Commentary: Charting the course of cardiac care pings

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Rarely in the history of surgical advances has so dramatic an improvement in survival been achieved in such a short time with so few iterations. As John F. Kennedy said, borrowing from others before him, this is only the beginning of a rising tide that lifts all boats. Indeed, advances in cardiac surgery and such spinoffs as transcatheter aortic valve replacement have lifted health care for patients with cardiovascular disease.

When we use GPS navigation systems to map our course to our destination, we leave pings showing where we have been. The annals of cardiac surgery are mapped by major discoveries—pings—charting the progress of our profession and its effect on patient care. Some were near disasters and have not stood the test of time, but others, such as John Gibbon and the heart-lung machine,¹ have been resurrected as great successes. Clearly, we all have our preferred pings that are based on our clinical interests; if you will forgive my biases, mine include a number of articles listed in the reference section.²⁻²¹

And now, the extraordinary article by Coselli and colleagues²² in this issue of the *Journal* can be added to the course of notable cardiac surgery pings. The numbers are staggering: 1114 Crawford type II thoracoabdominal repairs culled from a total experience of 3533 repairs performed by Dr Coselli. Of note, this large study confirmed findings from smaller studies, including my own group's study,²³ that surgical factors such as shorter ischemic time, reattachment of intercostal and lumbar arteries, left-heart bypass, cerebrospinal fluid drainage, and avoidance of postoperative hypotension by proactive hypertension all reduce risk of postoperative spinal cord damage, apart from noting associated patient-related risk factors. Coselli and colleagues²² did not study the role of cooling and intrathecal papaverine; however, as they suggested, a multi-institutional study to evaluate further methods to reduce risk would be of value.

These results are exemplary, but they will never be repeated. The changing character of thoracoabdominal disease, along with the growing number of endovascular procedures performed increasingly as a commodity offered

Pings from Laurus/Larus Roc 2005 Marion-Bermuda Race win, a record 64 hours, 45 minutes.

Central Message

Another landmark ping has been added to the course of cardiac surgery.

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by local legerdemain vascular surgeons, has changed the course of care. Nevertheless, this change may be temporary; some reports, including the latest from endovascular pioneers at Stanford,²⁴ have suggested that late results are better with open repair. The National Institute for Health and Care Excellence has therefore ruled out endovascular procedures in Britain.

The next 20-year cardiac surgery course will be affected by an aging, obese population with more valve disease and the scourge of diabetes, which in the study by Coselli and colleagues²² was noted to be a risk factor for spinal injury. Furthermore, increasing employment of surgeons by institutional systems, along with reduced funding, will squeeze the \$231 billion spent on cardiovascular disease every year. Paraphrasing Shakespeare, looking into the seeds of time, we do not know which grain will grow and which will not, but cardiac surgery will evolve as we adapt to changes. As our population ages, we may see in the seeds more aortic, adult congenital, and valve diseases, and these will be the future pings on the course of cardiac surgery.

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