**Introduction:**
There is no consensus on the use of vena cava inferior (IVC) diameter and variability in the assessment of fluid response (FR) in spontaneously breathing ICU patients. Influence from respiratory effort, experience requirement and measurement problems are reasons for not being preferred. The aim of the study is to investigate the relationship between IVC diameter, variability and spontaneous breathing effort and hypotension measured by ultrasonography in spontaneously breathing intensive care patients.

**Methods:**
The maximum and minimum diameters of the IVC were measured and the collapsibility index (CI) was calculated. Measurements were made in 2D mode on cineloop recordings. Diaphragm thickening ratio was used as a measure of respiratory effort. Correlations between respiratory effort criteria with IVC minimum diameter and CI were calculated by Pearson’s correlation coefficient. IVC measurement criteria, such as inspiratory diameter of < 1 cm, 25%, 40%, 45% of the CI were compared with Chi square test in hypotensive and non-hypotensive patients. We took two mean arterial pressure threshold for hypotension as 60 and 70 mmHg for this calculation.

**Results:**
62 patients were included in the study. For both hypotensive threshold values, there was no significant difference in the rates of hypotensive and non-hypotensive patients with and without a minimum IVC diameter of 1 cm below. Even there was no significant relationship between the CI higher than 25%, 40% and 50% and hypotension (p>0.05). In spontaneously breathing patients, a significant correlation was found between respiratory effort and IVC CI and IVC diameter < 1 cm.

**Conclusion:**
At the end of the study, there was a correlation between spontaneous breathing effort IVC diameter and CI in the intubated patients. Additionally the result that IVC CI is not different even between hypotensive and non-hypotensive patients suggests that this method should be used with caution in predicting FR.