55 THE EXTENDED EFFICACY OF LOW-DOSE METHOXYFLURANE ANALGESIA IN PATIENTS WITH SEVERE ACUTE TRAUMA PAIN: A SUB-ANALYSIS OF A RANDOMISED, DOUBLE-BLIND, PLACEBO-CONTROLLED UK STUDY

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Aim The STOP! study[1] investigated low-dose methoxyflurane analgesia in the treatment of moderate-to-severe acute trauma pain (pain score of 4–7 on Numeric Rating Scale [NRS]) in 300 patients in UK Emergency Departments. We present a post hoc subgroup analysis of the proportion of responders, and pain relief beyond 20 min after the start of treatment, in patients with severe pain (NRS=7) at baseline.

Method Patients aged ≥12 years were randomised 1:1 to receive methoxyflurane (up to 6 mL) or placebo (normal saline), self-administered via a Penthrox® inhaler. Rescue medication (paracetamol/opioids) was available immediately upon request. Visual analogue scale (VAS) pain intensity was assessed using the PainlogTM VAS at 5, 10, 15, 20 and 30 min, then every 30 min until discharge.

Results The severe pain subgroup included 62 methoxyflurane-treated patients and 71 placebo-treated patients. The proportion of responders (patients with ≥30% improvement from baseline in VAS pain) was significantly higher for methoxyflurane than placebo at all timepoints (p≤0.0283). Mean decreases in VAS pain intensity of −35.9, –41.6, −45.4 and 45.9 mm (from a baseline mean of 71.2 mm) were observed with methoxyflurane at 20 (n=50), 30 (n=44), 60 (n=19) and 90 min (n=10). Mean decreases of −19.6, –22.0, −32.3 and −34.5 mm (from a baseline mean of 68.3 mm) were observed with placebo at 20 (n=54), 30 (n=40), 60 (n=8) and 90 min (n=2).

Conclusion The reduction in pain intensity with low-dose methoxyflurane analgesia is maintained for the duration of use in patients with severe trauma pain.

REFERENCE

1. Coffey F. *Emerg Med J* 2014;**31**:613–8.

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Conflict of interest Frank Coffey was paid travel and subsistence expenses by MDI for one investigator's meeting. Mark Lomax is an employee of Mundipharma Research Limited. There were no other competing interests.

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56 SUBGROUP ANALYSIS OF TIME TO FIRST PAIN RELIEF AND RESCUE MEDICATION USE IN PATIENTS WITH SEVERE ACUTE TRAUMA PAIN RECEIVING LOW-DOSE METHOXYFLURANE ANALGESIA

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Aim We performed a subgroup analysis of a previously reported randomised, double-blind, placebo-controlled study of low-dose methoxyflurane analgesia for the treatment of acute trauma pain in UK Emergency Departments [STOP!].[1,2]

Method At triage, patients aged ≥12 years (n=300) with a pain score of 4–7 on the Numeric Rating Scale (NRS) were randomised 1:1 to methoxyflurane (up to 6 mL) or placebo (normal saline). Study medication was self-administered by the patient using a Penthrox® inhaler. Rescue medication (paracetamol/opioids) was available immediately upon request. Adverse events (AEs) were recorded from enrolment until discharge, and at Day 14±2. Analyses of time to first pain relief, time to request for rescue medication and AEs were performed in a subgroup of patients with severe pain (NRS=7) at baseline (n=133).

Results Median time to first pain relief was significantly shorter with methoxyflurane than placebo (3 min versus 5 min, hazard ratio: 2.21; 95% CI: 1.45 to 3.37; p=0.0002). The proportion of patients who requested rescue medication was significantly lower in the methoxyflurane group (9.7%) than the placebo group (32.4%), with a significantly longer time to request for rescue medication in the methoxyflurane group (hazard ratio: 0.19; 95% CI: 0.08 to 0.48; p=0.0004). AEs (mostly mild, transient dizziness and headache) were reported by 50.0% of methoxyflurane patients and 42.3% of placebo patients.

Conclusion Low-dose methoxyflurane administered via the Penthrox® inhaler provides effective analgesia in adult and adolescent patients presenting with severe acute trauma pain.

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1. Coffey F. *Emerg Med J* 2014;**31**:613–8.
2. Coffey F, *et al*. *Adv Ther* 2016;**33**:2012–31.

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