

respiratory distress needing hospitalization, use of bronchodilator nebulization, and often steroids is common practice to relieve distress besides giving oxygenation and other supportive measures like intravenous fluids, irrespective of diagnosis. There is recommendation for trial of bronchodilator rather than routine use [1,2]. But still there is hesitation in keeping sick babies only on oxygen therapy despite clinically diagnosing them as bronchiolitis. Although hypertonic saline nebulization [5] and nasal Continuous Positive Airway Pressure (CPAP) appear to have potential beneficial effect, more studies are needed to recommend their routine use.

- d) As virological and radiological work-up is neither required nor easily available for diagnosis, therapy is mainly based on clinical condition at the time of admission. Although saturation by pulse oximetry is considered deciding factor for giving oxygen therapy, it cannot be taken as sole criteria. Are there any validated clinical scores for diagnosis and monitoring of such children?

SHOBHA SHARMA

*Department of Pediatrics,
VMMC and Safdarjang Hospital,
New Delhi, India.
oum.shobha76@gmail.com*

REFERENCES

1. Verma N, Lodha R, Kabra SK. Recent advances in management of bronchiolitis. *Indian Pediatr.* 2013;50:939-49.
2. Zorc JJ, Hall CB. Bronchiolitis: Recent evidence on diagnosis and management. *Pediatrics.* 2010;125:342-9.
3. Wright AL, Taussig LM, Ray CG, Harrison HR, Holberg CJ. The Tucson Children's Respiratory Study II. Lower respiratory tract illness in the first year of life. *Am J Epidemiol.* 1989;129:1232-64.
4. Gupta S, Shamsunder R, Shet A, Chawan R, Srinivasa H. Prevalence of respiratory syncytial virus infection among hospitalized children presenting with acute lower respiratory infections. *Indian J Pediatr.* 2011;78:1495-7.
5. Zhang L, Mendoza-Sassi RA, Wainwright C, Klassen TP. Nebulised hypertonic saline solution for acute bronchiolitis in infants. *Cochrane Database Syst Rev.* 2008;4:CD006458.

AUTHORS' REPLY

We thank Dr. Sharma for her interest in our article [1]. We provided an evidence-based update on management of bronchiolitis. Unfortunately, there are gray areas where there is inadequate evidence to guide the management.

We do appreciate that there may be difficulty in

clinically differentiating between bronchiolitis or viral bronchopneumonia or wheezing due to asthma. There may be certain indicators for asthma like multiple previous similar episodes or family history of atopy/asthma.

The definition mentioned in the AAP guidelines is of little clinical relevance as it describes the pathophysiologic process in bronchiolitis [2]. It is further complicated by other phenotypes of wheezing, including transient wheezing during infancy, episodic and multi-trigger wheezing [3]. We mentioned that some authors have used the definition 'the first episode of wheezing in a child younger than 12 to 24 months who has physical findings of a viral respiratory infection and has no other explanation for the wheezing, such as pneumonia or atopy'; it is important to note the later part of the definition highlighting that there is no other explanation for the wheezing. A child with repeated episodes of wheezing may have bronchiolitis but other conditions like wheeze-associated lower respiratory infection, multi-trigger wheeze/ asthma are more likely.

As mentioned by the author, there is little evidence to support use of steroids or bronchodilators. Some of the children clinically diagnosed as bronchiolitis may have asthma which responds to bronchodilators; this is the rationale for a trial of bronchodilators. It will not be advisable to use therapies that have not demonstrated any benefits in clinical trials.

There are various clinical scores which include measures of respiratory rate, respiratory effort, severity of wheezing, and oxygenation. The most widely used score is Respiratory Distress Assessment Instrument [4]. However, none of the clinical evaluation scores have been found to be predictive of outcomes, or validated for use to titrate therapy [2].

RAKESH LODHA AND SK KABRA
skkabra@hotmail.com

REFERENCES

1. Verma N, Lodha R, Kabra SK. Recent advances in management of bronchiolitis. *Indian Pediatr.* 2013;50:939-49.
2. American Academy of Pediatrics Subcommittee on Diagnosis and Management of Bronchiolitis. Diagnosis and management of bronchiolitis. *Pediatrics.* 2006;118:1774-93.
3. Brand PL, Baraldi E, Bisgaard H, Boner AL, Castro-Rodriguez JA, Custovic A, *et al.* Definition, assessment and treatment of wheezing disorders in preschool children: an evidence-based approach. *Eur Respir J.* 2008;32:1096-110.
4. Lowell DI, Lister G, Von Koss H, McCarthy P. Wheezing in infants: the response to epinephrine. *Pediatrics.* 1987;79:939-45.