Respiratory Disorders During Perimenstrual Period

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RESPIRATORY DISORDERS DURING PERIMENSTRUAL PERIOD

Menstruation is a periodic endocrinological phenomenon in females where hormonal release primarily affects the flow of blood through the genito-urinary system. Perimenstrual period may influence respiratory system, having pulmonary manifestations such as haemoptysis, pneumothorax and exacerbations of bronchial asthma in some female patients.1 Ectopic endometriosis or alteration in hormonal levels with varied emotional stress have been implicated.2

HAEMOPTYSIS DURING MENSTRUATION

Haemoptysis may occur during menstruation due to intrathoracic endometriosis. Bleeding can be mild or massive and phenomenon is recurrent. Computerized tomography and magnetic resonance imaging help in pin-pointing the diagnosis.3 Bleeding site can be visualized during menstruation by flexible fiberoptic bronchoscopy. Hormonal treatment may be required on long term basis to check the bleeding. Endometrial tissue can be resected in case the bleeding is recurrent and massive. With the help of video-assisted thoracoscopic surgery (VATS), 4 wedge resection of localized peripheral pulmonary parenchymal endometrial tissue can be undertaken.

CATAMENIAL PNEUMOTHORAX

Pneumothorax developing in conjunction with periodic menstrual bleeding is called catamenial pneumothorax. Described first by Maurer et al in 1958, it is a rare cause of secondary pneumothorax.5 The condition is recurrent,6 and mostly seen in multiparous women.7 Almost 1/3rd of cases have associated pelvic endometriosis. Generally the pneumothorax is small and occurs mostly on the right side. Implants of endometrial tissue may be found in the diaphragm or pleura. Air possibly passes from the peritoneal cavity into the pleural cavity through diaphragmatic stenomata and are finally cleared by lymphatics. This endometrial tissue during menstruation may proliferate later, causing blockage of these stenomata. Failure to drain the shed blood may then result in haemothorax.8 History of catamenial pulmonary symptoms, often gives the diagnostic clue.9 Estimation of endometrial antibody in serum may support the diagnosis.10 Chemical pleurodesis remains the effective mode of treatment.11 Implants of endometrial tissue on the pleura can produce chest pain during menstruation. Pain has been found persisting in patients after various treatment procedures possibly because of residual implants of endometrial tissue in the pleural cavity and thus gives rise to chest pain during menstruation.12

CONCLUSION

Catamenial pneumothorax, haemothorax, haemoptysis, bronchial asthma, lung nodule, isolated chest pain and pneumomediastinum are the manifestations of chest, commonly seen during menstruation and have been described collectively as thoracic endometriosis syndrome by Joseph et al in 1996.13 The pulmonary access of endometrial tissue is possible through congenital diaphragmatic defects14 or it’s microembolisation through pelvic veins during trauma, pelvic surgery or uterine tissue manipulation.15 Catamenial pulmonary symptoms often offer

MENSTRUATION-LINKED ASTHMA (MLA)

Severe asthmatic patients may get exacerbation of asthma attack during premenstrual period. Worsening of condition in 23% of female asthmatic patients during menstrual period has been documented.8 Pathogenesis of MLA remains undetermined. Possible fall in progesterone level or increased level of increased levels of bronchoconstriction such as prostaglandin PGF2a may be responsible for such an exacerbation in symptoms. Increased emotional stress during menstrual cycle, enhanced autonomic lability and escalated bronchial wall hydration possibly aggravate the symptoms of asthma.9 Treatment is similar to that of other asthma. However, progesterone, diuretics and anti-inflammatory drugs have also been tried with varying results.
diagnostic clue. However, biopsy remains the ultimate diagnostic measure. Cytology of bronchoscopic aspirated material, CT scan in peri-menstrual period, and estimation of antibody in serum also support the diagnosis. Chemical pleurodesis offers an effective measure to treat catamenial pneumo and haemothorax. Wedge resection can clear the bleeding. Pleural abrasion and pleurectomy prevents the recurrence of symptoms in pneumothorax. Treatment of asthma in menstruation remains essentially the same as treating a case of bronchial asthma. The advancement in technology and education to the patients to utilize the benefit of continuously changing technology should be stressed and passed on to the patients.

REFERENCES
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