'To continue or not to continue' perioperative opioid substitution therapy? That is the question!

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Background

Perioperative pain management in opioid substitution therapy (OST) patients is complex due to increased pain sensation associated with opioid induced hyperalgaesia. Buprenorphine OST patients particularly, have been managed inconsistently due to the perceived ceiling effects of buprenorphine or dependency concerns. In a surgical setting, pain and need for additional opioids complicates the situation further. Literature guidance on managing this group of patients is quite varied.

Aim

To compare and contrast pain management strategies between surgical patients on OST, whose OST was either held or continued pre-operatively while being treated at a leading tertiary hospital in South Australia.

Method

- Retrospective audit of eligible surgical patients on OST (buprenorphine and methadone) collected for a period of 5 years between August 2011 and August 2016.
- Data collected using a standardized data collection form and Redcap®.
- Data analysis was conducted using SPSS 25® and MS-Excel®
- Inclusion criteria
  - Surgical patients maintained on OST prior to surgery
  - Over 18-years of age
  - Dispensed at least one dose of OST while in hospital
  - Post-operative stay in hospital ≥ 12 hours
- Exclusion criteria
  - Patients on long-term non-OST opioids prior to surgery

Results

TABLE 1 Demographic data of surgical OST patients

	Methadone#	Buprenorphine
Total (n)	14	30
Male	6	20
Female	8	10
OST held	**3#**	12
OST continued	11	18
Mean age (years)	46 (± 8)	43 (± 7)
Mean duration of stay in hospital (days)	9 (± 9)	10 (± 11)

Methadone group excluded from further comparative analysis, as the group was underpowered.

