

Mirror, Mirror on the Wall; He Had a “Bypass” After All!

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As practicing cardiac anesthesiologists, we totally comprehend the merit nested in the recent research report by Mavkar and Shukla which has to offer novel promises of preserving the post-cardiac surgery pulmonary function by integrating the Buteyko breathing technique with conventional physiotherapy.¹ Despite having resorted to the inclusion of a homogenous cohort undergoing off-pump coronary artery “bypass” grafting (CABG), the authors’ randomized controlled trial (RCT) quite likely “bypassed” other relevant surgical details, which need to be brought to the attention of the readership.¹⁻⁴

Given that Mavkar and Shukla hint toward and we concur as to the intricacies of CABG surgery, there ought to be a more focused discussion considering a research frame investigating postoperative breathing technique in a cardiothoracic surgical setting where procedural nuances can only be far from innocent.¹⁻⁴ Regardless of the use of cardiopulmonary bypass, left internal thoracic artery (LITA) harvest is a routine step and in fact, the graft of choice during a CABG.⁵ Of note, independent researchers, namely, Guizilini et al. outline the counterproductive effects of pleurotomy during LITA harvest on the postoperative pulmonary mechanics, that is, the forced vital capacity (FVC) and the forced expiratory volume in 1 second (FEV1) following off-pump CABG.² It is thereby believed that while studying a similar study population and outcome measures, the index RCT could have shed some light on whether an intact pleura or an open pleura technique was employed for LITA harvest in their participants.¹ Even for the practicalities surrounding incidental opening of pleura during an otherwise intended intact pleura LITA harvest, the chest drain practices could have been clarified to enhance the contextual lucidity.¹⁻³ The authors indeed describe the challenges presented by the drain-site discomfort while performing the postoperative day-2 (POD-2) pulmonary function test (PFT) in their study subjects.¹

Moreover, driven by the lower reported attrition rates for the arterial grafts when compared to the saphenous venous (SV) grafts, the coronary surgeons might choose to harvest the bilateral internal thoracic artery or what is frequently called the internal mammary artery (IMA).⁵ In an interesting study by Ferdinande et al., it was found that the decline in the post-CABG pulmonary mechanics is accentuated depending upon one or two pleural cavity/cavities being violated.⁴ The researchers outlined a much more markedly reduced POD-2 FVC in the bilateral IMA (BIMA) group as opposed to the single IMA (SIMA) and, the SV groups ($31 \pm 9\%$ vs $35 \pm 8\%$, and $45 \pm 10\%$ of the respective preoperative PFT values, $p < 0.05$). For that matter, the POD-2 FEV₁ pretty much demonstrated a

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similar course of decline in the three corresponding groups ($32 \pm 10\%$ vs $34 \pm 8\%$, and $46 \pm 9\%$ of the respective preoperative PFT values, $p < 0.05$).⁴

Hence, we again reiterate that these details can be difficult to “bypass” while evaluating a rather complex study subset undergoing “bypass.”¹⁻⁴

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