## Survey of School Health and Absenteeism in Lucknow

We conducted a study to screen school children for signs of common childhood morbidity and certain nutritional deficiencies and to assess proportion absenting themselves from school in preceding 3 months.

The study was conducted from November 2000 to April 2001 in 16 randomly selected schools from 243 registered with the Department of Education, Lucknow. Attendance registers of classes II and III were surveyed and a list of students of age group 5-10 years was prepared. By random draw 25 students, who were present on that day, were included following informed written consent.

A total of 320 children were included. Mean number of working days in the preceding three months was 68.7 ± 4.8. The mean numbers of days the girls and the boys were absent from school was 2.46 ± 3.2 and 3.93 ± 3.8, respectively (P = 0.2). Only 47 girls (26.4%) and 46 boys (32.4%) were present for all days. Majority of children (70.9%) had been absent at least once in the preceding 3 months.

Pallor was the most common clinical abnormality noted in 191 (59.7%) children. Xerosis and Bitot's spots were observed in 41 (12.8%) and 10 (3.1%) children. Lymphadenitis, dyspnea, murmur, icterus, asthma and edema were seen in 187 (58.4%), 33 (10.3%), 32 (10%), 8 (2.5%), 5 (1.6%) and 2 (1.2 %) children respectively, with comparable frequencies in the two sexes. Causes of lymphadenitis, murmur, dyspnea, edema and icterus were not assessed.

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## Bedside Clue to Bilateral Partial Nasal Obstruction in a Neonate

Bilateral nasal obstruction, inclusive of choanal obstruction is an important life threatening cause of respiratory distress in a neonate. However its diagnosis requires a high index of suspicion. Manifestations are protean, varying from mild respiratory distress with breast feeding to severe airway obstruction. An important bedside clue which suggests the diagnosis is 'the absence of nasal flaring' in the presence of other signs of respiratory distress. Appreciation of this sign may aid the clinican in prompt institution of therapeutic measures.

A term neonate weighing 2800 grams was delivered by normal vaginal delivery and cried immediately after birth. He had respiratory distress but normal chest on clinical and radiological examination. Nasal flaring was absent. Bilateral choanal obstruction was suspected. The diagnosis was confirmed by failure to negotiate an 8 Fr catheter through the nose and CECT (*Fig. 1*). ENT surgeons confirmed the

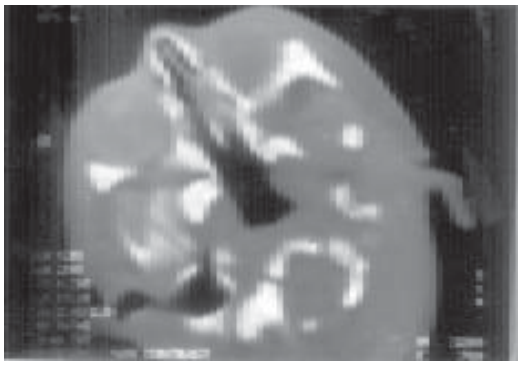

*Fig. 1. CECT showing extreme deviation of the septum to one side and turbinate hypertrophy on the other.*

diagnosis by endoscopy and ruled out bony atresia of the choanae. Following endoscopy and decongestion the neonate stabilized and was discharged on the 10th day.

Various modalities, which suggest and confirm the diagnosis of bilateral nasal compromise have appeared in literature. Cyclic cyanosis has been described as the classic presentation whereby the respiratory distress in a an obligate nose breather is alleviated by crying. Absence of alae nasi activation in the presence of chest retraction has been poorly emphasized and often missed in common practice.

Nasal resistance varies widely in neonates and has been reported to contribute from 31% to 49% of total lung resistance(1). Variations in the cross sectional area, of the nasal cavity have a marked effect on nasal resistance. Newborns are obligate nose breathers and the nasal resistance can modify the magnitude of negative inspiratory pharyngeal pressure which appears to be critical in the development of obstructive apnea. A decrease in the nasal resistance may reduce the negative inspiratory pharyngeal pressure. The alae nasi (AN) activation appears to be centrally controlled. Phasic inspiratory AN activity is linked with the tonic drive to muscles determining upper airway breathing route(2). Nasal airway receptors have little effect on AN response to hypoxia or hypercapnia but mediate response to negative airway pressure. It is therefore easy to understand that in the absence of any airflow there is unlikely to be generation of negative pressure and hence no activation of AN activity.

Choanal obstruction is a potentially remediable cause of respiratory distress. Early recognition with the bedside sign described may be rewarding in most cases.

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