Introduction:
In critically ill patients, due to long period of supine position, lung water accumulation in posterior areas, outside of lung or heart diseases, can be induced and B-lines can be observed. The aim of our study is to find, by transthoracic ultrasound, the correlation between B-lines and fluid status in patients with long period of supine position.

Methods:
This prospective study included 924 assessments performed in 154 patients with length of stay of 10 days or more. Each patient’s fluid status was evaluated in admission and each 48 hours, using B-lines number assessment by lung ultrasound, measurement of inferior vena cava (IVC) diameters, and central venous pressure (CVP) analysis. Patients were stratified into three subgroups according to their B-lines number: mild (≤14), moderate (14–30) and severe (>30).

Results:
There were 530 separate assessments with mild, 294 with moderate and 100 with severe B-lines occurrence. There was a significant positive correlation between the log B-lines number and both IVC diameter and CVP values. The correlation between log B-lines number and IVC diameters decreases but not significantly during hospitalization (r in admission = 0.55, p=0.001 ; r in day 10 = 0.43 , p=0.035). Correlations between the log B-lines number and CVP during hospitalization yielded similar results (r in admission = 0.75, p=0.001 ; r in day 10 = 0.63, p=0.0026).

Conclusion:
B-lines number assessment keeps a significant reliability to reflect hydration status in patients with long period of supine position.