

## ABSTRACT

### DRUG UTILIZATION STUDY OF CALCIUM CHANNEL BLOCKERS ON INTRACEREBRAL HEMORRHAGE STROKE PATIENTS

(Study was performed on Neurology Department at Dr. Soetomo General Hospital Surabaya)

NAZTASIA FLOWERIN BUNDA

**BACKGROUND.** Intracerebral hemorrhage (ICH) stroke is the result of vascular rupture in brain parenchyma. Elevated blood pressure often markedly in patient with ICH, medication that may be considered for elevated blood pressure is calcium channel blockers. Calcium channel blockers have benefit for regional selectivity on cerebrovascular smooth muscle and peripheral vasodilatation with minimal change in heart function.

**OBJECTIVES.** The objective of this present study was to conduct analyze the profile use of calcium channel blockers received in intracerebral hemorrhage stroke patients.

**SUBJECTS AND METHODS.** A retrospective-descriptive observational study was performed in 83 patients. Data was collected through patient medication records from 1 January 2012 – 31 December 2012 period.

**RESULTS.** Calcium channel blockers used as drips-intravenously and per-orally route. The commonly used in drips-intravenously route was diltiazem (62,6%) and nicardipine (34,9%), and in per-orally route was amlodipine (61,5%) with dose 1 x 10 mg daily. Drips-intravenously route given in patients with systolic blood pressure 180 mmHg and the reduction blood pressure until 140 mmHg seem feasible. It started with the lowest doses (3 mcg/kg weight/minutes for diltiazem and 0,5 mcg/kg weight/minutes for nicardipine). The switching time from drips-intravenously route to per-orally route was various depends on individual patient condition with most overlapping-used time at least 3 days (14,4%). Nimodipine was also found in ICH stroke patients for management of cerebral vasospasm (36,1%). The actual drug related problems (DRPs) were not found. And based on the clinical data, calcium channel blockers showed no adverse effect reactions and symptoms like headache, nausea, and vomiting were treated.

**Keyword:** Intracerebral hemorrhage, calcium channel blockers, drug utilization study, retrospective study