Hydrophobicity Characterization of Scaffold Surface Based On Contact Angle and Tools Costumization for Bone Tissue Regeneration

Erlina Sih Mahanani[1], Meibi Murbi Arlianata[2]

[1]Dosen Program Studi Kedokteran Gigi, [2]Mahasiswa Program StudiKedokteran Gigi

ABSTRACT

Background ***:*** Fractures or fractures can be caused by physical exertion and accident trauma . Accident (Intra cranial injury) already ranks as the second largest cause of death and injury . Tissue engineering or tissue engineering is a technique that can create complex network from simple networks.Three major component in thatfield is : Scaffold cell and growth factors . Characters that must be owned by a bone replacement material (bone graft) is a character hydrophobicity .

Objective ***:*** To see how big the hydrophobicity formed on the surface of the scaffold were very small , measurements were taken using a Rame Hart goniometer . The simple principle of this tool can be replaced with a DSLR camera preparation and tripod.

Method ***:*** This study was an experimental laboratory. Samples are artificial coral scaffold various concentrations , which consists of 3 different concentration concentration of gelatin : CaCO3 4 : 6 , 7 : 3 , and gelatin 100 % , which would be distilled water droplets and will be in the photo. Analysis of data using oneway ANOVA and Kruskal Wallis .

Result ***:*** Levene 's Test (Table 4) shows the significant value of 0.397 ($p > 0.05$) , the variance of the data is same, so we proceed to Oneway ANOVA test . Oneway ANOVA test obtained probability value was 0.109 > 0.05 then H0 is accepted, meaning that there is no significant difference .

Conclusion ***:*** No difference Contact Angle drops of distilled water on coral scaffold and gelatin ratio of 4 : 6 , 7 : 3 and 100 % gelatin significantly . The contact angle value is on the scaffold with a concentration of 4 : 6 , then 100 % and the last one is 7 : 3 .

Keywords ***:*** **hydrophobic , bone regeneration , coral scaffold cell**