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Carbon Dioxide Insufflation During Colonoscopy

A Randomised Controlled Trial

A thesis presented in partial fulfilment of the requirements for
the degree of Masters of Philosophy (Nursing) at Massey
University

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Abstract

Aim

To determine that carbon dioxide (CO₂), instead of air, insufflated during colonoscopy reduces pain experienced by patients post colonoscopy.

Method

A randomised, double blinded, controlled trial with 205 consecutive consented patients referred for elective colonoscopy was undertaken at MidCentral Health Gastroenterology Department between July 2008 and January 2009. Patients were randomised to colonic insufflation with either air or CO₂. A comparison of reported pain was undertaken using a 0 -10 point numeric rating scale at several time periods; intra procedure, 10, 30, and 60 minutes post procedure.

Results

The results were analysed using the SPSS programme. CO₂ insufflation was used in 108 patients and air in 97 patients. Pain scores 10 minutes after were 0.43 ± 1.20 for CO₂ and 1.61 ± 2.40 for air ($P < .0001$). 30 minutes after the procedure 90% of patients in the CO₂ group reported no pain, compared to 61% of the air group. CO₂ significantly reduced the amount of discomfort post colonoscopy at 10, 30 and 60 minutes.

Conclusion

Those receiving CO₂ during colonoscopy experienced less post colonoscopy pain than those who received air insufflation. Carbon dioxide should be considered as the insufflating gas during colonoscopy.

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