Gujjar Lung

Sir,

This recently introduced entity in the literature, is a chronic lung disease due to prolonged exposure to indoor air pollution with pine wood smoke occurring in Gujjar Community – a social and ethnic group of population residing at hilly regions of the Indian sub-continent (Jammu and Kashmir, Himachal Pradesh, Rajasthan, Pakistan, Pakistan-occupied-Kashmir and Gilgit). These people live in poorly ventilated mud houses called ‘Kothas’ and use pinewood as a fuel for cooking and heating purposes. A high oleoresin containing portion of the wood called ‘Lash’ is used as a source for lighting in the dwellings creating dense smoky atmosphere and adding further to the indoor air pollution. All family members residing in kothas are exposed to this smoky atmosphere for 12 to 16 hours daily, more during winter months.1,2

The disease is characterized clinically by progressive cough and dyspnea, usually appearing beyond fourth decade of life, varying radiological pattern of miliary mottiling, reticulonodular shadows with or without features of chronic bronchitis or cor pulmonale - the picture mimicking pulmonary tuberculosis. On histopathological examination of lungs, anthracotic nodules with carbon-laden macrophages (mainly perivascular in distribution) and fibrogenic reactions are seen.3

The term ‘Gujjar Lung’ was first introduced in 1991 by Dhar and Pathania1 from Kashmir when they observed miliary and reticulonodular shadows in chest radiographs of Gujjar community who were empirically given anti-tuberculosis treatment keeping in view the high prevalence of pulmonary tuberculosis in this group of population; but the shadows remained unchanged or progressed despite adequate dosage of the drugs and duration of treatment. Pulmonary function testing revealed restrictive or obstructive pattern. Finally, lung biopsy performed in 36 of the 46 patients of their study group revealed evidence of anthracotic nodules, carbon-laden macrophages and fibrosis. Other radiodiagnostic modalities like high resolution computed tomography (HRCT) were not available. Subsequently in 2000, Raison and co-workers2 observed similar radiological findings confirmed by HRCT and similar histopathological features in a Kashmiri baker working in Saudi Arabia who had significant history of exposure to pinewood smoke inhalation from early age, and, the radiograph was obtained by chance for immigration purposes. The occurrence of this lung disease was attributed to indoor air pollution with pine wood smoke,1,2 which is supported by earlier studies conducted on rabbits by Thorning and co-authors3 to see the effect of pine wood smoke on airways and the lung parenchyma. They observed predominantly large airway injury occurring beyond 24 hours of exposure to pine wood smoke in the form of disruption of surface epithelium, sloughing and necrosis with marked edema in subepithelial cells accompanied by increase in the number of extravasated erythrocytes and polymorphonuclear cells; whereas there are additional studies demonstrating injury of more distal airways and gas exchange units as well4. Pine wood on combustion gives rise to sulphurdioxide, benzopyrene, carbon monoxide, nitrogen oxides and low-molecular weight aldehydes including acrolein and albeitic acid. These gases individually or alongwith carbon are considered to be responsible for lung injury with eventual fibrogenic reaction.1,4

We are studying such cases for over eight years now, and to date have not observed any patient belonging to this entity and having history of exposure to smoke inhalation from other biomass fuels. The disease usually manifests beyond fourth decade with dyspnea and cough productive of blackish sputum. Males and females are involved almost equally and no case has been detected in the pediatric or teenage group so far. Further studies involving large samples of Gujjar population are going on and prevention of the occurrence of this disorder may need to change the living standard of these people in order to prevent exposure to pinewood smoke inhalation.

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REFERENCES


Health Professionals’ Characteristics Associated with Requisitioning Electroencephalography in Breath Holding Spells

Sir,

Breath-holding spells (BHS) are a common clinical problem affecting around 5% of children. These consist of a