

## Sarcopenia increases the risk for mortality in patients who undergo amputation for diabetic foot

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**Introduction/Purpose:** Although there have been reports that diabetes affects the prevalence of sarcopenia, no studies have examined the relationship between sarcopenia and mortality in patients undergoing leg amputation. The purpose of this study is to determine whether sarcopenia affects the survival and functional outcome of patients undergoing diabetic foot amputation.

**Methods:** From among patients who underwent limb amputation for diabetes complications, this study included 167 patients who underwent abdominal CT within 1 year of amputation. We defined sarcopenia using sex-specific cut-off points for the L3 skeletal muscle index. The 5-year survival rate was analyzed. All patients were divided into two groups and compared according to the presence of sarcopenia. We measured the functional activity of the survivors using the Foot and Ankle Ability Measure (FAAM). Differences in FAAM scores were evaluated. The survival rate according to sarcopenia was assessed via the Kaplan-Meier method and log-rank test.

**Results:** Among the total of 167 patients, the overall 5-year survival rate was 47.3%. Of the 112 patients with sarcopenia, the 5-year survival rate was 39.3%. Of the 55 patients without sarcopenia, the 5-year survival rate was 63.6%. Kaplan-Meier analysis showed a high mortality of the sarcopenia group in the univariate ( $p=0.016$ ) and multivariate ( $p=0.047$ ) analysis. There was no significant difference in FAAM score between two groups ( $p=0.500$ ).

**Conclusion:** Our study is the first to analyze the relationship between diabetic amputation and sarcopenia. Sarcopenia increases the risk of mortality in patients with amputation for diabetic foot. Therefore, the role of sarcopenia and exercise training should be studied in the future to define what role they have in improving functional outcomes in patients who undergo diabetes related amputations.

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