Hypervolemia is perhaps the most controversial of the HHH components. Many centers continue to use hypervolemia, often dictated by the use of central venous and pulmonary artery catheters, despite the lack of evidence that it is beneficial.

Hypervolemic therapy may, in particular, be associated with high rates of complications, including pulmonary edema, dilutional hyponatremia, coagulopathy, and aneurysm rebleeding [1].

One study [2] randomized 82 patients to either hypervolemic or euvolemic status, which was maintained to day 14 after aneurysmal rupture. The central venous pressures were higher in the hypervolemic group, but here was no difference in cerebral blood flow or cerebral blood volume and the incidence of vasospasm was 20% in both groups.

Another study found no difference in the incidence of vasospasm or in clinical outcome, but the hospital costs and complication rate were much higher in the patients treated with hypervolemia [3].

There is little doubt to the fact that hypovolemia is detrimental to these patients, but hypervolemia may be detrimental as well [4].

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