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The Glasgow Outcome Scale-Extended Pediatric Scores of Intracranial Bleeding Patients with Acquired Prothrombin Complex Deficiency Post Craniotomy and Duraplasty

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Abstract

Introduction: Surgical evacuation of intracranial bleeding in pediatric patients due to acquired prothrombin complex deficiency (APCD) is a life-saving surgery when conservative treatment insufficient and impending brain herniation. This study aimed to evaluate the Glasgow outcome scale-extended pediatric (GOS-ePed) score of the pediatric intracranial bleeding patients with APCD after craniotomy and duraplasty. ***Method:*** This was a retrospective study in the last 5 years of our experience. All of the pediatric patients with intracranial bleeding due to APCD who needed surgery were investigated. The data were collected from medical records after their parents have given their written informed concern and approved by the Ethics Review Committee, Faculty of Medicine, Universitas Kristen Indonesia. The inclusion criteria were patients who operated on by craniotomy and duraplasty. The patient with a second disease was excluded. Blood tests include hemoglobin, prothrombin time, activated prothrombin time, and platelets were investigated before and after intravenous vitamin K injection, transfusion packed red cells (PRCs), and fresh frozen plasma (FFP) administration. The Glasgow coma scale (GCS) pre- and postoperatively was evaluated using a modified GCS for infants and children. The outcome was evaluated by the GOS-ePed score. All data were analyzed with the normality test and paired *t* test. ***Results:*** There were 5 patients age between 37 and 60 days, and all patients did not get vitamin K prophylaxis after birth. The blood tests of all patients revealed anemia, prothrombin, and activated prothrombin time increased, but platelets were normal. All these values returned to normal after vitamin K injection, transfusion of PRCs, and FFP. The paired *t* tests were $p < 0.05$. The GCS of all patients before surgery was 8 or below. After surgery, the GCS of 4 patients was increased become 12 and 15. One patient did not change significantly. The GOS-ePed score showed 4 patients (80%) had upper or lower good recovery, and 1 patient (20%) was in a vegetative state. ***Conclusions:*** The GOS-ePed score of the pediatric intracranial bleeding with APCD after craniotomy and duraplasty was mostly in upper or lower good recovery.

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Keywords
GOS-ePed score · Intracranial bleeding · Craniotomy · Duraplasty · Acquired prothrombin complex deficiency

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Introduction

Pediatric intracranial bleeding related to acquired prothrombin complex deficiency (APCD) can be very fatal, and deficiency of vitamin K is part of the causes. Coagula-

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