REMIFENTANIL AND POST-OPERATIVE OPIOID ADMINISTRATION IN PATIENTS UNDERGOING BARIATRIC SURGERY

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BACKGROUND

Remifentanyl, given as a target concentration infusion (TCI), provides good operating conditions and rapid recovery from surgery. In Laparoscopic Bariatric Surgery, the use of such ultra-short acting opioids is an attractive option to minimise risk of delayed respiratory complications.[1] However there is evidence suggesting even at modest doses, remifentanyl may induce an incidence of acute tolerance. [2]

In order to ascertain whether tolerance occurs we analysed the intra-operative and post-operative opioid requirements of patients undergoing primary laparoscopic bariatric surgery, to determine to what extent remifentanyl use is associated with a greater total opioid requirement during and after surgery.

METHODS

Data for 163 patients undergoing primary laparoscopic gastric bypass surgery at St Richards Hospital in Chichester, between October 2016 and March 2018, was obtained from an existing database and cross-referenced against electronic medical prescribing records (One:MedicinesEPMA) and anaesthetic charts.

A variety of different surgeons, anaesthetists and techniques were used meaning bias due to surgical technique should be minimal. Intra-operative and post-operative doses of fentanyl, IV and oral morphine were collated and compared, adjusting oral doses for bio-availability using the ANZCA Opioid Conversion guidelines[3]. Analyses were then performed with GraphPad Prism, using the Mann-Whitney U test for non-parametric data to calculate statistical significance.

RESULTS

Patients who received a remifentanyl based technique received a median post-operative total morphine doses of 42mg vs 36 mg in the non-remifentanyl group (**Fig 1**).

Figure 1. Association of Intra-op Remifentanyl Usage & Total Morphine Dose in Lap RYGB (n=163)

Figure 2. Association of Intra-op Remifentanyl Usage & Total Fentanyl Dose in Lap RYGB (n=163)

Figure 3. Association of Intra-op Remifentanyl Usage & Post-op Fentanyl Dose after Lap RYGB (n=163)

DISCUSSION

In this preliminary analysis we were unable to demonstrate a statistically significant effect, although the trends demonstrated are in keeping with the hypothesis. It is possible this study is underpowered and we will continue to collect more data to review this. However, it would appear the differences in opioid consumption are of questionable clinical significance.

REFERENCES

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