

## ABSTRACT

**Drug Utilization Study of Bevacizumab in Patients with  
Retinopathy of Prematurity  
(Study at SMF Ilmu Kesehatan Mata  
General Hospital Dr. Soetomo Surabaya)**

**Lim Shaoqin**

Retinopathy of prematurity (ROP), a retinal vascular disease of premature infants is becoming one of the leading causes of childhood blindness. In ROP neovascularization occurs due to retinal immature and primarily caused by VEGF. One of the therapy for ROP therapy is anti-VEGF where bevacizumab is the most used in General Hospital Dr. Soetomo. Bevacizumab binds to VEGF and inhibits the binding of VEGF molecules to their receptors on the surface of vascular endothelial cells. Therefore, inhibition of VEGF activity may inhibits abnormal angiogenesis in retinal. The study aims is to describe the utilization of bevacizumab and its therapy outcome in ROP patients at General Hospital Dr. Soetomo. Data were obtained retrospectively and prospectively observational using time limited sampling method within period 1<sup>st</sup> January 2015 - 30<sup>th</sup> April 2018. 35 eyes of 20 patients (11 male and 9 female) were included in the study. Most patients were 36 and 38 weeks gestational age when receiving bevacizumab therapy. The main risk factors in ROP patients are low gestational age (90.0 %), low birth weight (60.0 %), and followed by oxygen therapy (55.0 %). Patients with ROP stage III+ (76.0 %) were the most diagnosed ROP receiving bevacizumab injection. The dosage used for intravitreal injection of bevacizumab in ROP patients is 0.625 mg/ 0.025 mL for once during hospitalization. 88.0 % eyes shown positive results while 6.0 % eyes worsen after bevacizumab injection. In conclusion, these results are in accordance with the BEAT-ROP where bevacizumab 0.625 mg/ 0.025 mL is effective in treating ROP with plus disease.

Keywords : Retinopathy of Prematurity, ROP, Bevacizumab, intravitreal injection, VEGF