

CARDIOVASCULAR DISEASE

Does Blood Transfusion Benefit Patients with Acute Decompensated Heart Failure?

Blood transfusions (BTs) have been associated with worse outcomes in patients with acute coronary syndromes (ACS). But the true impact of BT on patients with acute decompensated heart failure (ADHF) remains unclear.

To measure this impact, investigators from the Heart Failure Survey in Israel (HFSIS) analyzed data on all patients with heart failure (HF) who were admitted to cardiology or internal medicine departments in 25 public hospitals throughout Israel from March to April 2003. The survey included 4,102 patients with either decompensated or chronic HF, of whom 2,335 had ADHF. Of those, 166 (7.1%) had received BT.

The researchers found that those patients who received BT had significantly higher in-hospital, one-year, and four-year unadjusted mortality rates than those who did not receive BT (10.8% versus 5.2%, 39.6% versus 28.5%, and 69.5% versus 59.5%, respectively). They recognized, however, that these rates might have more to do with the characteristics of the BT group—who were more likely to be older and female and to have such comorbidities as diabetes or renal dysfunction—than with the BT itself.

To find out whether the BT was really to blame, they analyzed data on 103 pairs of patients well matched for propensity to receive BT. In that analysis, the short-term mortality rates tended to be lower for patients who received BT and the long-term

mortality rates were not significantly different. These findings indicate that BT seems to be safe and perhaps even beneficial to patients with ADHF, the researchers say.

They also cite studies in which BT had a beneficial impact on the mortality rate in patients with a hematocrit level of 24% or less, had no impact on the rate for those with a hematocrit level of 24% to 27%, and was associated with increased mortality rate in those with a hematocrit level of 27% to 30%. Studies of patients with ACS also showed divergent results: Patients with ST-segment elevation and hemoglobin levels less than 12 g/dL who received BT had improved outcomes, while those without ST-segment elevation who received BT had worse outcomes.

The researchers say their findings “actually reinforce the current ACS guidelines of reserving BT only for severely anemic patients or those who are hemodynamically unstable,” since their study specifically focused on hemodynamically unstable patients. Indeed, they suggest that BT might even improve short-term outcomes, provided it is given under “vigilant supervision, perhaps at slower infusion rates, and with concurrent administration of diuretics.”

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NEPHROLOGY

Dialysis and Elders' Functional Status

The first months of dialysis may be dangerous ones for elderly patients with end-stage renal disease (ESRD), according to researchers from Stanford

University, Palo Alto, CA; University of California, San Francisco; and the San Francisco VA Medical Center, San Francisco, CA. They found that functional status markedly declined among nursing home residents in the first three months after starting dialysis. One year later, only one in eight residents retained a predialysis functional level.

The researchers analyzed data, from the U.S. Renal Data System and the Minimum Data Set (a registry of nursing home residents in the United States), on 3,702 nursing home residents who started dialysis treatment between June 1998 and October 2000 and for whom at least one measurement of functional status was available at baseline. Functional status was evaluated using the Minimum Data Set–Activities of Daily Living (MDS-ADL) scale, which measures the degree of dependence in seven daily activities (including eating, dressing, toileting, personal hygiene, walking, standing up from a chair, and changing positions in bed). Scores on the MDS-ADL range from 0 to 28, with higher scores indicating greater functional impairment and dependency.

The mean age of the residents was 73.4 years, and 60% were women. At baseline, the median MDS-ADL score was 12. Three months after initiating dialysis, the median MDS-ADL score increased to 16, and 61% of the residents either had died or experienced a decrease in function. By 12 months, that percentage increased to 87%.

The researchers note that functional status decline may be due to factors other than dialysis, such as: (1) the high prevalence of disability at baseline in this population; (2) hospitalization or clinical events leading to hospitalization; or (3) kidney

failure possibly being a reflection of terminal multiorgan dysfunction. In such cases, “dialysis may not rescue patients from an inevitable decline,” the researchers say.

Nevertheless, they believe their findings have important implications

for the medical care of elderly patients with ESRD. Together with results of other recent studies, theirs suggest that “even if dialysis can extend the lives of residents of nursing homes, it does not appear to restore health or functional status,” according to

the researchers. They recommend targeting efforts to maintain functional independence, among other goals, during this critical period. ●

Source: *N Engl J Med.* 2009;361(16):1539–1547.