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vascular interventions and external iliac and superficial femoral stenosis were associated with a greater risk of amputation. Multivariate logistic regression showed that external iliac artery stenosis/occlusion (odds ratio, 1.59; $P = .046$) remained a significant predictor for a final level of amputation above the knee (Table I). Univariate analysis showed age, stenosis/occlusion of the iliac vessels, smoking, and dialysis dependence were associated with decreased median survival. Age (hazard ratio, 1.042; $P = .008$) and dialysis dependence (odds ratio, 4.33; $P = .002$) remained significant predictors on Cox regression analysis, with patients with external iliac stenosis or occlusion showing a strong trend toward diminished survival (hazard ratio, 1.41; $P = .054$; Fig).

Conclusions: External iliac disease is associated with higher final levels of amputation and might also predict for lower long-term survival. For patients who are undergoing transtibial amputations, inflow lesions should be addressed concomitantly or before the procedure.

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Acute Aortoiliac Arterial Thrombosis in Patients With the Novel Coronavirus Disease 2019: A Case Series and Systematic Review of the Literature

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Objective: Venous thrombosis has been widely described in the setting of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. However, arterial thrombosis has rarely been reported. We assessed the incidence, risk factors, interventions, and outcomes of acute aortoiliac arterial thrombosis in patients with active SARS-CoV-2 infection.

Methods: We present the cases of seven SARS-CoV-2–positive patients from our institution who had acutely developed thrombi in the aortoiliac arterial system (July 2020 to January 2021). A systematic review of the literature on aortoiliac arterial thrombosis in patients with SARS-CoV-2 infection in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines was also performed. The available data from all reported cases and at our institution were analyzed.

Results: A total of 30 reported studies and journal correspondence, including 52 patients, were reviewed and analyzed, in addition to our institution's seven cases. In total, 59 SARS-CoV-2–positive patients were found to have acute aortoiliac thrombosis. The abdominal aorta was the most frequent location for the development of a thrombus (Table I). The baseline demographics and medical comorbidities were not significantly different between the symptomatic and asymptomatic cohorts. Of the patients, 71% were symptomatic (lower limb ischemia, 75.0%; renal infarction, 20.0%; stroke, 12.5%; mesenteric ischemia, 10.0%). All patients with thrombus involving the ascending aorta, aortic bifurcation, or iliac artery had developed thromboembolic or ischemic complications. All the patients received systemic anticoagulation (Table II), and 53% of all patients were treated medically. Of the asymptomatic patients, 94% were treated medically. One asymptomatic patient underwent endovascular aspiration of a mobile thrombus. Three patients (23.1%) in the asymptomatic cohort had died of hypoxic respiratory failure. Fourteen patients (36.8%) had died in the symptomatic cohort. The in-hospital mortality rate was 33.3% overall and 43.8% for patients with thrombi involving more than one aortoiliac segment.

Conclusions: The presence of thrombi in the aortoiliac arterial system appears to be a poor prognostic indicator for patients with active SARS-CoV-2 infection. Medical treatment of patients with asymptomatic aortoiliac thrombi can be considered. The presence of thrombi involving the ascending aorta, aortic bifurcation, or iliac artery could warrant consideration for operative intervention owing to the risk of thromboembolic or ischemic complications. Further study is needed to fully delineate the risk factors, optimal treatment, and outcomes of arterial thrombosis in the setting of SARS-CoV-2 infection.

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Effect of the Coronavirus Disease 2019 Pandemic on Vascular Surgery Admissions at a Major Academic Center in New York City

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Table I. Aortoiliac arterial territories affected by acute thrombosis in the setting of SARS-CoV-2 infection

Variable	All patients (n = 59)	Asymptomatic patients (n = 16)	Symptomatic patients (n = 40)	P value
Ascending aortic thrombus	5 (8.5)	0 (0.0)	5 (12.5)	.138
Aortic arch thrombus	12 (20.3)	7 (43.8)	4 (10.0)	.004
Descending aortic thrombus	17 (28.8)	10 (62.5)	7 (17.5)	.001
Abdominal aortic thrombus	27 (45.8)	2 (12.5)	23 (57.5)	.002
Aortic bifurcation/iliac artery thrombus	20 (33.9)	0 (0.0)	20 (50.0)	.000
Concomitant infrainguinal arterial thrombosis	16 (27.1)	0 (0.0)	16 (40.0)	.003
Concomitant infrapopliteal arterial thrombosis	13 (22.0)	0 (0.0)	13 (32.5)	.009

SARS-CoV-2, Severe acute respiratory syndrome coronavirus 2.
Data presented as number (%).

Table II. Management strategies used and in-hospital mortality for SARS-CoV-2–positive patients with acute thrombosis of the aorta and/or iliac arteries

Variable	All patients	Valid	Asymptomatic patients	Valid	Symptomatic patients	Valid	P value
Managed medically	29 (52.7)	55	15 (93.8)	16	14 (35.9)	39	.000
Systemic anticoagulation	43 (100)	43	14 (100)	14	29 (100)	29	NA
Surgery required	24 (42.9)	56	1 (6.3)	16	23 (57.5)	40	.000
Open surgery	22 (91.7)	24	0 (0.0)	1	22 (95.7)	23	NA
Endovascular therapy	5 (20.8)	24	1 (100.0)	1	4 (17.4)	23	NA
Thrombolytic agents	6 (10.9)	55	1 (6.3)	16	5 (12.8)	39	.478
In-hospital mortality	17 (33.3)	51	3 (23.1)	13	14 (36.8)	38	.363

SARS-CoV-2, Severe acute respiratory syndrome coronavirus 2.
Data presented as number (%).