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Phase 3 Efficacy and Safety Results of Sufentanil Sublingual 30mcg Tablet for Management of Acute Traumatic Pain in Emergency Medicine

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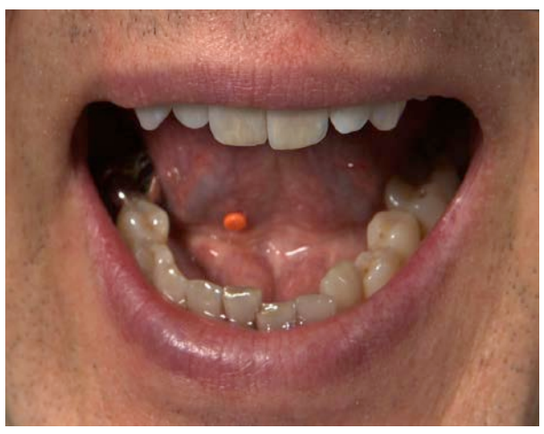
Background

Opioids are often considered standard-of-care treatment for acute pain associated with field trauma, however limitations of these therapies have been well-documented.[1,2] Morphine is associated with erratic onset of analgesia when delivered IM, and delayed side effects resulting from active metabolites, while fentanyl's rapid distribution and metabolism demands frequent re-dosing.[3,4] Novel classes of analgesics have recently been introduced, but many patients still suffer from pain in situations where immediate intravenous (IV) access may be unavailable.[5] There remains a clinical need for rapid-acting, potent analgesics that do not require an invasive route of delivery. In collaboration with the U.S. Department of Defense (DoD), a sufentanil sublingual 30mcg tablet (SST30) is in development for treatment of acute pain in the battlefield and emergency trauma settings (**Figure 1**). The product is designed to leverage sufentanil's unique pharmacokinetic and pharmacodynamic properties and could offer potential analgesic advantages in challenging venues.[6-8]. The primary objective of this study was to evaluate the safety and efficacy of SST30 for management of pain in an Emergency Department (ED) setting.

Figure 1. Sufentanil Sublingual Tablet 30mcg



Methods

Study Design

- This is a multicenter, open-label study in 40 adult patients presenting to the ED with moderate-to-severe acute pain due to trauma or injury.
- Upon meeting entrance criteria, patients were administered a single dose of SST30 and remained in the study for up to 2 hours for safety and efficacy assessments.
- Patients must have reported a pain score of ≥4 on an 11-point numerical rating scale (NRS 0-10) before first dose of study drug could be given.

Assessments

- Primary efficacy variable is the time-weighted summed pain intensity difference to baseline over the 1-hour study period (SPID1)
- Safety assessments included adverse events (AEs), vital signs, including oxygen saturation, and a Six-Item Screener (SIS)
  - The Six-Item Screener was administered pre and post dose at the request of the DoD to assess for potential cognitive impairment.[9]

Results

Efficacy

- Forty of the 100 planned patients have been analyzed to date; mean age 42 years, 53% female
- Baseline pain intensity (mean) 8.5/10 ("severe" pain)
- Substantial reductions in Pain Intensity (mean 2.7/10) within the first hour have been recorded **(Figure 2)**
  - Literature has identified 1.3 as the minimum clinically significant change in Pain Intensity when administering an 11-pt NRS in the ED[10]
  - Mean decreases of 1.3 occurred within 15-30 minutes of first dose

Results (Cont)

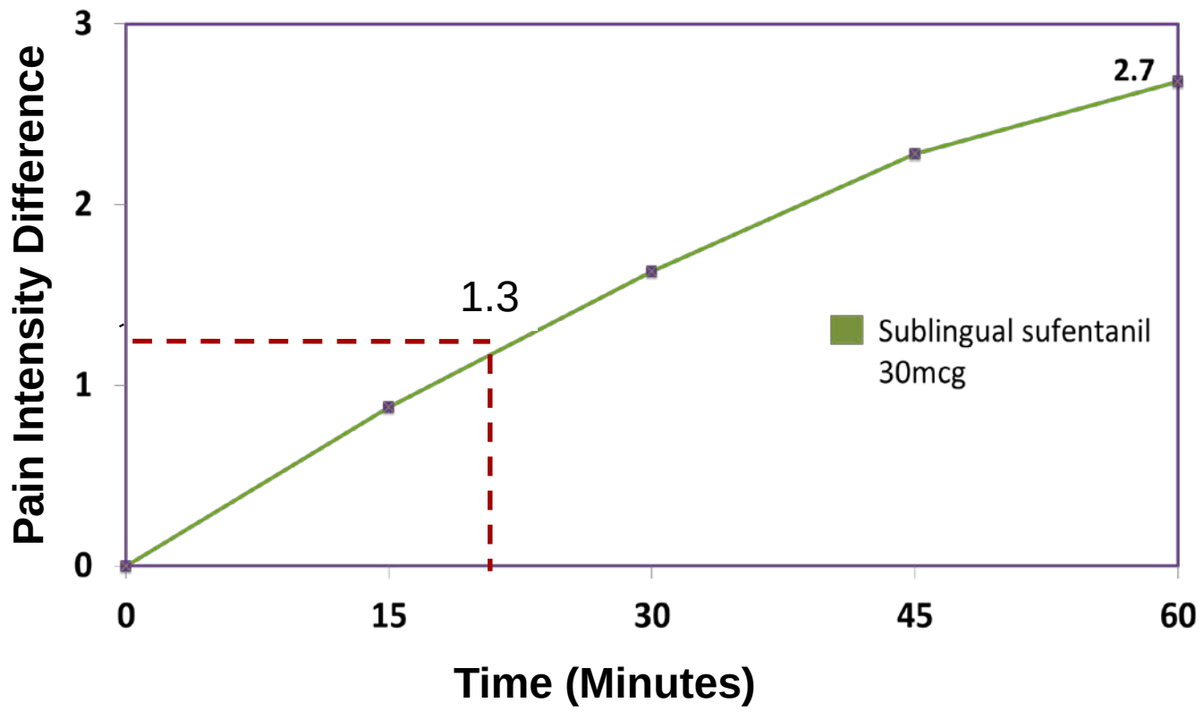
Safety

- Only 1 patient to date has terminated early (within the 1st hour of study) due to inadequate analgesia
- No adverse events have been reported in 34/40 (85%) patients
- Nausea (5%) and somnolence (5%) were the most common AEs reported
- Early SIS results suggest no cognitive impairment caused by SST30
  - mean pre-dose score was 5.7/6 vs 5.9/6 post-dose.

Table 1. Most Commonly Reported AEs

Adverse Event	SST30 (n=40) n (%)	Severity Rating
Nausea	2 (5%)	1 mild, 1 moderate
Somnolence	2 (5%)	mild
Feeling Hot	1 (2.5%)	mild
Dizziness	1 (2.5%)	mild
Disorientation	1 (2.5%)	mild
Facial hypoesthesia	1 (2.5%)	mild
Pruritus	1 (2.5%)	mild
Vomiting	0 (0%)	NA

Figure 2. Pain Intensity Difference (PID) to Baseline over Hour One



Conclusion

- **Early efficacy and tolerability results from this study suggest that SST30 may offer a viable alternative to IM or IV analgesia**
- **Nausea and somnolence have been the most commonly reported AEs across the first 40 patients**
- **Additional patients treated with multiple doses are indicated to more accurately characterize the safety and efficacy profile of this therapy in Emergency Medicine**

References

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Poster presentation at the 7th World Congress of Mountain & Wilderness Medicine, July 31st-August 4th, 2016 Telluride, CO