

# Comparison of Subdural drain to Subperiosteal drain in the treatment of Chronic subdural hematoma- A prospective randomized study.

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## Introduction

The usage of drain following evacuation of chronic subdural hematoma (CSDH) is well known to reduce the recurrence of hematoma. In this study we aim to compare the clinical outcomes and recurrence rate of utilizing two different types of drains (sub periosteal and subdural drain) following drainage of CSDH.

## Methods

Prospective randomized single center study analyzing 50 patients who underwent treatment of CSDH. Two types of drain, sub periosteal and subdural, was utilized on consecutive alternate patients following two burr-hole craniostomy, with a total of 25 patients in each group. The drains were left in for duration of 48 hours and then removed. Silastic catheters were used for the drainage of chronic subdural hematoma. Modified Rankin Scale (mRS) was used for outcome measurement. mRS at the preoperative period is compared with mRS immediate post op, 3 and 6 months following surgery. Along with the outcome, recurrence rate of chronic subdural hematoma were also

## Results

It was observed that none of the patients in either group had recurrence of hematoma on a 6-month follow-up and no significant difference was noted in the  $p$  values on statistical analysis immediate post op. Unpaired t test was used with Welsch's correction for statistiacl analysis. At 3 months ( $P=0.0493$ ) and 6 months ( $P=0.0118$ ) post operative period significant difference was noted between the two groups (Figure.1) Anticoagulation prior to the surgery did not affect the outcome in both the groups. Postoperative seizure was seen in the subperiosteal group and inadvertent placement of the subdural drain into brain parenchyma was encountered in the subdural arm. These were the two complications noted in this study. One patient in the subperiosteal arm died of pulmonary embolism at 6 months. This was the only mortality observed in our study completely unrelated to the surgical procedure.

## Conclusions

We conclude that there was no recurrence of the CSDH noted in the utility of subdural and subperiosteal drains. The mRS measurement at 3 and 6 months were found better in the subperiosteal arm, although found to be the same in the immediate post operative period. Subperiosteal drain may prove to be beneficial in comparison to subdural drain in reducing the operative morbidity and also considering the clinical outcome from our series.

Anticoagulation prior to the procedure did not affect the outcome in both the arms and none of the patients who were on anticoagulation had recurrence on a 6 month follow-up.

We recommend a multicentric trial involving a large group of patients to substantiate our results.

## Learning Objectives

By the conclusion of this session, the participants will be able to understand the importance and option of utility of two types of drains following evacuation of CSDH along with their clinical outcome.

## Summary of results of the clinical outcome with drain type

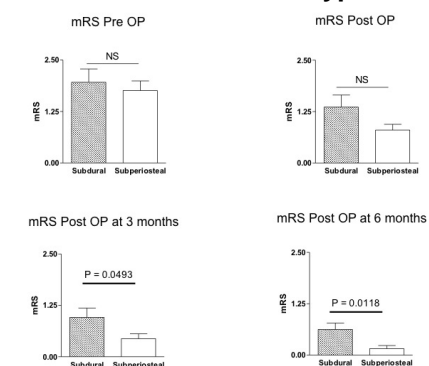


Figure.1

## Acknowledgements

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