Abstract

**Background:** Procedural sedation and analgesia (PSA) is used during colonoscopy

to facilitate the procedure and relieve patient's discomfort. The foremost risk of PSA

is respiratory depression. Lidocaine could be a promising additional analgesic in IBD

patients to minimise side effects of PSA.

Our primary objective was to investigate whether i.v. lidocaine reduces the amount of

alfentanil used during PSA in IBD patients. Additionally, we investigated whether

lidocaine reduces cardiorespiratory incidents and the amount of propofol required

during the procedure.

Methods: A randomised, double-blind, placebo controlled study was performed at

the endoscopy unit of the Radboud University Medical Centre from November 2016

to December 2018. Seventy-six patients with IBD, ASA 1 or 2, between 18 and 65

years, scheduled for colonoscopy with PSA were included. Patients received

lidocaine 1.5 mg kg<sup>-1</sup> followed by a continuous infusion of 2 mg kg<sup>-1</sup> h<sup>-1</sup> (intervention

group, n=38) or 0.9% saline in equivalent volumes (control group, n=38) during

colonoscopy.

Results: There was a reduction in the use of alfentanil (327µg (95%Cl=-31-505,

p=0.082)), and propofol (39 mg (95%Cl=-5-83, p=0.083)) in the lidocaine group

compared with the control group. Ten patients (26%) in the control group and 8

patients in the lidocaine group (21%) experienced a period of hypoxia (p=0.788). In

both groups, no periods of hypotension were noted.

**Conclusion:** Our investigation has shown a reduction in the use of propofol and

alfentanil in patients undergoing colonoscopy with PSA. The differences were not

statistically significant. Lidocaine did not reduces the incidence of cardiorespiratory

events.

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