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Effect of the addition of clonidine to locally administered bupivacaine on acute and chronic postmastectomy pain.

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Abstract

STUDY OBJECTIVES: To investigate the analgesic effect of adding clonidine to topical bupivacaine for acute and chronic postmastectomy pain.

DESIGN: Randomized, prospective, double-blinded study.

SETTING: Cancer institute and university hospital.

PATIENTS: 140 ASA physical status 1 and II women, aged 30 to 50 years, scheduled for modified radical mastectomy with axillary dissection for breast carcinoma.

INTERVENTIONS: Patients were divided into 4 groups of 35 patients each, to receive either saline 0. 9% (control group), plain bupivacaine 0.5% (Bupivacaine group), plain bupivacaine 0.5% and 150 μg of clonidine (Clonidine150 group), or plain bupivacaine 0.5% and 250 μg of clonidine (Clonidine250 group). Study drugs were irrigated into the surgical field before skin closure.

MEASUREMENTS AND MAIN RESULTS: Pain severity, time to first request of rescue analgesia, analgesic consumption, hemodynamics, and side effects were recorded in the first 48 hours postoperatively. The frequency of neuropathic pain was assessed using the Douleur Neuropathique 4-question survey (DN4) in the first and second postoperative months. Mean time to first postoperative analgesic request was significantly prolonged in the Bupivacaine (5.76 ± 0.85 hrs), Clonidine150 (11.6 ± 2.38 hrs), and Clonidine250 (17.4 ± 3.27 hrs) groups compared with the control group (1.86 ± 0.65 hrs). Postoperative tramadol consumption and visual analog scores (VAS) were significantly reduced in the Bupivacaine, Clonidine150, and Clonidine250 groups. Clonidine250 group patients had the lowest VAS scores from 2 to 48 hours postoperatively. Lower mean DN4 scores ($P = 0.000$) and a significantly reduced frequency of neuropathic pain ($P < 0.04$) were recorded in the

Bupivacaine, Clonidine150, and Clonidine250 groups, with a nonsignificant difference noted among the treatment groups.

CONCLUSIONS: The addition of clonidine to topical bupivacaine accentuated its early postoperative analgesic efficacy.

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