***CORR* Insights®: Outcome of One-stage Cementless Exchange for Acute Postoperative Periprosthetic Hip Infection**

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Where Are We Now?

The treatment of periprosthetic infection is a source of considerable unease and confusion for arthroplasty surgeons. Few clinicians or institutions have extensive experience with periprosthetic infection because infection is a relatively uncommon event. As a consequence, most studies are limited in terms of quality—they tend to be small (and thus underpowered), nonrandomized, and uncontrolled with differing criteria for success or failure. For many of the same reasons, systematic reviews on the topic also are of limited quality.

Currently, three approaches are generally used in the setting of acute infection of the prosthetic hip: retention of components with exchange of bearings, single-stage

exchange (most often performed with antibiotic-laden polymethyl methacrylate [PMMA] cement), and two-stage exchange. Briefly, the purported advantages of retention include an easier surgery, lower initial morbidity, and decreased immediate cost. In many cases, these advantages are outweighed by the historically dismal results of retention—a sentinel study from the Mayo group reported that after 6 years, only 14% of patients with an acute infection had been managed successfully [1]. The options of single versus staged exchange are more typically employed in the hard-to-treat or chronic infection; the single-stage represents the approach with less morbidity at the expense of a higher reinfection rate, while the two-stage is the converse [2].

Where Do We Need to Go?

In this multicenter study, Hansen et al. reviewed 27 patients with acute infection, treated with a single-stage exchange to uncemented components. The authors used a variety of antibiotic regimens. At last followup, 19 of the 27 patients retained their new components, although four of these had required further operative débridement. The authors also reported on serologic data in the form of erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) for 23 of the 27 patients; 11 of these patients had at least one elevated marker.

On the face of it, this study would appear to validate the concept that a single procedure, with removal of the initial components to provide access to the entire effective joint space, is sufficient to provide satisfactory resolution of infection. However, the results with uncemented implants appear to be notably inferior to those obtained with antibiotic laden PMMA. Only eight of the 12 patients with

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retained components and available serology demonstrated normal ESR and CRP, which is somewhat discouraging.

Clearly, the definitive treatment plan for the acutely infected hip arthroplasty is not yet known. One study does not allow a firm conclusion.

How Do We Get There?

Hansen et al. provide a view of the difficulty of gaining evidence-based approaches to periprosthetic infection. The authors work at high-volume, high-efficiency arthroplasty centers, but were only able to report on a small set of patients. A registry, whether regional or national, would presumably provide a substantially larger set of data. Although the gold standard of a Level I will not arise from such a registry, a more standardized approach to care of infection might.

A second point is the need for early acknowledgement of the presence of infection. The old saw of “if it’s my

patient, it’s a superficial wound problem; if it’s your patient, it’s a deep infection” comes to mind. The Mayo study [1] noted that none of their successfully managed patients had more than a 14-day delay until the debridement. This was not the case in the current study. There must be a ceiling on the time between onset of infection and successful treatment. Again, this could be addressed with a well-run registry.

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