Efektivitas Program Latihan Isotonik, Isometrik, dan Restriksi Ekstremitas Atas Pascaoperasi Arteriovenous Fistula Radiocephalica pada Pasien Gagal Ginjal dengan Diabetes Melitus = The Effectiveness of Upper Extremity Isotonic, Isometric, and Restriction Excercise Program Following Radiocephalic Arteriovenous Fistula Surgery in Diabetic Patients with Kidney Failure

Ali Farhan Fathoni, author

Abstrak

Latar Belakang : Arteriovenous fistula telah menjadi akses hemodialisis yang direkomendasikan. Namun tidak semua arteriovenous fistula dapat digunakan dengan baik, National kidney disease outcome quality initiative (NKDOQI) telah merekomendasikan pasien pascaoperasi arteriovenous fistula untuk melakukan latihan tangan, saat ini belum adanya evaluasi serta bentuk program latihan ekstremitas atas terhadap pasien gagal ginjal dengan diabetes melitus yang telah menjalani arteriovenous fistula radiochepalica di RSCM. Metode : Penelitian ini adalah penelitian kuasi eksperimental yang membandingkan data yang memiliki karakteristik sama, subjek yang menjalani arteriovenous fistula radiochepalica pada rentang waktu Februari 2020 – Februari 2021 telah diikutsertakan. Hasil : 23 subjek yang menjalani operasi arteriovenous fistula radiochepalica dilakukan pengamatan, program latihan dapat meningkatkan ukuran diameter draining vein secara bermakna dengan nilai p = 0,006 pada minggu keenam setelah operasi. Dan secara bermakna dapat meningkatkan blood flow rate di minggu keenam setelah menjalani operasi arteriovenous fistula sebesar 210% dengan rerata 616,56 ± 88,80 mL/menit dengan p = 0,002. Selanjutnya dapat menurunkan jarak draining vein dengan kulit pada minggu keempat (p = 0,015), namun hasil menjadi tidak bermakna pada minggu keenam setelah operasi. Kesimpulan: Program latihan isotonik, isometrik dan restriksi parsial ekstermitas atas pascaoperasi dapat meningkatan diameter draining vein, mempengaruhi jarak draining vein dengan kulit, dan meningkatan blood flow rate arteriovenous fistula radiochepalica.
.....Background : Arteriovenous fistulas have become the recommended access for hemodialysis. However, not all arteriovenous fistulas can be functional. National kidney disease outcome quality initiative (NKDOQI) has recommended hand exercises for patients following arteriovenous fistula surgery. To date, there has been no evaluation and exercise program for the upper extremity in diabetic patients with kidney failure who have undergone radiocephalic arteriovenous fistula surgery in RSCM. Methods : This study had a quasi-experimental design, comparing the data which had the same characteristics. Subjects who underwent radiocephalic arteriovenous fistula surgery in February 2020 to February 2021 were included. Results : Twenty-three subjects who underwent radiocephalic arteriovenous fistula surgery were observed. The exercise program could increase the diameter of the draining veins significantly (p = 0.006) in the 6th week following the surgery. There was also a significant increase in the rate of blood flow as much as 210% with an average of 616.56 ± 88.80 mL/minute (p = 0.002), observed in the 6th week after the operation. Subsequently, there was a decrease in the draining vein-to-skin distance in the 4th week (p = 0.015), however the result was not significant in the 6th week following the surgery. Conclusion : The upper extremity isotonic, isometric, and partial restriction exercise program following the surgery could increase the diameter of the draining veins, affect the draining vein-to-skin distance, and increase the rate of blood

flow in the radiocephalic arteriovenous fistula.