

NO-6

New pain management: new analgesic protocol VS standard analgesia in paediatric cardiac surgery for tardive chest tube removal

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Introduction: Cardiac surgery requires the insertion of drainage into the pleural or mediastinal spaces. Removal of the cardiac/thoracic drainage/tube (Chest Tube Removal: CTR) is associated with moderate to severe pain. These drains are generally removed within 24 to 48 hours after surgery. However, this is not always possible; indeed, in some cases a tube remains inside of a patient for several days and its removal may take place outside of intensive care, in the “general” ward. Pain from CTR can cause inadequate lung expansion; secretion retention due to ineffective cough; and immobility that promotes hypoxemia, atelectasis, and pneumonia. The use of analgesics is the most common method to relieve pain induced by CTR, but this maneuver is often performed without the use of analgesics drugs or other analgesic techniques. Furthermore, the use of specific analgesics outside of environments considered protected, such as intensive care, is still some what a taboo. A recent literature review emphasizes how current pain management protocols associated with CTR, using a variety of pharmacological and non-pharmacological techniques, are either non-existent or unsatisfactory. Yet the control of pain is a specific competence and requirement profession—even legally—for all ages.

Methods: A multi-center comparative study that compare two analgesic protocol using 2 different medicines.

Results: During the period between January 9, 2018 and March 31, 2018, we observed 32 participants in two centers. The average age of participants was five and a half years. T-tests for dependent and independent samples were performed. In the standardized samples, pre- and post-CRT pain evaluations were performed. The pre-procedure evaluation between the two samples shows no statistically significant difference ($p=0.154$). At post-evaluation, the protocol Group A showed a significant difference ($p=0.001$) compared to the protocol Group B.

Conclusion: Preliminary results show a greater efficacy with new protocol Group A compared to standard for the management of pain also outside of the pediatric intensive care unit, when CTR is actuated in a ward of pediatric cardiac surgery