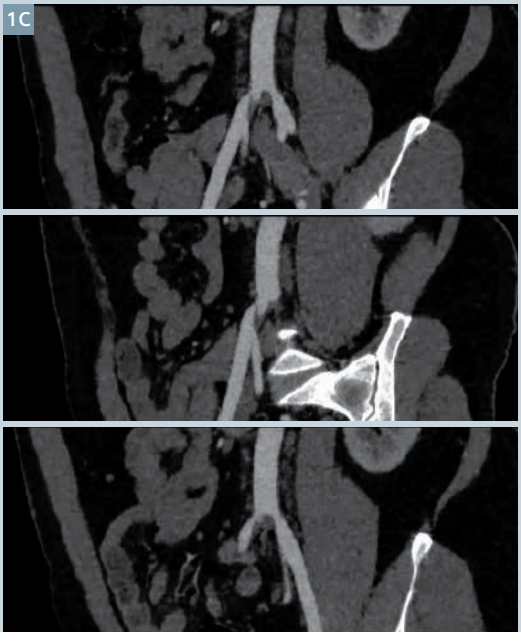
## Case 3

# Diagnosing a Bilateral Iliac Artery Stenosis using Runoff CT Angiography

By Aarthi Govindarajan, MD, Prasanna Vignesh, MD, Arun Kumar, MD, Raj Kumar, MD

Aarthi Diagnostics, Vadapalani, Chennai, Tamilnadu, India






**1**

VRT (Fig. 1A), MIP (Fig. 1B) and MPR (Fig. 1C) images show moderate stenoses from soft plaques in the proximal segment of both common iliac arteries, and a mild stenosis from concentric soft plaque at the bifurcation of the distal abdominal aorta.

## History

A 42-year-old male patient, a known smoker and alcoholic with a history of claudication and pain in both lower limbs, was referred to our hospital. Physical examination revealed that the patient was normotensive. His family history was unremarkable. Peripheral CT angiography was requested to rule out peripheral arterial diseases.

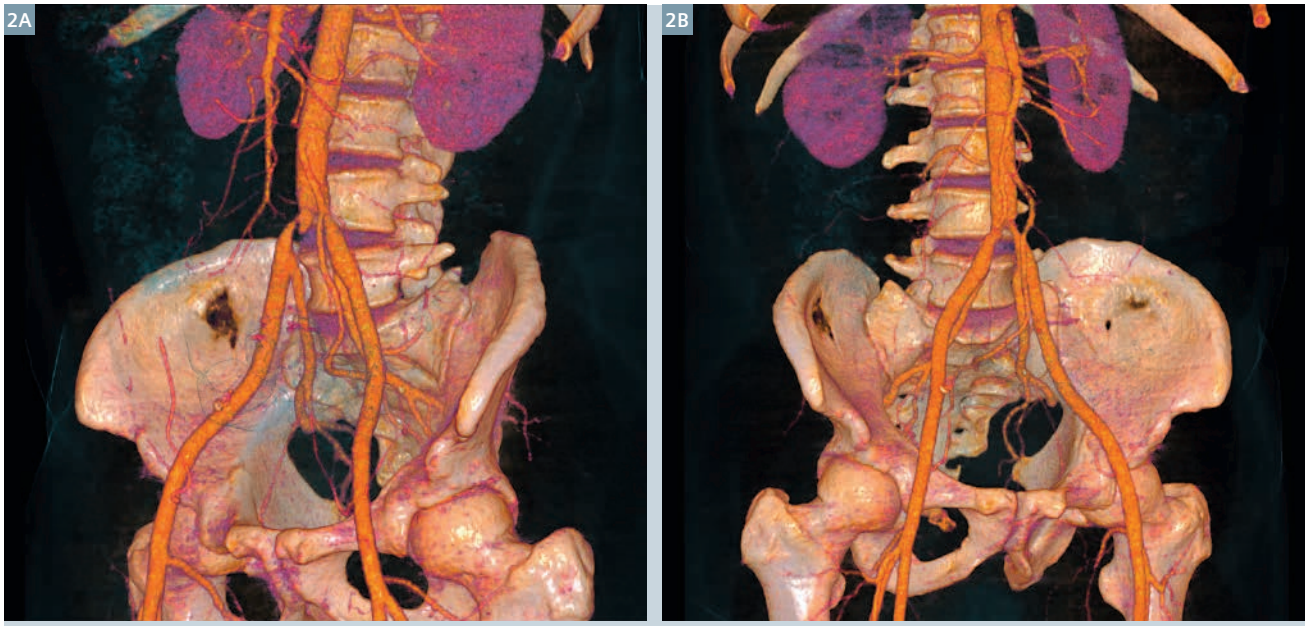
## Diagnosis

The MPR, MIP, and volume-rendered CT images demonstrated moderate stenoses from soft plaques in the proximal segment of both common iliac arteries. A mild stenosis from concentric soft plaque was also seen at the bifurcation of the distal abdominal aorta.

No significant plaques or stenoses were seen in the peripheral lower limb arteries.

## Comments

Peripheral CT angiography is valuable in imaging workup and helps in establishing a quick diagnosis. SOMATOM Scope allows a longer scan range within a shorter scan time and a slice width as thin as 1.5 mm. Its high scan speed along with the high pitch setting enables a clear visualization of the vascular structures with a homogeneous contrast within the entire runoff range. ■




2 VRT images demonstrate moderate stenoses in the proximal segment of both common iliac arteries from two different views.

# Examination Protocol

| Scanner | SOMATOM Scope | | |
|---|---|---|---|
| Scan area | Runoff | Rotation time | 0.8 s |
| Scan length | 1158 mm | Pitch | 1.5 |
| Scan direction | Cranio-caudal | Slice collimation | 16 × 1.2 mm |
| Scan time | 32 s | Slice width | 1.5 mm |
| Tube voltage | 110 kV | Reconstruction increment | 1 mm |
| Tube current | 60 mAs | Reconstruction kernel | I31s |
| Dose modulation | CARE Dose4D | **Contrast** | |
| $CTDI_{vol}$ | 3.89 mGy | Volume | 90 mL |
| DLP | 470 mGy cm | Flow rate | 4 mL / s |
| Effective dose | 2.6 mSv | Start delay | Bolus tracking |