Effect of absorbable skin stapler in autologous breast reconstruction patients : approach through economic and cosmesis

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Disclosure/Financial Support: Nothing to declare.

INTRODUCTION: In abdominal based autologous breast reconstructions, abdominal closure is a time-consuming procedure. The time cost of the skin closure process is difficult to reduce. However, skin suture using absorbable subcuticular staples, which allow for increased rapid closure can provide equivalent healing capacity in various situations of incision closure(1). The purpose of this study was to evaluate the economic efficacy and cosmetic satisfaction of wound closure with an absorbable subcuticular stapling system, and compare these results obtained with conventional dermal sutures in breast reconstruction patients.

MATERIALS AND METHODS: The A total 94 patients undergoing autologous breast reconstruction were included the study. Of these, INSORB® was used in 64 patients and we compared 30 patient's clinical data as a conventional suture group. We provided a controlled surgical environment for evaluate effect of choice of closure material. For exclude the possibility of surgical procedure variety, we divide into free flap and pedicle flap groups and each group has stapler and control groups. For analysis of cost-effectivenss we applied endotracheal anesthesia expenses, and objective assessment by resident and questionnaire by patient was made for scar evaluation(2).

RESULTS: Using paired t test, statistical analysis was made. An pedicle flap group represents 387.2hrs (stapler), 480.5hrs(control) (t-value -2.031, p-value 0.043) and free flap group represents 442.0hrs(stapler), 514.8hrs(control) (t-value -2.037, p-value 0.025) as average anesthesia time. A gap of time reduction is 93.3hrs in pedicle flap group and 72.8hrs in free flap group for absorbable stapler used groups. These reduce time of total general anesthesia in absorbable groups, which is equivalent to a 135.67$ in pedicle group and 128.35$ in free flap group. In regards to the expenses of INSORB®, only the group that used 1 stapler is significant. The complication rate, duration of healing period and the patient's satisfaction of the scar did not differ between each group.

CONCLUSION: An absorbable staples are effective materials that allow cost-effective closure when used appropriately. While dealing with cutting-edge technology(3)(4), we need to consider patients benefits that would get overwhelming his expenses. In that point, only 1 stapler used in abdominal closure is effective not to be two used. And also we could find this is no way inferior to conventional suture. The availability of time reduction with equivalent cosmetic results is appealing aspects for applying reconstruction operation.

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