

**ALBUMIN-USE EVALUATION  
AT INPATIENT WARD  
OF  
DR. RAMELAN NAVY HOSPITAL, SURABAYA  
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*Vitarani Yusdianto, Widyati, Zullies Ikawati*

Vitarani Yusdianto  
Departement of Pharmacy  
Islamic University of Indonesia, Yogyakarta

**BACKGROUND**

- Albumin as protein colloid has been used for years in the treatment of patients with some pathological conditions
- Up to now the until to use of albumin in some pathological conditions is still controversial.
- Albumin is an expensive medication
- Evaluation of the appropriate use of albumin has been carried out by Tanzi et al., 2003 at the United States of America (1649 adult patients and 23 pediatric patients)

## OBJECTIVE

- to get an overview on use of albumin at Dr. Ramelan Navy Hospital, Surabaya which included aspects of:
  1. indication appropriateness;
  2. effectiveness of albumin administration based on changes of plasma albumin concentration of the patient;
  3. response as well as harmful side effect which happened due to clinically significant administration of albumin

## METHOD

- cross sectional design
- prospective
- Data were obtained from observation of patients at inpatient ward who received albumin therapy.
- Evaluation was based on certain criteria determined from various standard literature, albumin use guidelines and the latest research (table.1)

## RESULT

- 60 inclusion patients showed that the most common indication for albumin use was:
  1. chronic liver disease (53.3%),
  2. gangrene/ulcus diabetes mellitus (20.0%),
  3. other cases (11.7%),
  4. non gangrene diabetes mellitus (6.7%),
  5. non hepatoma malignance (5.0%) and
  6. nephrotic syndrome (3.3%)

## RESULT

Evaluation of the appropriate use of albumin based on:

1. *J Arch Int Med*, 1995;
2. Pedoman Penggunaan Albumin RSUD Soetomo (Guideline of Albumin Use in Dr Soetomo Hospital), 2003;
3. Consensus of The scientist on hepatology of Indonesia, Medical faculty of Indonesia University, 2003;
4. Latest Research

See [Table 1.](#)

### Effectiveness of albumin administration based on changes of plasma albumin of the CLD patient

- paired t test,  $\alpha = 5\%$ 
  1. 5% 250 ml albumin administration in CLD without paracentesis/thoracentesis
  2. 20% 100 ml albumin administration in CLD without paracentesis/thoracentesis
  3. 25% 100 albumin administration in CLD without paracentesis/thoracentesis
  4. 20% 100 albumin administration in CLD with paracentesis
- t test,  $\alpha = 5\%$ 
  1. 20% 100 ml albumin administration in CLD vs 25% 100 albumin administration in CLD
- Cross tab. Test
  1. Relation between percentage of increasing plasma albumin concentration and plasma albumin concentration pre administration

See [Table.2](#)

### CONCLUSIONS

1. Albumin was prescribed inappropriately 48.3% and appropriately in 51.7% of 60 patients.
2. There was a significant change of plasma albumin concentration after albumin administration (significance level 95%), **except** for albumin 5% 250 ml in chronic liver disease and albumin 20% 100 ml among cirrhosis patients having paracentesis
3. Side effect which was clinically significant occurred in 2 patients (3.3%); ie. shivering and hypotension.