

ABSTRACT

Broken bone by road accident has become 24 million cases per year. Bone is one of the most transplanted tissue after blood, more than 2,2 million bone graft has been done in the world wide. Thus, in this study, carried out biocompatibility of scaffold composite from hydroxyapatite-chitosan-chondroin sulfate by inflammation level and osteoblast count in javanese rabbit's (*Lepus nigricollis*).

This research is a true-experiment with post test only control design. The instrument used was hematology analyzer and light microscope. Where to see difference groups was performed using hypotesis. There are three difference groups : negative control group, positive control group and implanted group. Each group has three observation time : 7th, 21st, dan 56th day.

Blood laboratory result showed that implanted group has the highest inflammation in 7th day (WBC $7,02 \times 10^{12}$ cell/L) but it has the lowest inflamation (WBC $3,64 \times 10^{12}$ cell/L) in 56th day. Based on histopatology result, implanted group has the highest count of osteoblast ($52,33 \pm 10,73$, $70,00 \pm 26,99$ and $61,67 \pm 10,58$) and woven bone, lamellar bone, haverssystem dan bone repair in 7th, 21st, dan 56th day.

Further development of scaffold composite from hydroxyapatite-chitosan-chondroin sulfate for bone graft can be done with other large animal experiments. So scaffold composite from hydroxyapatite-chitosan-chondroin sulfate can become one of the ideal bone graft for broken bone.

Keyword : scaffold composite from hydroxyapatite-chitosan-chondroin sulfate, inflammation, osteoblast, woven bone, lamellar bone, haverssystem andbone repair,