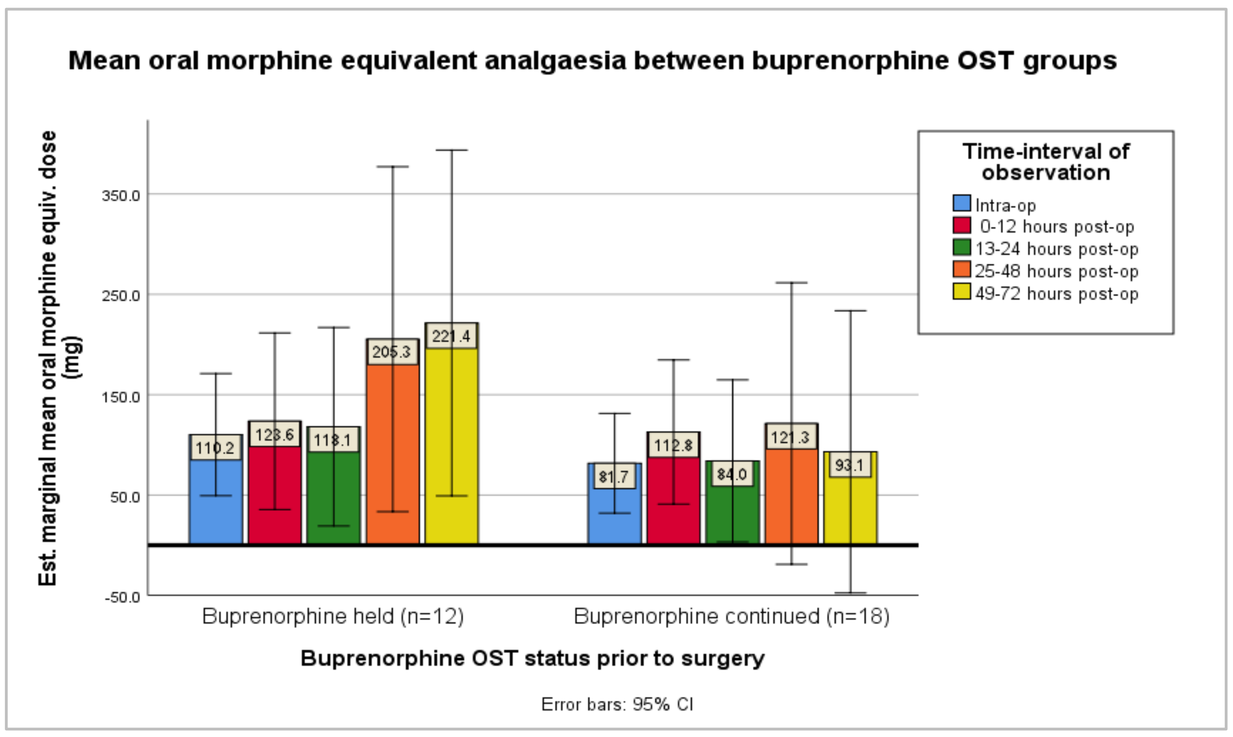

Figure 1 Mean oral morphine equivalent analgaesia used over time between surgical patients whose buprenorphine was either held or continued peri-operatively.

