Uji Gores pada Kultur Sel Human Gingival Fibroblast (HGF) dengan Paparan 5-Fluorouracil dan Pemberian Probiotik Lactococcus lactis subspecies lactis strain Y-PDH05 = Wound Healing Scratch Assay on Human Gingival Fibroblasts Cell Culture with 5-Fluorouracil Exposure and Lactococcus lactis subspecies lactis strain Y-PDH05 Administration

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Abstrak

Latar Belakang: Mukositis oral adalah peradangan di rongga mulut yang terjadi sebagai efek samping dari tindakan kemoterapi pada pasien kanker. Pada penelitian ini, sel Human Gingival Fibroblasts (HGF) diberikan paparan agen kemoterapi 5-Fluorouracil yang kemudian diberikan perlakuan probiotik Lactococcus lactis subspecies lactis strain Y-PDH05 dan supernatan dari probiotik tersebut yang diharapkan mampu mempercepat proses penyembuhan luka. Kemampuan penyembuhan luka probiotik dan supernatan Lactococcus lactis subspecies lactis strain Y-PDH05 akan diuji melalui uji gores (scratch) untuk mengukur efektivitas probiotik Lactococcus lactis subspecies lactis strain Y-PDH05 dalam mempercepat penyembuhan luka. Tujuan: Menganalisis kemampuan penyembuhan luka pada sel Human Gingival Fibroblasts (HGF) yang dipaparkan 5-Fluorouracil dan diberikan perlakuan probiotik dan supernatan Lactococcus lactis subspecies lactis strain Y-PDH05. Metode: Sel Human Gingival Fibroblasts (HGF) dipaparkan 5-Fluorouracil kemudian diberikan perlakuan probiotik dan supernatan dari Lactococcus lactis subspecies lactis strain Y-PDH05. Selanjutnya analisis kemampuan penyembuhan luka melalui uji gores (scratch). Hasil: Perlakuan dengan paparan 5-Fluorouracil dan probiotik Lactococcus lactis subspecies lactis strain Y-PDH05 konsentrasi rendah menunjukan hasil terbaik dan signifikan dalam mempercepat penyembuhan luka ($p<0,05$). Sedangkan, perlakuan lain tidak menunjukan perbedaan yang signifikan. Kesimpulan: Terdapat pengaruh kemampuan penyembuhan luka pada kultur sel Human Gingival Fibroblast (HGF) yang dipaparkan 5-FU dan diberikan probiotik Lactococcus lactis subspecies lactis strain Y-PDH05 berdasarkan uji gores (scratch).

.....Background: Oral mucositis is an inflammation of the oral cavity that occurs as a side effect of chemotherapy in cancer patients. In this study, Human Gingival Fibroblasts (HGF) cells were exposed to the chemotherapy agent 5-Fluorouracil which was then treated with the probiotic Lactococcus lactis subspecies lactis strain Y-PDH05 and the supernatant of the probiotic which is expected to accelerate the wound healing process. The wound healing ability of the probiotic and the supernatant of Lactococcus lactis subspecies lactis strain Y-PDH05 will be evaluated through a scratch assay to measure the effectiveness of the probiotic Lactococcus lactis subspecies lactis strain Y-PDH05 in accelerating wound healing. Objective: To analyze the wound healing ability of Human Gingival Fibroblasts (HGF) cells exposed to 5-Fluorouracil and treated with probiotic and supernatant of Lactococcus lactis subspecies. lactis strain Y-PDH05. Method: Human Gingival Fibroblasts (HGF) cells were exposed to 5-Fluorouracil and then treated with probiotics and supernatant from Lactococcus lactis subspecies lactis strain Y-PDH05. Furthermore, analysis of wound healing ability through scratch assay. Results: Treatment with exposure to 5-Fluorouracil and probiotic Lactococcus lactis subspecies lactis strain Y-PDH05 at low concentrations showed the best and significant results in accelerating wound healing ($p<0.05$). Meanwhile, other treatments did not show significant

difference. Conclusion: There is an effect of wound healing ability on Human Gingival Fibroblast (HGF) cell culture exposed to 5-FU and given probiotic Lactococcus lactis subspecies lactis strain Y-PDH05 based on scratch assay.