

# Open-wound Treatment in Patients Required Revision Surgery Because of Malignant Brain Swelling

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## Introduction

Although patients had been done surgical decompression, there are some cases that are not controlled ICP despite the maximal medical treatments. This patient needed revision surgery, but sometimes it didn't perform revision surgery because patient's vital sign unstable, lack of operation room, etc. Recently, we performed open-wound treatment for aggressive intracranial pressure (ICP) control in this situation.

## Methods

We were analyzed retrospectively patients who underwent open-wound treatment.

<Procedure> We draped on patient's surgical wound and removed suture materials on skin and/or dura. After this procedure, we opened the wound. If there is hematoma, we removed it and controlled bleeding by using QuikClot® (Z-MEDICA, LLC, USA) gauze. Finally, we did dressing and closing by using gauze and Ioban™ (3M, USA) sterile drape. After controlling the ICP with open-wound treatment and medical treatment (mannitol or hypertonic saline, pentothal coma therapy, etc.), we had perform wound closure with or without removal of necrotic brain tissues.

## Results

Total 7 patients (Male 5: Female 2) had underwent open-wound procedure. Average age of patients was 51. 4 patients were traumatic brain injury and 3 patients were cerebrovascular disease. The mean ICP was 40 (29 ~ 57) before and 15 (5 ~ 21). All procedure was performed after 1 or 2 postoperative days. The mean duration of open-wound treatment was 5.4 days (4~ 6). 3 patients had expired despite the procedure. 2 patients had recovered vital sign and lived in the bed side on vegetative state after 3months. And two patients were able to wheel chair ambulation. 3 patients had suffered from the skin necrosis and wound infection.

## Conclusions

If patient have elevated the ICP despite the decompressive craniectomy and medical treatment, the best choice is revision surgery. But, open-wound procedure can be considered as the next best thing, when the situation is not feasible.

## Learning Objectives

Open-wound treatment in patients required revision surgery because of malignant brain swelling

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