

INTISARI

Homologous Platelet-rich plasma (h-PRP) merupakan PRP yang didapat dari darah donor dalam bentuk cair (*fresh* h-PRP). Penggunaan *fresh* h-PRP digunakan segera dan hanya dapat disimpan dalam waktu 48 jam. Supaya dapat disimpan dalam waktu lama maka dilakukan metode *freeze-drying* dan dapat digunakan sebagai bahan siap pakai. Penggunaan h-PRP sebelumnya harus dilakukan uji *crossmatch* untuk mencegah reaksi imun akibat pemberian h-PRP. Tujuan penelitian ini untuk mengkaji perbedaan kompatibilitas donor hasil uji *crossmatch* antara *fresh* dan *freeze-dried* h-PRP (FD h-PRP).

Empat kantong darah donor *fresh* h-PRP (golongan darah A, B, O, dan AB) kemudian dilakukan uji *crossmatch* pada 20 sampel darah resipien (5 sampel per golongan darah). Proses selanjutnya, 4 kantong darah *fresh* h-PRP dilakukan proses *freeze-drying* untuk mendapatkan FD h-PRP sesuai golongan darah dan dilakukan uji *crossmatch* kedua pada 20 sampel darah resipien dari 4 golongan darah. Data hasil uji *crossmatch* berupa aglutinasi darah (kompatibel/inkompatibel) dan dianalisis dengan menggunakan analisis uji Bivariate Fisher Exact.

Hasil yang diperoleh menunjukkan kompatibilitas donor hasil uji *crossmatch* (dilihat dari aglutinasi darah) antara *fresh* dan *freeze-dried* h-PRP tidak terdapat perbedaan yang bermakna ($p > 0,05$). Kesimpulan penelitian ini adalah hasil uji *crossmatch freeze-dried homologous platelet-rich plasma* tidak ada perbedaan kompatibilitas donor dibanding *fresh homologous platelet-rich plasma* baik pada golongan darah A, B, O dan AB.

Keywords: *homologous; freeze-dried platelet-rich plasma; crossmatch, kompatibilitas*

ABSTRACT

Homologous Platelet-rich plasma (h-PRP) is a PRP obtained from donor blood in the form of liquid (fresh h-PRP). The usage of fresh h-PRP is applied immediately and can only be stored within 48 hours. Hereafter that it can be stored for a long time, the freeze-drying method is done and can be used as a ready-made material. The previous use of h-PRP must be crossmatched to prevent immune reactions due to h-PRP administration. The purpose of this study is to examine the differences in donor compatibility between crossmatch test results between fresh and freeze-dried h-PRP (FD h-PRP).

Four fresh h-PRP blood donor bags (blood types A, B, O, and AB) were then crossmatched on 20 recipient blood samples (5 samples per blood type). In the following process, 4 bags of fresh h-PRP blood were carried out a freeze-drying process to obtain FD h-PRP according to blood type and a second crossmatch test was performed on 20 recipient blood samples from 4 blood groups. Crossmatch test results were in the form of blood agglutination (compatible/incompatible) and analyzed using the Bivariate Fisher Exact test analysis.

The results obtained showed that the compatibility of donor crossmatch test results (seen from blood agglutination) between fresh and freeze-dried h-PRP were not significant differences ($p > 0.05$). This study concludes that the results of the freeze-dried homologous platelet-rich plasma crossmatch test showed no difference in donor compatibility compared to fresh homologous platelet-rich plasma in blood types A, B, O, and AB.

Keywords: homologous; fresh platelet-rich plasma; freeze-dried platelet-rich plasma; crossmatch; compatibility.