

Abstract:

Introduction: There is not any definite method of measurement of CVP up to now and also other indexes such as IVC diameter can be influence by patients' general condition and bowel gas and could not be performable in ED. In this study we have evaluated Jugular vein diameter using ultrasonography to find out its' correlation with CVP.

Methods and Materials: In this study all the critical patients had indication for CV line included. Patients with neck trauma or deformity excluded. IVC and Jugular vein diameters have been measured before hydration and after 500 CC Normal Saline injections. Also patients' urinary outputs have been measured after hydration.

Results: Mean IVC diameter before hydration was  $63.32 \pm 16.55$ , which has been reduced to  $57.97 \pm 18.56$ . Mean Jugular vein diameter was  $27.21 \pm 16.62$  that decreased to  $25.37 \pm 15.11$  after hydration. Mean urinary output was  $201.28 \pm 29.87$ . IVC diameter has been decreased significantly after hydration but decrease of Jugular vein diameter was not significant. There was not significant correlation between Jugular vein diameter changes and urinary output but correlation between IVC diameter changes and urinary output was significant.

Conclusion: This study showed that IVC diameter decreases with the increase of CVP but Jugular vein diameter not.