Clinical Digest

Cardiology

Bedside Check for Right Atrial Pressure

Clinicians often resort to invasive measurement to determine right atrial pressure (RAP) in patients. Now, researchers from the University of Pittsburgh School of Medicine, Pittsburgh, PA say a simple, noninvasive technique can help assess whether patients' RAP levels are elevated. Such an early assessment can guide decision making about hospital admission and discharge, alteration in diuretic therapy, and acute emergency interventions.

The study population consisted of 67 patients with a clinical diagnosis of heart failure, valvular heart disease, severe lung disease, pulmonary hypertension, or prior cardiac transplantation. Researchers used simple bedside ultrasound imaging of the right internal jugular vein (RIJV) before and after the Valsalva maneuver to determine if the increase in venous volume (or lack thereof) during the maneuver could be used to predict RAP.

Results showed that an increase in RIJV cross sectional area (an index of venous volume) of more than 17% during the Valsalva maneuver ruled out elevated RAP with a negative predictive value of 94%. When the resting RAP was elevated (low venous compliance), Valsalva induced only a small change in RIJV volume; whereas Valsalva elicited a significantly greater change when the baseline RAP was normal or low (high venous compliance).

The study authors conclude that this test could be used to predict the presence or absence of elevated RAP noninvasively. In addition to guiding decision making, the authors say, this technique may potentially reduce the need for invasive pressure measurement. Moreover, because it can be repeated, the technique could be used to assess patients' response to treatment.

Source: *Am Heart J.* 2010;159:421–427. doi:10.1016/j.ahj.2010.01.004.

Cancer

Radiotherapy After Breast Cancer Surgery: Don't Wait

Starting radiotherapy as soon as possible after breast-conserving surgery may help protect against local recurrence of breast cancer. Researchers from Dana-Farber Cancer Institute, Boston, MA; Institute for Clinical Evaluative Sciences, Toronto, ON, Canada; and Nagoya Medical Center, Aichi, Japan analyzed data on 18,050 women with breast cancer and found that a delay of more than six weeks from surgery to radiotherapy was associated with a 0.96% increase in recurrence at five years.

Study participants were aged 65 years or older with breast cancer (stage 0 to II) who received both breast-conserving surgery and radiotherapy but not chemotherapy. The median time from last breast surgery to start of radiotherapy was 34 days. During the follow-up period, 734 patients experienced a local recurrence. The data showed that intervals of more than six weeks were associated with an increased likelihood of local recurrence ($P = .033$).

Factors associated with patients starting radiotherapy after six weeks included positive nodes, comorbidity, history of low income, and nonwhite race. More recent year of diagnosis as well as residence outside of the southern region of the United States also were significantly associated with starting radiotherapy after six weeks. In the northeast, the proportion of women starting radiation more than six weeks after surgery has almost doubled over time (23.8% in the period 1991–1992; 42% in the period 2001–2002). In the south, however—where the rates of breast conservation were the lowest—there was little or no increase in the proportion of women receiving radiation after six weeks over the same time period. The researchers say such findings suggest there are now limitations in the capacity of radiation delivery. They did not, however, have individual measures of socioeconomic status, which may have limited their findings.

Because early breast cancer has a long, natural course, the researchers say, their mean follow-up time was not enough to examine the effect that time to radiotherapy has on survival. However, the researchers cite studies that support "a robust association" between local recurrence and overall survival in breast cancer. They further suggest that one death from breast cancer is avoided for every four local recurrences prevented through improved local treatment. The researchers caution, though, that the relationship between time to radiotherapy and local recurrence was continuous—which implies "there is no safe threshold in terms of waiting time and that radiotherapy should therefore be started as soon as possible."

Source: *BMJ.* 2010;340:c845. doi:10.1136/bmj.c845.