Title: Do atmospheric pressure changes cause pneumothorax?

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Body: Introduction: Pneumothorax is defined as the presence of air or gas in the pleural space which causes lung to collapse. Spontaneous pneumothorax usually occurs from the rupture of blebs and bullae. Initiating mechanisms may relate to increased transpulmonary pressure. The possible impacts of the changes in atmospheric pressure (Patm) on the occurrence of pneumothorax remains uncertain. Aims: We wish to clarify the influence of atmospheric pressure (AP) on the incidence of primary spontaneous pneumothorax (PSP). Methods: From January 2010 through October 2012, 777 cases who were diagnosed PSP in our clinic were collected. Patients were included after internation to our clinic for medical care and the days they were diagnosed were accepted as the days in which PSP developed. Daily meteorologic datas were obtained from two stations of General Directorate of Meteorology in Istanbul and the mean values were calculated. The correlation between number of inpatients with PSP diagnosis and atmospheric pressure was evaluated. Results: No statistically significant association was achieved between atmospheric pressure and number of inpatients with PSP according to Pearson correlation test. (p=0,193) (p>0.05) Conclusion: This study suggested that atmospheric pressure changes do not seem to affect the risk of developing PSP.