

**Kısa Rapor****A Rare Cause of Acute Renal Failure: Leriche Syndrome****Akut Böbrek Yetmezliğinin Nadir Bir Sebebi: Leriche Sendromu****Seydahmet Akın<sup>1</sup>, Sinan Kazan<sup>1</sup>, Bilge Kalkan<sup>2</sup>, Mehmet Aliustaoglu<sup>1</sup>***1. Dr. Lütfi Kırdar Kartal Eğitim ve Araştırma Hastanesi, İç Hastalıkları Kliniği, İstanbul, Turkey.**2. Dr. Lütfi Kırdar Kartal Eğitim ve Araştırma Hastanesi, Aile Hekimliği Kliniği, İstanbul, Turkey.***ABSTRACT**

*Leriche Syndrome is characterized with occlusive atherom plaques at aortic bifurcation obstructing iliac arteries. Renal arteries are involved in only 10% of patients. Renal artery involvement may be a rare cause of renal impairment. We report a Leriche syndrome case presenting with acute renal failure.*

**Key Words:** atherosclerosis, Leriche syndrome, Renal insufficiency.

**ÖZET**

*Leriche Sendromu iliak arterlerde tıkanıklığa sebep olan aortik bifurkasyonda oklüzif ateroskleroz plakları ile karakterizedir. Renal arterler sadece %10 hastada tutulabilir. Renal arter tutulumu akut böbrek yetmezliğinin nadir bir sebebidir. Akut böbrek yetmezliği ile başvuran bir Leriche sendromu olgusunu bildiriyoruz*

**Anahtar Kelimeler:** ateroskleroz, Leriche sendromu, Renal yetmezlik.

**INTRODUCTION-PURPOSE**

Leriche Syndrome (LS), first defined by a French surgeon Rene Leriche, is characterized with claudication, pain during rest, necrosis at skin and distal sites and impotence resulted from gradual progression of atherosclerosis and subsequent occlusive atherom plaques at aortic bifurcation obstructing iliac arteries (1, 2). Ninety Percent of obstruction is localized at infrarenal region, although renal arteries are involved in only 10% of cases. It is frequently seen in males at the ages between 40 to 60 (3, 4). Here we present a report of an acute renal failure case caused by LS involving renal arteries.

