



Use of Preoperative Oral Paracetamol

Galvin Gan¹ - Chris Goodman¹ - Neelam Patel¹

Correspondence: G Gan, Department of Anaesthesia, Wrightington, Wigan and Leigh NHS Foundation Trust, Email: galvingan@doctors.org.uk

Abstract

Introduction: Paracetamol is a widely used analgesic in the perioperative period. Studies have shown that there is no significant difference between intravenous (IV) and oral preparations in postoperative pain outcomes.[1, 2] We proposed moving towards routine administration of oral paracetamol before surgery to reduce the use of IV preparations, with benefits of carbon and cost reduction.

Methods: This prospective intervention included a purposeful sample of adults (>16 years old) receiving either a general anaesthetic or regional block for elective surgical procedures. Postoperative data was collected by recovery staff over two months post-intervention. The amount of IV preparations ordered by the department was also monitored as it provided a more accurate measurement of our usage over time. Adverse events were reported via the hospital's Datix system.

Results: Data was collected for a sample of 109 patients in August to September 2023. 72 patients received oral paracetamol preoperatively and 20 patients (18%) had intraoperative IV paracetamol. Fifteen (75%) of these intravenous doses could have been avoided with oral doses preoperatively. The rest were considered appropriate as it had been over four hours since their last paracetamol dose. One patient received double dose paracetamol (oral and IV) erroneously but did not come to harm. Based on procurement data, there had been a significant reduction of more than 77% of IV preparations. This has sustained since the intervention (Figure 1). No adverse events were reported. Based on pricing schedule from the British National Formulary, this has translated to a cost savings of at least £870 per month. [3] Extrapolating our adherence rate of 66% to all 23,600 elective procedures performed in a year in our Trust, this translated to a reduction of 2,469 kg of carbon dioxide emissions per year and a potential cost savings of £18,504 per year. If we achieve 100% adherence, this will increase to 3,741 kg of carbon dioxide and £28,037 per year respectively.[2,3]

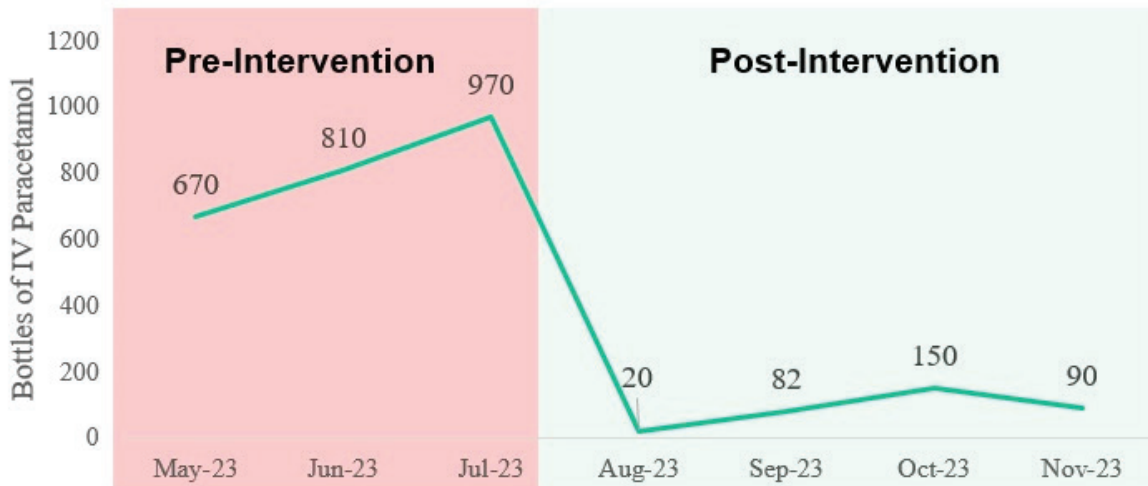
Discussion: Routine use of preoperative oral paracetamol has resulted in a significant reduction in the use of intravenous preparations. Extrapolated across the whole hospital, there are large carbon and cost savings to be made.

Conclusion: The QR code provided a useful transportable resource, which was utilised by doctors and patients. This provides scope for progression in provision of leaflet for other surgical conditions, both in inpatient and outpatient settings, through utilisation of a QR code.

Cite as: Gan G, Goodman C, Patel N. Improving access to patient information leaflets in patients undergoing emergency appendicectomy. *Impact Surgery*. 2024;1(1):21-22.

1. Department of Anaesthesia, Wrightington, Wigan and Leigh NHS Foundation Trust

Research for Greener Surgery Conference, 13 December 2023, Great Hall, University of Birmingham, Birmingham, UK

Figure 1: Number of bottles of IV paracetamol procured.

Number of bottles of IV paracetamol procured by our operating department pre- and post-intervention.

References

1. Ibrahim T, Gebril A, Nasr MK, Samad A, Zaki HA. Unlocking the optimal analgesic potential: A systemic review and meta-analysis comparing intravenous, oral and rectal paracetamol in equivalent doses. *Cureus*. 2023 Jul 14;15(7):e41876.
2. Myo J., Pooley, S. and Brennan, F. Oral, in place of intravenous, paracetamol as the new normal for elective cases. *Anaesthesia* 2021 Aug;76(8):1134-44.
3. Joint Formulary Committee. British National Formulary (online). London: BMJ Group and Pharmaceutical Press. Available from: <https://bnf.nice.org.uk/> [Accessed on 21 Nov 2023].