# Efektivitas iradiasi darah terhadap penurunan limfosit T pada komponen sel darah merah pekat = The effectiveness of blood irradiation to decrease lymphocytes T in the packed red cell

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Abstrak

[ABSTRAK<br>
Latar belakang. Pemberian transfusi darah merupakan salah satu tindakan medis untuk penyelamatan nyawa (live saving) dan penyembuhan penyakit, tetapi disisi lain tindakan ini juga memiliki risiko atau komplikasi. Salah satu komplikasiyang dikenal adalah Transfusion-Associated Graft-vs-Host Disease (TAGVHD). TAGVHD ini akan menyebabkan berproliferasinya limfosit T yangkemudian akan diikuti oleh proses engraft (tertanam) didalam tubuh resipien yang umumnya berada dalam kondisi imunokompeten. Kondisi ini umumnya dialami oleh pasien-pasien dengan gangguan sistem imunologi seperti pada pasien kanker atau penyakit-penyakit autoimun. Saat ini, satu ? satunya metode yang dapat diterima untuk mencegah komplikasi itu dengan cara melakukan iradiasi darah. Bervariasinya rekomendasi tentang dosis iradiasi dan waktu penyinaran untukmenurunkan jumlah CD 3+ dan CD 4+ sebagai penyebab terjadinya TAGVHD, menjadi latar belakang dilakukannya penelitian ini. Hasil penelitian ini akan dijadikan rekomendasi untuk prosedur iradiasi terhadap komponen sel darah merah pekatyang akan diberikan pada pasien-pasien imunokompeten di RS Kanker Dharmais Jakarta.
Metodologi. Penelitian ini menggunakan disain penelitian eksperimental dengan pemeriksaan time series yang dilakukan terhadap 54 kantong komponen sel darah merah pekat yang memenuhi kriteria inklusi dan ekslusi yang ditetapkan oleh peneliti. Dilakukan pengujian terhadap jumlah CD 3+ dan CD 4+ dalam tiga dosis dengan tiga serial waktu berbeda.
Hasil. Terjadi penurunan jumlah CD 3+ dan CD 4+ pada komponen sel darah merah pekat yang dilakukan iradiasi pada dosis iradiasi dan waktu penyinaran yang berbeda.
Simpulan. Penurunan jumlah CD 3+ bermakna atau signifikan pada dosis 2500 pada waktu 5 jam setelah penyinaran.
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ABSTRACT<br>
Background Blood transfusion is a medical treatment for a life saving and cure the disease On the other hand these treatment also have risks or complications one of which is known with Transfusion Associated Graft vs Host Disease TAGVHD This will cause proliferation T lymphocytes and then will be followed by a process engraft embedded in the recipient 39 s body is in a state of immunocompetent This condition is commonly experienced by patients with impaired immunological systems such as cancer patients or autoimmune diseases Currently one the only acceptable method to prevent such complications by way of blood irradiation Variations recommendation on irradiation dose and exposure time in reducing the amount of CD 3 and CD 4 which is the cause of the TAGVHD be doing background research The results of this study will be a recommendation for action to the irradiation of packedred cell that will be given in immunocompetent patients in Jakarta Dharmais Cancer Hospital Methodology This study used an experimental research design time series with the examination conducted on 54 bags of packed red cell that

meet the inclusion and exclusion criteria set by the researcher Conducted tests on the number of CD 3 and CD 4 in three doses with three different time series Results A decline in the number of CD 3 and CD 4 in packed red cell irradiation at certain doses of irradiation and different irradiation times Conclusion The decrease in CD 3 meaningful or significant at doses of 2500 in 5 hours after irradiation.; ABSTRACTBackground Blood transfusion is a medical treatment for a life saving and cure the disease On the other hand these treatment also have risks or complications one of which is known with Transfusion Associated Graft vs Host Disease TAGVHD This will cause proliferation T lymphocytes and then will be followed by a process engraft embedded in the recipient 39 s body is in a state of immunocompetent This condition is commonly experienced by patients with impaired immunological systems such as cancer patients or autoimmune diseases Currently one the only acceptable method to prevent such complications by way of blood irradiation Variations recommendation on irradiation dose and exposure time in reducing the amount of CD 3 and CD 4 which is the cause of the TAGVHD be doing background research The results of this study will be a recommendation for action to the irradiation of packedred cell that will be given in immunocompetent patients in Jakarta Dharmais Cancer Hospital Methodology This study used an experimental research design time series with the examination conducted on 54 bags of packed red cell that meet the inclusion and exclusion criteria set by the researcher Conducted tests on the number of CD 3 and CD 4 in three doses with three different time series Results A decline in the number of CD 3 and CD 4 in packed red cell irradiation at certain doses of irradiation and different irradiation times Conclusion The decrease in CD 3 meaningful or significant at doses of 2500 in 5 hours after irradiation.; ABSTRACTBackground Blood transfusion is a medical treatment for a life saving and cure the disease On the other hand these treatment also have risks or complications one of which is known with Transfusion Associated Graft vs Host Disease TAGVHD This will cause proliferation T lymphocytes and then will be followed by a process engraft embedded in the recipient 39 s body is in a state of immunocompetent This condition is commonly experienced by patients with impaired immunological systems such as cancer patients or autoimmune diseases Currently one the only acceptable method to prevent such complications by way of blood irradiation Variations recommendation on irradiation dose and exposure time in reducing the amount of CD 3 and CD 4 which is the cause of the TAGVHD be doing background research The results of this study will be a recommendation for action to the irradiation of packedred cell that will be given in immunocompetent patients in Jakarta Dharmais Cancer Hospital Methodology This study used an experimental research design time series with the examination conducted on 54 bags of packed red cell that meet the inclusion and exclusion criteria set by the researcher Conducted tests on the number of CD 3 and CD 4 in three doses with three different time series Results A decline in the number of CD 3 and CD 4 in packed red cell irradiation at certain doses of irradiation and different irradiation times Conclusion The decrease in CD 3 meaningful or significant at doses of 2500 in 5 hours after irradiation., ABSTRACTBackground Blood transfusion is a medical treatment for a life saving and cure the disease On the other hand these treatment also have risks or complications one of which is known with Transfusion Associated Graft vs Host Disease TAGVHD This will cause proliferation T lymphocytes and then will be followed by a process engraft embedded in the recipient 39 s body is in a state of immunocompetent This condition is commonly experienced by patients with impaired immunological systems such as cancer patients or autoimmune diseases Currently one the only acceptable method to prevent such complications by way of blood irradiation Variations recommendation on irradiation dose and exposure time in reducing the amount of CD 3 and CD 4 which is the cause of the TAGVHD be doing background research The results of

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