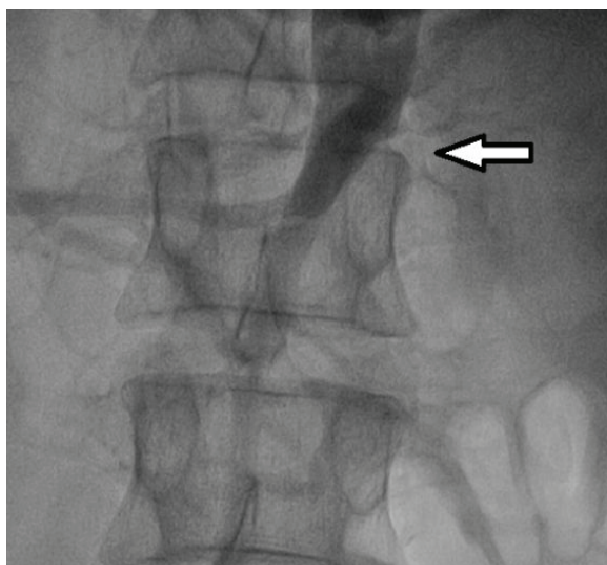
**CASE REPORT**

Fifty-two year old male presenting fatigue and oliguria was admitted to the emergency room. Lab work up (Table 1) showed increased serum urea-creatinine levels and the patient was referred to the internal medicine department. Patient was conscious and cooperative with mild distress. His medical history was significant with hypertension and 60 package/year smoking. Blood pressure measured from the left and right arms were 130/80 mmHg and 140/90 mmHg, respectively. Body temperature was within normal limits (36,6 C<sup>o</sup>-axillary). Peripheral pulses were abnormal with the lack of bilateral femoral as well as their distal pulses. The rest of the physical exam was unremarkable. One year ago, abdominal aorta angiography was done at another center in order to evaluate the etiology of acute severe abdominal pain (Figure 1); and it revealed complete occlusion at infrarenal region; moreover, claudication and impotence were accompanied to the complete occlusion, therefore LS was diagnosed at that time. Clinicians considered surgical management; however, patient had claudication for each 500-600 meters of walking distance, so symptomatic approach was decided. We investigated acute renal failure on the patient; nausea, vomiting or diarrhea were absent, there were no exposure of potential renotoxic medications and procedures including non-steroid antiinflammatory drugs, antibiotics, herbal remedies, contrast-enhanced imaging. Two months prior to presentation, renal functions were within normal limits. Following renal Doppler ultrasound imaging demonstrated atrophic left kidney, tri-phasic flow pattern in right renal artery. Renal artery magnetic resonance angiography was also performed and complete occlusion at left renal artery and 30% obstruction at left left artery were seen. Patient was then consulted to cardiovascular surgery and aorta-bifemoral bypass procedure was planned and he was referred to cardiovascular surgery for the operation.

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Test	Result	Normal Range
WBC	7,3 x103/μL	4,4-10,4 x103/μ
Hb	13,9 gr/dl	14-18 gr/dl
PLT	213 x103/μL	150-450 x103/μL
Urea	196 mg/dl	17-50 mg/dl
Creatinine	4,96 mg/dl	0,6-1,1 mg/dl
AST	27 U/lt	0-45 U/lt
ALT	34 U/lt	0-45 U/lt
Na+	139 mmol/lt	136-146 mmol/lt
K+	5,0 mmol/lt	3,5-5,1 mmol/lt
Cl-	103 mmol/lt	95-115 mmol/lt
Ca+2	8,6 mg/dl	8,4-10,5 mg/dl
Albumin	3,5 gr/dl	3,5-5,2 gr/dl
Total Billirubin	0,9 mg/dl	0,3-1,2 mg/dl

**Tablo 1.** Lab Values at Presentation.



**Figure 1.** Complete aortic occlusion in angiography one year prior to presentation

## DISCUSSION

LS is an atherosclerotic complication and mostly encountered by cardiovascular surgery. Initial symptoms are claudication, erectile dysfunction and weight loss and coronary artery disease or chronic renal failure may co-exist (3). Even at the level of complete distal aortic occlusion, life can be sustained with several anastomoses, most importantly with superior and inferior epigastric arteries (5). Sugimoto et al followed up 29 patients with LS with a mean age 60.7, and recommend anatomic bypass as a therapeutic approach (6). Advanced age of this patient population requires techniques with lower perioperative mortality; endovascular surgery has therefore been preferred method recently (7). Marrocco et al reported that 3-8.5% of aorto-ileal occlusive diseases are infrarenal aortic occlusion (8). infrarenal aortic occlusions are grouped as distal or proximal; distal type is presented with classical LS symptomatology; where as proximal type may effect renal artery and may cause acute renal failure, as seen in our case. Proximal lesions may also cause intestinal infarcts, or as Akhaddar et al reported, it may result in paraplegias (9). Occasionally, gradual progression may lead to chronic renal failure (10). Diehm et al suggested that ankle brachial index may be used to screen

LS, as it is used as a screening method for other peripheral artery diseases (11). LS might be considered in patients presented with acute renal failure to internal medicine or nephrology clinics; particularly in patients having rapid disease progression with advanced age and history of diabetes, hypertension and coronary artery disease. Moreover, renovascular hypertension is a concern for LS cases which angiotensin converting enzyme inhibitors may be contraindicated because they may cause acute renal injury (12). Cautious selection of anti-hypertensive agents and thorough follow up in renal functions are essential in this patient group. Increased life expectancy, improvements in management of cardio-metabolic diseases as well imaging procedures may be related to an increase in LS incidence.

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