fatal(2,3). To reduce the risk of water intoxication it is recommended to restrict water intake, avoid hypotonic fluids when using desmopressin and monitor serum sodium periodically(6).

In a report of 7 children who developed cerebral edema after desmopressin use for enuresis, two children developed cerebral edema after excessive water intake in preparation for uroflowmetry, another one drank much during a hot summer day, in one diabetes insipidus was not recognised and two children were clearly non-compliant with reduced fluid intake on a long-term basis(4). Only in one child, no risk factor was found. Other risk factors for hyponatremia following administration of DDAVP include hepatic disease, surgery, stress, pain, renal disorder, excessive fluid intake, combined use of imipramine and desmopressin and increased dose of DDAVP(5). The treatment of water intoxication due to desmopressin is fluid restriction, diuretics and hypertonic saline infusion.

In our patient the urine specific gravity was above 1025 and diabetes insipidus was unlikely. However, she had not restricted water intake during the day and she had taken 3 puffs in place of the 2 advised. Careful explanation of precautions before using desmopressin spray is important to avoid side effects.

**Gouri Rao Passi,
Rashmi Shad,**

*Department of Pediatrics,
Choithram Hospital & Research Center,
Indore 452017, India.*

Corresponding author:

Gouri Rao Passi,
*139, Indrapuri, Indore 452017, India..
E-mail: gouripassi@hotmail.com*

REFERENCES

1. Norgaard JP, Pederson EB, Djurhuus JC. Diurnal anti-diuretic-hormone levels in enuretics. *J Urol* 1985;134:1029-1031.
2. Odeh M, Oliven A. Coma and seizures due to severe hyponatremia and water intoxication in an adult with intranasal desmopressin therapy for nocturnal enuresis. *J Clin Pharmacol* 2001; 41:582-584.
3. Maghnie M, Lorini R, Marni E. Hyponatremia and seizures during desmopressin acetate treatment in hypothyroidism. *J Pediatr* 1990; 116: 835-836.
4. Lebl J, Kolska M, Zavacka A, Eliasek J, Gut J, Biolek J. Cerebral oedema in enuretic children during low-dose desmopressin treatment: a preventable complication. *Eur J Pediatr* 2001; 160: 159-162.
5. Delfanian K, Zawada ET Jr. DDAVP-associated hyponatremia. *S D J Med* 2001; 54: 255-256.

Breastfeeding, Weaning Practices and Nutritional Status of Infants of Tea Garden Workers of Assam

Breastfeeding and weaning practices are crucial for optimal growth and development during infancy. The resolution (WHA 54.2) urges Member States to support exclusive breastfeeding for first six months as a global public health recommendation(1). Continuous vigilance over infant feeding practices in community is necessary for timely interventions to ensure optimal growth and development. This study was undertaken to evaluate breastfeeding and weaning practices in relation to nutritional status of infants of tea garden workers of Assam after report of high prevalence of undernutrition. Tea is a labour intensive agro industry where mostly female employees are used as manual pluckers of tea leaves.

Information about current status of breast feeding (exclusive breastfeeding and partial breast-feeding/artificial feeding) and weaning practices were obtained from mothers of 110 infants (male-57, female-53) using pre-tested questionnaire. 16.36% of mothers were literate (n = 18). 100% breast-feeding rate was maintained throughout 0 to 12 months (*Table 1*). Exclusive breast feeding rate was 69.35% up to 6 months of age, which was higher than their counterparts in Assam(2). However, introduction of complementary feedings was generally delayed in tea garden.

Infant's length and weight were measured using standard procedures and methods. Weight-for-age, height-for-age and weight-for-height Z-scores below -2.00 SD of NCHS (National Center for Health Statistics) standard were used to define stunting, wasting and underweight, respectively(3). Prevalence of underweight, stunting and wasting was lower (22.6%, 32.3% and 8.1%, respectively)