Efficacy and safety of fentanyl buccal tablet compared with immediate-release oxycodone for the management of breakthrough pain in opioid-tolerant patients with chronic pain: a pooled analysis of two studies

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**Purpose**

This study was designed to examine the pooled efficacy and safety results from two head-to-head studies comparing fentanyl buccal tablet (FBT) with immediate-release oxycodone tablets.

**Method**

Opioid-tolerant adults with one to 4 breakthrough pain (BTP) episodes per day enrolled in two studies, each comprising two randomized, open-label titration periods and two randomized, double-blind, double-dummy treatment periods. After FBT and oxycodone were titrated to a successful dose (single dose providing adequate analgesia without unacceptable adverse events [AEs]), patients treated 10 BTP episodes with one study drug and the next 10 with the other. Patients rated BTP (pain intensity [PI], 0-10 scale) predose and 5, 10, 15, 30, 45, and 60 minutes postdose. The primary measure in both studies was mean PI difference (PID) 15 minutes postdose. Secondary measures included PID 5 to 60 minutes postdose, pain relief (PR; 0-4 scale, 5-60 minutes), medication performance assessment (MPA; 5-level categorical scale) at 30 and 60 minutes, and a medication preference questionnaire (preference for the study drug administered in the first or the second double-blind treatment period).

**Results**

A total of 536 patients enrolled in the studies and 531 patients received treatment. The primary chronic pain diagnosis was mostly back pain (62%), followed by osteoarthritis (9%) and neck pain (8%). In all, 352 patients found a successful dose for both drugs and 320 were evaluable for efficacy. PID was significantly greater following FBT vs oxycodone at 15 minutes (0.86 vs 0.67; \(P<.0001\)) and at all other time points measured from 5 to 60 minutes (\(P<.05\)). PR was significantly greater following FBT vs oxycodone at 10 minutes (0.31 vs 0.25; \(P<.05\)) and at all points measured from 15 to 60 minutes (\(P<.05\)). MPA was significantly better with FBT at 30 and 60 minutes (\(P<.0001\)). On the medication preference questionnaire, 48% preferred FBT, 33% preferred oxycodone, and 11% had no preference (8% did not complete the questionnaire). Based on the distribution of successful doses, FBT doses of 200, 400, 600, and 800 \(\mu\)g appeared to be approximately equivalent to oxycodone doses of 15, 30, 45, and 60 mg. No simple linear relationship was observed between the successful doses achieved during the titration phase for FBT or oxycodone and the around-the-clock dose or the dose of supplemental opioid medication at baseline. A total of 270 of 531 (51%) patients reported AEs and 54 of 531 (10%) patients discontinued from the studies because of AEs. There was one treatment-related serious AE of unresponsiveness following consumption of multiple doses of FBT 800 \(\mu\)g and alcohol. The patient recovered, but was discontinued from the study. Rates of AEs and discontinuation because of AEs were similar between treatments.

**Conclusions**

Treatment with fentanyl buccal tablet for breakthrough pain was associated with a more rapid onset of analgesia compared with immediate-release oxycodone, with statistically significant differences in PID as early as 5 minutes post-treatment. The incidence of AEs reported with each treatment was generally similar, and the safety profile of fentanyl buccal tablet was consistent with the profile observed in previous studies.