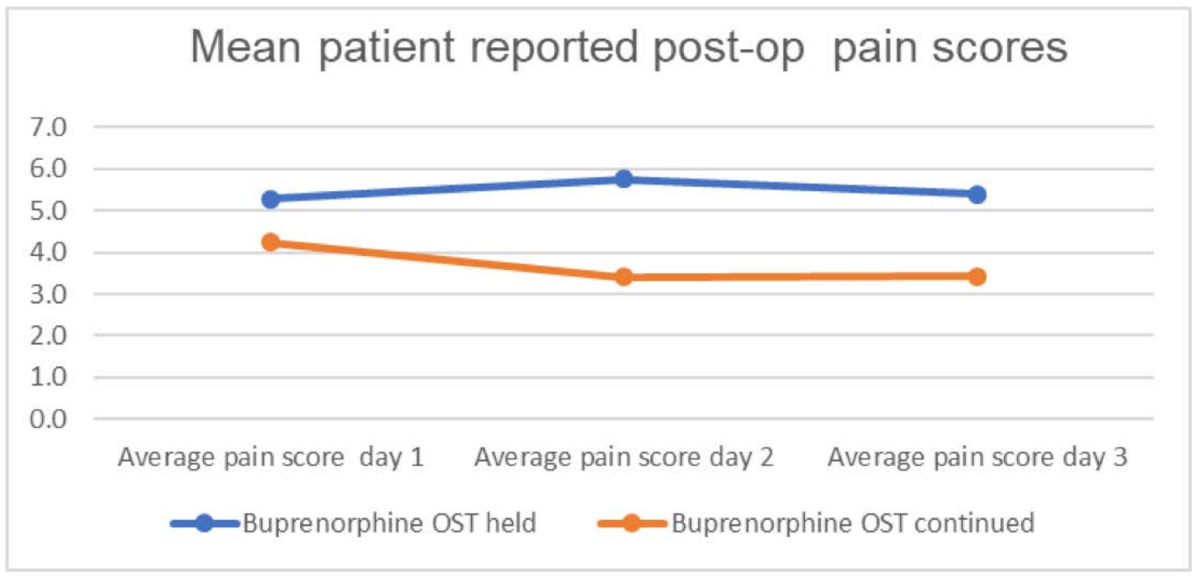

Figure 2 Mean daily patient reported pain score post surgery

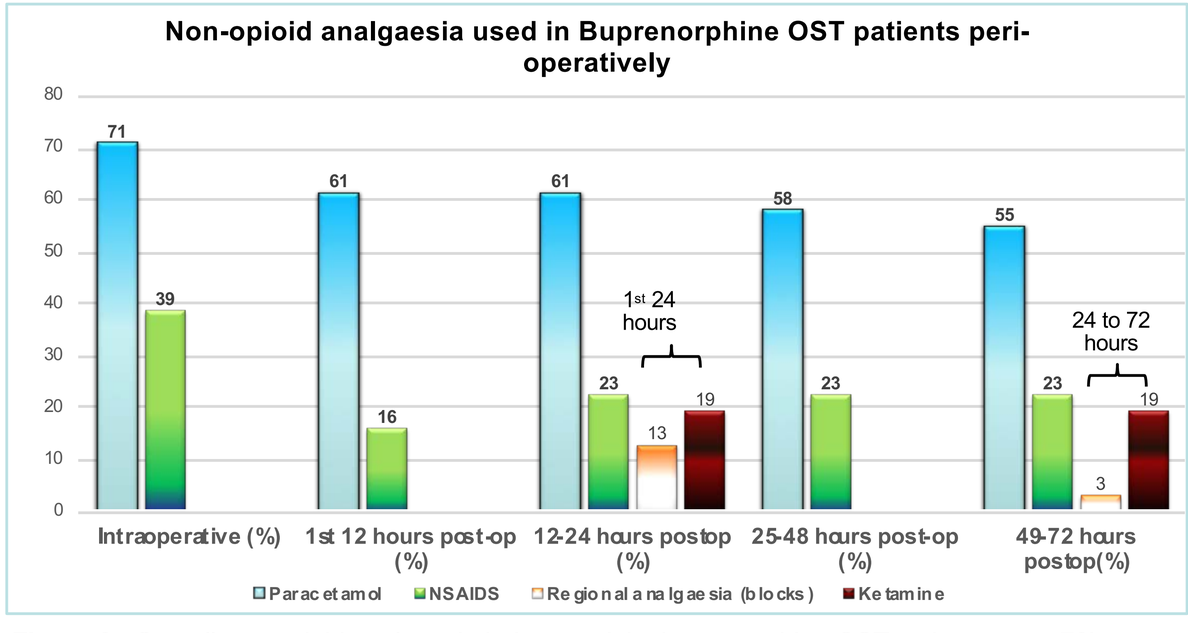

Figure 3 Overall non-opioid analgaesia being used by buprenorphine OST patients up-to 72h post-surgery

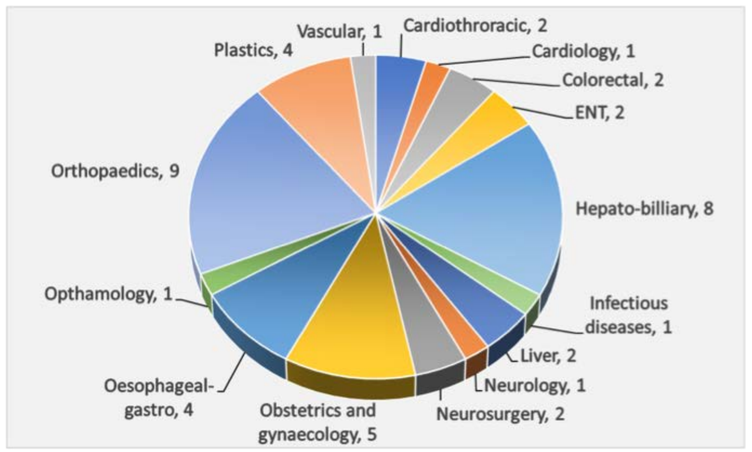

Figure 4 Distribution of OST (methadone and buprenorphine) patients between surgical teams.

Discussion

- Methadone OST patients were excluded from comparative analysis as the population was underpowered (table 1).
- Overall there is an increased utilization of opioids amongst the population of buprenorphine OST patients when the therapy was held prior to surgery (fig.1). Despite the obvious difference, statistical significance was not observed potentially due to the variance in opioid requirements and surgical types (fig. 4)
- Patient reported mean pain scores were comparatively higher in buprenorphine OST held group compared to those in whom it was continued (fig 2).
- Post-operative non-opioid analgaesia was not optimized as only 61% of the buprenorphine-OST population were administered paracetamol in the first 12 hours post surgery (fig 3).

Conclusion

- OST therapy needs to be continued in surgical OST patients to help better manage post-operative pain and reduce non-OST opioid requirements.
- Non-opioid adjuvant analgaesia particularly paracetamol should be prescribed for all suitable surgical patients to assist in pain management.
- Despite recent practice shift to continue OST peri-operatively, sound evidence to support this is still lacking and practice is still highly varied.

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