Can we use the same suture to close both skin and subcutaneous tissue after middle ear surgery?

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ABSTRACT

Introduction Ear surgeries need closure of subcutaneous tissues and skin. Same suture may be used for both purposes if there are no wound complications.

Objectives To assess the wound complications in patients who had same suture vs. different sutures for closure of skin and subcutaneous tissues.

Method Prospective cohort study comparing two groups was carried out to comparing wound redness, discharge and pain at postoperative day 1 and 5 by a trained nurse.

Results At postoperative fifth day there were no complications in both groups. Wound redness and pain scores at day one had no statistically significant difference between two groups. None had wound discharge.

Conclusion Same suture used for subcutaneous tissue suturing may be used for skin closure without increased rate of wound complications.

Key Words Suture, Wound Complications, Middle Ear Surgery.

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INTRODUCTION

Middle ear surgeries require suturing of subcutaneous tissues and skin. Traditionally two types of sutures are used for the two layers. As the length of the suture used for subcutaneous tissue suturing is minimal, it may be possible to use the same suture for skin closure. Furthermore the skin suture is removed five days post-operatively in most units.

Literature review did not show a single study answering this particular question. One study compared synthetic monofilament suture materials with chromic catgut and silk in aural wound closure[1]. Suture techniques for otoplasty[2], and other types of surgery[3] are available.

We conducted a prospective study to compare wound complication rates between patients who had same suture for both skin and subcutaneous tissues with others who had different sutures.

MATERIALS AND METHODS

Patients who underwent middle ear procedures (myringoplasty and mastoidectomy) were followed up based on sutures used for subcutaneous tissue and skin. Wound was inspected on Day 1 (D1) and 5 (D5) by a trained nurse for redness and discharge. The patient was asked to rate the pain on a scale of four variables (none, mild, moderate, and severe).

RESULTS

Total number of patients is 34. (10 Males and 24 females.) 8 patients underwent mastoid surgeries and 26 patients myringoplasties. 10 patients had two different types of sutures and 24 had Vicryl for both subcutaneous tissues and skin.

At D5 none of the patients in both groups had redness, discharge or pain.

At D1 none of the patients in two groups had discharge.

At D1, 3/10 patients had redness in the different suture group while 8/24 had redness in the same suture group. (equal proportion, p value = 1)

At D1 7/10 (70%) patients had mild or moderate pain the different suture group while 15/24 had pain in the same suture group. (62.5%) (Not statistically significant, p value >0.5%)

None of the patients had severe pain.

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DISCUSSION

Its clear from the results that the same suture can be used for both subcutaneous tissue and skin closure without increased risk of wound complications.This result has health economic implications as well. However our study is limited to small number of patients (study is ongoing), and randomization was not perfect.

KEY MESSAGES

Same suture may be used for both subcutaneous tissue and skin closure without increased risk of wound complications.

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