Correspondence

Pre and Post Menstrual Peak Flow Rates and Symptoms amongst Patients with Bronchial Asthma

Sir,

Worsening of asthma symptoms and pulmonary functions in relation to menstruation has been documented by several authors. More than fifty percent of female asthmatic patients have been reported to have premenstrual asthma. Fluctuations in female sex hormone levels play an important role in exacerbations of symptoms although the underlying mechanisms through which these hormones influence asthma symptoms remain unclear. A rapid fall in serum progesterone may be an important factor. The menstrual worsening of symptoms correlates with fall in peak expiratory flow rate which in turn is related to the decreasing serum progesterone levels. Objective measurement of peak flow rate is important to observe the course of bronchial asthma.

A study on 58 asthmatic women was undertaken to evaluate the pre and post menstrual variation in peak flow rates. Thirteen patients (23%) reported premenstrual deterioration in their symptoms. The same number reported that their symptoms become better after the cessation of menses. Amongst these 7 (53.8%) patients had to increase their drugs few days before start of menses The mean PEFR in the premenstrual week (morning as well as evening) in the patients with premenstrual symptoms as well as in the patients without premenstrual symptoms was significantly less (p<0.001) than the post menstrual week. Significant difference between pre and post menstrual PEFR in asthma patients signifies the importance of its awareness for therapeutic implications. In a study1 significantly more Near Fatal asthma episodes were observed on the first day of menstruation than on the remaining days. In another study the perimenstrual asthma group had more severe disease, worsened disease control and more aggressive management including increased oral corticosteroid than the non-perimenstrual asthma group. Since progesterone causes smooth muscle relaxation throughout the whole body including the muscles of airways, the fall in progesterone concentration in the late luteal phase might be associated with the withdrawal of relaxant effect on bronchial smooth muscles. Some asthmatic patients experience improved pulmonary function and reduced asthma medication requirement during pregnancy.

To conclude, premenstrual exacerbation of asthma occurs in a significant proportion of female adult asthmatics. Thus proper history including menstrual variation of asthma of all these patients should be taken for effective management.

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Received: 18.05.2009; Accepted: 20.05.2009

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