ACUPRESSURE IN MANAGEMENT OF POSTOPERATIVE NAUSEA & VOMITING (PONV) IN HIGH RISK AMBULATORY SURGICAL PATIENTS

Randomized Controlled & Blinded Research Study

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Introduction

Background

PONV is a common, distressing, costly and potentially preventable phenomenon in high-risk ambulatory surgical patients that persists despite current pharmacologic prophylaxis and rescue interventions. Acupuncture, an energy medicine, has shown promising results in reducing PONV in various surgical populations. There is little research specifically targeting high-risk PONV ambulatory surgical patients.

Problem

75%-90% of general anesthesia patients are at substantial risk for development of PONV.1 PONV risk assessment tool developed by the American Society of PeriAnesthesia Nurses (ASPAN) identifies 9 risk factors associated with increased incidence of PONV: 

1. Female
2. Non-white
3. History of PONV or motion sickness
4. Planned general anesthesia (volatile gas) or nitrous oxide
5. History of motion sickness
6. Surgery duration > 90 minutes
7. Surgery location (office, clinic, or hospital)
8. Phase I surgery
9. Increased age

Discharge immediately after operative and invasive procedures...

Cost of PONV

PONV is the number one fear that patients express before surgical surgery and is cited by patients as most devastating than postoperative pain or the surgery itself.2,3 When faced with a choice between pain and PONV, many patients will choose to experience pain. Patients were willing to pay $56-$100 out-of-pocket to avoid PONV. There is a paucity of research that specifically targets post discharge PONV. The significance of this study will be in evaluating effects of acupressure specifically among those patients identified as being at high-risk on use of acupressure in relieving PONV has lacked specific targeting of high-risk PONV population.

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PONV at post anesthesia care unit, further willingness to pay $56-$100 out-of-pocket to avoid PONV.

1. Total surgical ambulatory patients were randomly assigned to receive subcutaneous bupivacaine (n=37) or intravenous ondansetron (n=37) placebo. Patients without antiemetic prophylaxis showed a significant difference in incidence of PONV between the two groups with a 12% risk of PONV in the placebo group compared to a 6% risk in the ondansetron group (p=.003).

Literature Review

4) Planned general anesthesia (volatile gas) or nitrous oxide

1) Female
2) Non-white
3) History of PONV or motion sickness

Rank

Postoperative Outcome LevelPartnering Patients

1. Venting
2. Crying on back/bedside table
3. Nostril
4. Nausea
5. Recall without pain
6. Restless weirdness
7. Shaving
8. Skin itch
9. Soreness

The limitations of this study were:

1. Patients received usual care including prophylaxis and rescue interventions and routine instructions for managing nausea and vomiting after discharge. PACU and day surgery nurses assessing nausea and vomiting were blinded to patient group (acupressure or placebo).

2. Does preoperative placement of acupressure beads at P6 affect the incidence and severity of PONV immediately post surgery (Phase I) in high-risk ambulatory surgical patients, compared to usual care of prophylactic and rescue anesthetic?

Research Questions

1. Does preoperative placement of acupressure beads at P6 affect the incidence and severity of PONV immediately post surgery (Phase I) in high-risk ambulatory surgical patients, compared to usual care of prophylactic and rescue anesthetic?

Methods

Research Study Design

- Experimental
- Controlled
- Blinded

Acupressure beads may prove a viable alternative and/or adjunct to current pharmaceutical interventions.

Literature Synthesis

Acupressure, an energy CAM, has shown promising results in reducing PONV in various surgical populations.4-6 It is a variation of acupuncture based on more than 3000 years of Chinese medicine, involving applying pressure on points without penetrating skin. These acupressure points are thought to include energy points that correlate with energy points that are used in acupuncture. The meridians are disturbed, e.g. qi flow is too slow, fast, turbulent or static; the imbalance causes phenomenon such as nausea, vomiting, pain, etc.

Efficacy of P6 acupressure in reducing PONV is well supported in literature. Acupressure is believed to stimulate or interrupt energy, thereby altering responses to negative stimuli, whereas the Western medicine proposes the mechanism of action involves triggered release of endorphins and endocannabinoids. The majority of the research on use of acupressure in reducing PONV has lacked specific targeting of high-risk PONV population.

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Conclusions

Recommend use of acupressure at P6 in high-risk ambulatory surgical patients. Acupressure is a viable alternative and/or adjunct to current pharmaceutical interventions.

Discussion

As postoperative nausea and vomiting, acupressure, acupressure/nurse acustimulation, efficacy of P6 stimulation in reducing PONV, acupressure, acustimulation in reducing PONV

3) History of PONV or motion sickness

2) Non-white

1) Female

3) History of PONV or motion sickness

1) Female

PONV, acupressure/nurse acustimulation

Efficacy of P6 stimulation in reducing PONV, acupressure, acustimulation in reducing PONV

Limitations

- Acupressure beads may prove a viable alternative and/or adjunct to current pharmaceutical interventions.
- Contact using other acupressure points
- Implement acupressure project at Aspirus Watasha Hospital in Spring 2013
- Current national drug shortage beckons alternatives
- Implement PONV risk factor assessment as routine practice