Named research awards

Harry Daly Research Award – Dr Andrew Toner

The Harry Daly Research Award was established by the Faculty of Anaesthetists, Royal Australasian College of Surgeons, in 1981. The Harry Daly Research Award may be made in any of the categories of research award made by the college provided the project is judged to be of sufficient merit. The award is made each year to the grant ranked most highly by the ANZCA Research Committee.

Lidocaine infusions to prevent chronic pain after breast cancer surgery

Chronic post-surgical pain (CPSP) occurs in 12 per cent of mixed surgical populations and affects up to 47 per cent of patients undergoing breast cancer surgery. In half of CPSP cases, pain is reported as moderate or severe in intensity and contributes to disability, low quality of life and mood disturbances. The scale of this problem continues to grow as over 300 million surgical procedures are performed worldwide each year, with an estimated 2.5 million occurring in Australia. This is reflected in the inclusion by the World Health Organization of "chronic postsurgical pain" in the upcoming 11th revision of the International Classification of Diseases. Strategies designed to reduce the human, public health and financial burden of CPSP are therefore a high priority for perioperative researchers and healthcare consumers alike.

CPSP is currently understood to occur when the nerves in the body that carry pain signals become permanently sensitised by repetitive activation, direct damage and inflammation around the time of surgery. This results in the perception of pain in response to mild, harmless sensory triggers, or pain at rest in the absence of any triggers. Lidocaine, a commonly used local anaesthetic agent, is known to have a number of biological actions that may prevent pain-nerve sensitisation. Preliminary evidence supports the use of perioperative lidocaine infusions to reduce the incidence of CPSP and the investigators now plan to test this hypothesis in a definitive, large-scale trial across Australia and New Zealand.

Before conducting a large clinical trial, it is necessary to first perform a pilot study that road tests a means of delivering lidocaine infusions in a manner that is safe, effective and feasible on a larger scale. This will be done in at least 150 patients over a 12-month period across three hospitals in Western Australia. Patients will be randomly allocated to receive lidocaine or placebo infusions, delivered intravenously during surgery and continued postoperatively for 12 hours via the subcutaneous route. Patient safety will be comprehensively evaluated using prospective surveillance strategies that detect local anaesthetic side-effects and toxicity. The effectiveness of the pragmatically designed delivery systems will be assessed by the quantification of plasma levels when surgery completes and when six postoperative hours have elapsed. Finally, the feasibility of the key trial processes and the recruitment rate will be assessed.

The research team will apply a tried and tested strategy, including the publication of a systematic review of the existing evidence, a survey of current practice, and the completion of their detailed pilot study, to ensure progression to a large definitive trial. This strategy will ultimately inform anaesthetists whether long-term pain outcomes are improved after breast cancer surgery when perioperative lidocaine infusions are used.

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