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Auriculotherapy Combined with an Interscalene block for Pain Management following Shoulder Surgery: A Prospective Study

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Introduction

In the context of the current opioid crisis, there is a growing interest to evaluate non-pharmacological alternatives to manage post-operative pain following surgery.

Auriculotherapy is a non-invasive, complementary technique studied in several surgical models, including tooth extraction [1], hip arthroplasty [2], laparoscopic gynecologic procedures [3], and postpartum depression [4]. However, the recommendation to use Auriculotherapy is based on anecdotal reports.

This study randomized, placebo-controlled study was designed to assess the role that Auriculotherapy may have in reducing post-operative opioid requirements in patients undergoing primary elective rotator cuff surgery under our standard protocol which includes the use of a single interscalene block.

Materials and Methods

Thirty-nine opioid naive patients undergoing rotator cuff surgery and randomized to either an active Auriculotherapy treatment (n=20) or placebo Auriculotherapy treatment (n=19) were included in the analysis. The protocol was approved by the Institutional Review Board for the University of Pittsburgh Human Resources Protection Office and was registered to Clinicaltrials.gov before any eligible patients were consented and randomized (STUDY#18050099 and NCT#0386025). The Auriculotherapy treatment performed in the recovery room on the ipsilateral ear of the surgery included 9 ear points based on the Alimi cartography [5]: Ω2 (the master point for the mesoderm; (A4)), the shoulder sensory point (B11), 6 points involved with the pain pathway (stellar ganglion (F10); C7, sensory (C11) and motor C7, (CXI), sensory master point (SMP; D17)), reticular master point (RMP, H13), Thalamus (G14)), and ACTH (I17).
The primary endpoint was overall opioid consumption (oral morphine equivalent = OME) on postoperative day 5. Secondary end points included pain, non-opioid analgesic consumption during the study period, time to discharge from the recovery room, time to discharge from the hospital, and overall patient satisfaction and functional recovery.
Data are expressed as mean ± standard deviation (SD). Data were analyzed using non-paired test. $P < 0.1$ was considered significant.

Results/Case Report

In the first 5 days following surgery, the use of Auriculotherapy (n=20) was associated with a significant 35% overall reduction in opioid requirement over the 5-day study period compared to the placebo treatment (n=19): 62 mg ± 46 OME mg, vs 96 mg ± 67 OME mg respectively, (p=0.0307). This reduction in opioid requirement in the Auriculotherapy group was concomitant with a 16% decrease in pain with movement (area under the curve; 24. 97 ± 11.294 vs 21.08 ± 8.627, placebo vs active treatment, respectively; p = 0.0827).

Furthermore, 20% of patients in the active auriculotherapy group versus 11% in the placebo group didn't use any opioids during the study period.

Discussion

This randomized placebo-controlled study demonstrated that the use of Auriculotherapy based on Dr. Alimi's cartography allowed for a 35% reduction in opioid requirement in opioid naïve patients following rotator cuff surgery with a preoperative interscalene block.

Since each patient involved in the study benefited from a preoperative interscalene block, which has been shown to last up to 24 hrs, it is not surprising that on postoperative day 1 pain was similar in both groups.

References

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Disclosures

No

Tables / Images