

Endovascular methods for correcting angiopathy of the diabetic foot syndrome in patients after COVID-19

Okhunov Alisher, MD, Professor, Tashkent, Uzbekistan

Abdurakhmanov Faizirakhmon, Tashkent, Uzbekistan

Abstract

Diabetes and COVID-19 are closely related in terms of the mechanism of vascular pathology. Statistics show that in patients with diabetes, after COVID-19, angiopathy is much more severe. This leads to the development of gangrene of the limb, an increase in amputation, disability and a decrease in the quality of life. The aim of our study was to improve the results of treatment of patients with diabetic angiopathy, after COVID-19, through the use of active methods of endovascular interventions. Studies conducted in 125 patients with diabetes after COVID-19 revealed 245 occlusive-stenotic changes in the vessels of the lower extremities. In addition, 10.5% of occlusions in the arteries of the medial tibial artery were eliminated. Of the 245 endovascular surgical treatments performed in patients with diabetic foot syndrome after COVID-19, 74.3% were translumbar balloon angioplasty. Most of all, translumbar balloon angioplasty was performed in 2 segments (figure 1). 58 balloon angioplasty were performed in three or more segments. Within one vascular segment, 32 balloon angioplasties were performed. The use of X-ray endovascular methods for the treatment of diabetic foot syndrome in the complex of therapeutic measures after COVID-19 made it possible to reduce the percentage of limb amputations by 3.2 times. The use of X-ray endovascular methods of treatment made it possible to avoid cases of amputation at the level of the thigh and limit amputations in 7.2% of cases at the level of the lower leg, to reduce mortality from 10.3% to 4.0%. The use of X-ray endovascular methods of surgical correction of ischemia of the lower extremities in patients with diabetic foot syndrome who underwent COVID-19 made it possible to increase the proportion of positive treatment results in the form of limb preservation from 67% to 88.8%.



Figure 1. Multiple occlusions and stenoses of the arteries of the thigh and leg. The patient underwent translumbar balloon angioplasty of the superficial femoral artery, posterior and anterior tibial arteries.

Recent Publications

1. Verity, R. et al. Estimates of the severity of coronavirus disease 2019: a model-based analysis. *Lancet Infect. Dis.* 20, 669–677 (2020).
2. Perez-Saez, J. et al. Serology-informed estimates of SARS-CoV-2 infection fatality risk in Geneva, Switzerland. *Lancet Infect. Dis.* [https://doi.org/10.1016/S1473-3099\(20\)30584-3](https://doi.org/10.1016/S1473-3099(20)30584-3) (2020).
3. Salje, H. et al. Estimating the burden of SARS-CoV-2 in France. *Science* 369, 208–211 (2020).
4. Weinberger, D. M. et al. Estimation of excess deaths associated with the COVID-19 pandemic in the United States, March to May 2020. *JAMA Intern. Med.* 180, 1336–1344 (2020).
5. Faust, J. S. & Del Rio, C. Assessment of deaths from COVID-19 and from seasonal influenza. *JAMA Intern. Med.* 180, 1045–1046 (2020).



OKHUNOV Alisher Oripovich, Doctor of Medical Sciences, Professor, Head of the Department of General Surgery of the Tashkent Medical Academy, Head of the Center and Chief Consultant on Surgical Complications of Diabetes. Full member of the American Society for Surgical Infection (SIS), the International Federation for the Surgery of Obesity (IFSO), twice the best healthcare worker of the Republic of Uzbekistan (2019, 2021), the best professor of the year of the Republic of Uzbekistan (2019). Author of more than 300 scientific papers on surgical complications of diabetes, obesity, surgical infection. Including 12 monographs, 32 inventions and 4 textbooks on surgery. Speaker of international congresses and conferences on diabetes in the USA, Great Britain, Germany, Spain, Turkey, India, Thailand and other countries.

Email: general-surgery@mail.ru Contact No: +998909474568



ABDURAKHMANOV Faizirakhmon Munisovich - Assistant of the Department of General and Pediatric Surgery, Tashkent Medical Academy. Master's degree in general and emergency surgery. He possesses all the skills of surgical methods for the treatment of surgical complications of diabetes mellitus. Leading consultant of the Republic of Uzbekistan on surgical infection. Author of 25 publications. Conducts active research work on the dissertation on PhD.

Notes/Comments: