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Is there evidence of fast track recovery programmes improving outcomes in adult cardiac surgery?

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Background: Fast track recovery programmes are a major innovation in the care of general surgical patients, reducing perioperative complications, length of stay (LOS) and reducing costs. It is unclear how these relate to the post cardiac surgery population.

Methods: We analysed all databases for studies which evaluated fast track recovery after cardiac surgery from 1999-2016. A total of 7 studies were identified; 4 studies (3 prospective, 1 retrospective) comparing a fast-track recovery vs. a control group; 3 studies (1 prospective, 2 retrospective) assessing the reasons for failure of fast track recovery programmes.

Results: A total of 792 patients were included comparing fast track recovery. In-hospital mortality was lower in one retrospective cohort study (0.5% vs. 3.3%, $p < 0.01$). The total length of stay was lower in two studies ($p < 0.01$, 10 (8–12) vs. 11 days (9–14), $p = 0.02$). One study showed lower pain scores on day 1-3 ($p < 0.01$, $p < 0.05$, $p < 0.01$). Enhanced recovery had lower mean costs $\$4182 \pm \2284 ($\$6683 \pm \3650) vs. $\$4553 \pm \1355 ($\$7277 \pm \2165), $p < 0.001$. Three studies with a total of 15,212 patients analysed the failure of enhanced recovery programmes. These described a success rate of 97%, 89% and 84% retrospectively. One study found a readmission to be associated with a prolonged ICU stay (105+/-180.0 vs. 19.2+/-2.4 hours of initial ICU stay) and worse outcomes. Independent risk factors for failure were age, female sex, prolonged surgery, and prolonged cross-clamp time and left ventricular dysfunction.

Conclusion: Small retrospective and prospective studies demonstrate fast track recovery after cardiac surgery as an important management strategy in carefully pre-selected patient groups decreasing the intensive care LOS, total duration of intubation, potentially the LOS and is a cost effective strategy compared to conventional recovery. There is a lack of randomised trial data assessing which components of the fast tracking system contribute most to the outcomes.

Biography

Katharina Schulte is working as a Specialty Registrar in Department of General Surgery at a teaching hospital of the Charité Berlin in Germany. She has interest in the perioperative management of surgical patients and is collaborating interdisciplinary research projects in cardiac and thoracic surgery as well as in intensive care medicine.

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