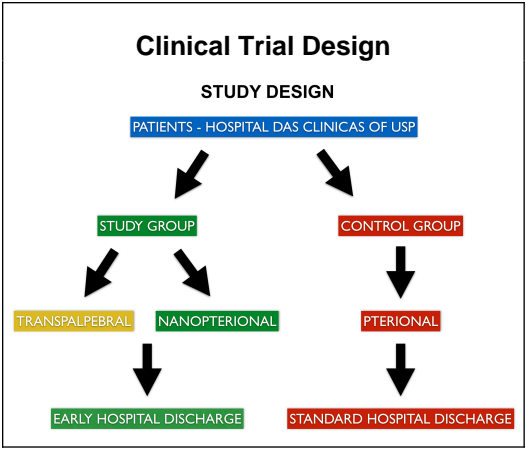


INTRODUCTION

Minimally invasive neurosurgery is already a reality in many centers across the world. However, the real role of these techniques and their effect on the outcome of patients is still obscure.

METHODS

111 adult patients with unruptured anterior circulation aneurysms were randomized and underwent a minimally invasive surgical approach, (36 by transpalpebral approach and 34 through a reduced minipterional craniotomy) or classical pterional approach (41 patients). Patients in the study group were subjected to a specific protocol for assessment of early hospital discharge. Surgical, clinical/functional and aesthetic outcomes were evaluated along with long term quality of life.



RESULTS

The average time of surgery was lower in the study group (214 min. vs. 292 min, p = 0.0008). The need for blood transfusion was lower in the study group (1 patient vs 7 patients, p = 0.018). The number of ischemic events was lower in the study group (patients 4 patients vs. 8, p = 0.07), but events with clinical significance were similar (3 patients vs. 2 patients, p = 0.53). The presence of residual neck on control angiography was lower in the study group (6 patients vs 11, p = 0.021), but only small ones were found, (1.75 ? 0.68 mm). The paralysis of the frontal branch of the facial nerve was lower in the study group, both temporary (3 vs 14, p = 0.008) and definitive (0 vs. 4, p = 0.032). The atrophy of the temporal muscle was less frequent and less severe in the study group (9 vs 14, p = 0.012). Most patients in the study group (91.4%), were discharged on the next day of the surgery.

Nanopterional - Case example



Nanopterional Approach (reduction of the Minipterional Approach). The incision is marked on the hairline, starting at the upper temporal line, descending 2 cm towards the tragus.

LEARNING OBJECTIVES

To evaluate the safety and results of minimally invasive techniques in brain aneurysm clipping and determine the possibility of early hospital discharge.

CONCLUSIONS

The described approaches (nanopterional or transpalpebral) are better alternatives to the classical pterional craniotomy to treat unruptured aneurysms of the anterior circulation. Early discharge in these patients is possible and safe.

Transpalpebral Approach - Aesthetic Results



Transpalpebral Approach - Aesthetic Results

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