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Leading Article

Changing Trends in the Respiratory Disorders of Children in three Decades in Bangladesh

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We used to see cases of common cold, CSOM, pneumonia and tonsillitis in 1990s in our pediatric OPD experience.[1] The most important cases that we came across in the community were ARI/pneumonia[2] and the topmost inpatient case out of top ten inpatients in a pediatric ward of a medical college hospital was pneumonia.[3] Pneumonia was the most important cause of high mortality in pediatric inpatients as well followed by PEM, 'encephalitis like disease' diarrhea and meningitis.WHO and UNICEF have emphasized on the case detection and management of pneumonia through Integrated Management of Childhood Illness (IMCI) training.[4] This effort had great impact on the reduction of under five and infant mortality. Presently, more than two third (67.5%) of children below five years who attend different hospitals of Bangladesh are suffering from respiratory disorders and out of them 85% attend OPD and 15% are hospitalized.[5]

Bronchiolitis: This scenario has started changing since the discovery of bronchiolitis in the year 2001 in Bangladesh.[6] The prevalence of bronchiolitis was found very high, even more than pneumonia in different studies whether in the community or in the hospitals. Bronchiolitis was found to be 21% in under five children who attended different hospitals of Bangladesh as against 11.5% in case of pneumonia.[5] It was also found to be the most common cause of hospitalization in the children wards of medical college hospitals followed by pneumonia.[7,8] It was really surprising that the commonest cause of respiratory distress in young children was in oblivion in our country for a long time![9] The treatment of bronchiolitis was mainly done with antibiotics in most (99%) of the cases.[10]

Wheezy child: Recurrent wheeze or wheeze persisting for more than one month (infantile wheeze) is now observed in infants. It is a major source of morbidity and responsible for high consumption of healthcare and economic resources. The risk factors of recurrent wheeze in infancy identified in a study were past history of bronchiolitis, past history of pneumonia, asthma in parents, wheeze in other sibs and atopic conditions in children.[11] Common causes of infantile wheeze are primary immunodeficiency, gastro-esophageal reflux disease (GERD), post bronchioitis recurrent wheeze, congenital heart disease, and cystic fibrosis. The prevalence of iron deficiency anemia was very high in the infantile wheeze group.[12] Recurrent wheeze is also found in children up to 2 years of age. The common risk factors observed in a case control study were male sex, poor parents, having allergic conditions of atopic dermatitis, allergic rhinitis and allergic conjunctivitis.[13]

Childhood asthma: The prevalence of asthma was also high as observed in the first national asthma prevalence study conducted all over Bangladesh. The prevalence of childhood asthma was 7.4% amounting to more than four million children in the country.[14] The sensitivity of clinical acumen to diagnose child asthma by the community doctors was very poor (only 10%) as against the ability to diagnose pneumonia (73%).[5] The treatment of asthma was also at fault. Use of inhalers was very low and limited to salbutamol and beclomethasone. Antibiotics were used in 70-100% cases. Asthma education was confined only to advising 'avoiding trigger factors' and asthma medications included mostly antibiotics and antihistamines.[15]

Allergic rhinitis (AR): Considering the co-morbidities of asthma, allergic rhinitis in school going children was found to be the highest (20%) in the world.[16] There are four features of AR: runny nose without having an attack of cold, blocked nose, sneezing and nasal itching.There were also a substantial children who were suffering from atopic dermatitis (6.5%) and allergic conjunctivitis (6%).

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Laryngomalacia: Young infants present with noisy respiration which aggravates in supine position and at night are found to have laryngomalacia. These children has chronic inspiratory stridor, can have chest indrawing and sternal recession to be misdiagnosed as pneumonia. It is the most common cause of congenital laryngeal problem. Most of the children are afebrile, feeding well and thriving well. They improve around one year (at the time of learning to walk) or eighteen months (at the time of learning to run). The correct diagnosis of laryngomalacia is important to avoid misuse of antibiotics for pneumonia. Laryngoscopic findings include medial collapse of arytenoid cartilage, medial collapse of aryepiglottic folds and inferior curling of epiglottis.[17]

Tonsilloadenitis with obstructive sleep apnea syndrome (OSAS): About 5% children of 5-10 years have snoring during sleep.[18] This children present with noisy respiration, mouth breathing, sleep disturbance and day time somnolence. One important cause of snoring in children is tonsilloadenitis.[19] Inspection of tonsils and x-ray of nasopharynx lateral view is important for the diagnosis. Appropriate medical management and surgery in few cases are the options of management.

Foreign body aspiration (FBA): Children in the age group of 1-10 years were found to be vulnerable to foreign body (FB) aspiration.[20] Otherwise healthy children present with coughing and choking while playing with small objects. FB of natural origin are common in our situation like seeds of different fruits-barai, jam, lichi etc. Most FBs travel distally into the tracheobronchial tree, but laryngeal impaction occasionally occurs and accounts for the highest rate of mortality in the aerodigestive tract. After initial life threatening sudden respiratory distress, the FB settles mostly in a principal bronchus. Obstructive emphysema in the right lung is the hall mark of FB aspiration because of ball valve effect.[21] The diagnosis of FBA can be delayed in terms of days to weeks. But too late diagnosis can lead to protracted sufferings on the part of the parents and affected child can have subsequent lung damage.[22]

Cystic fibrosis: Cystic fibrosis (CF) is far more common in our children than previously thought. Diarrhoea is not a common accompaniment in cystic fibrosis in our situation. Bilateral bronchiectasis is the most common radiological findings.[23] The mean age of diagnosis is much delayed at 7.5 years though the mean age of onset of clinical symptoms is very early at the age of 15 month. Many cases are misdiagnosed as pulmonary tuberculosis. The clinical features of CF include persistent cough, productive sputum, persistent or recurrent pneumonia, poor weight gain and bilateral bronchiectasis on chest radiology and imaging. We have a record of eighty (80) cases of diagnosed CF during the last sixteen years.[24]

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