CASE REPORT

ENDOVASCULAR REVASCULARIZATION OF CHRONIC TOTAL AORTOILIAC OCCLUSION USING KISSING BALLOON STENTING IN A 63-YEAR-OLD FEMALE: A CASE REPORT

Syed Sarmad Hussain[a*], Laiba Sheher Bano[b]

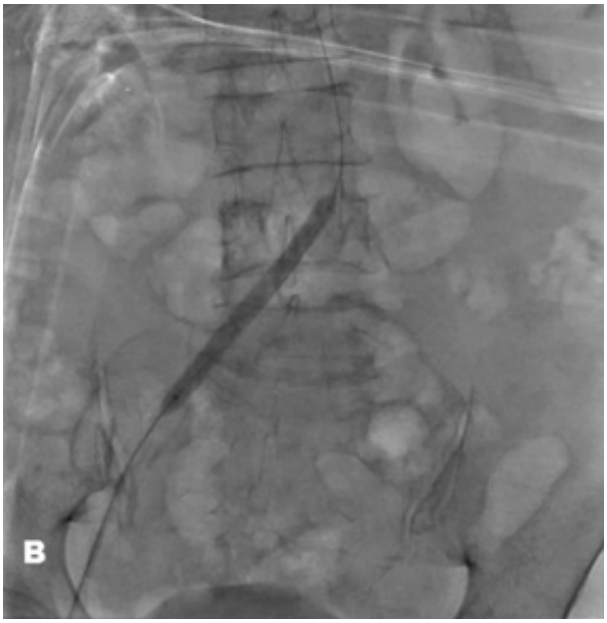
[a]Punjab Institute of Cardiology, Lahore. [b]WAPDA Teaching Hospital, Lahore.

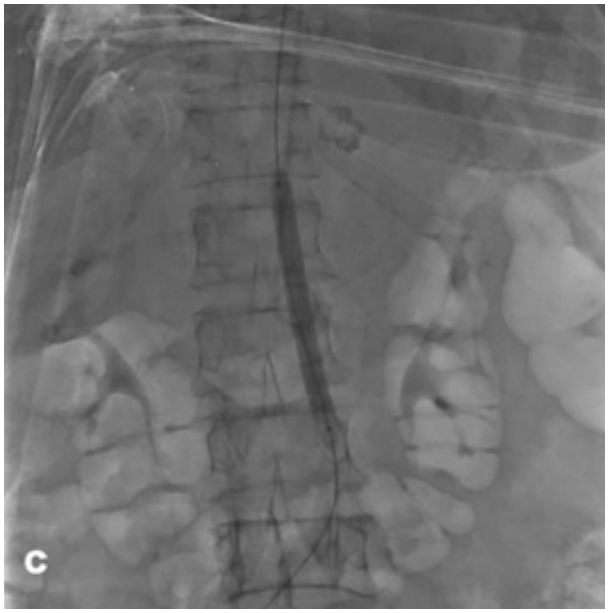
Date of Publication: 10-09-2025

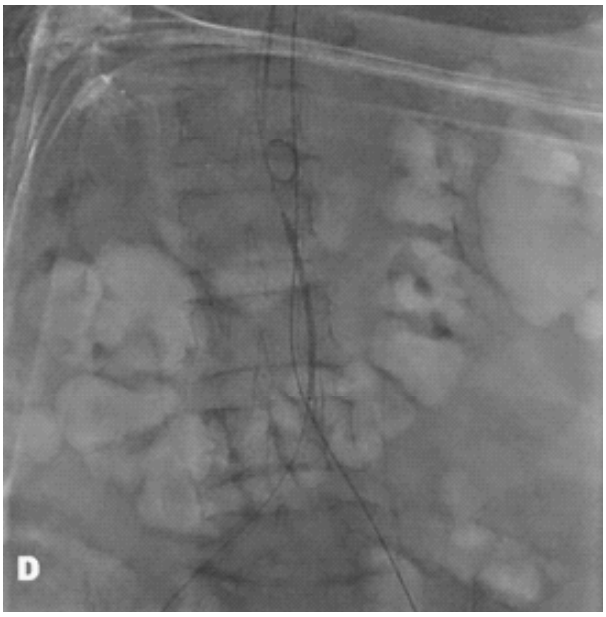
We report a case of a 63-year-old hypertensive female with no prior cardiovascular or peripheral arterial disease history, who presented with new-onset bilateral leg pain and intermittent claudication. CT angiography revealed chronic total occlusion of the infrarenal abdominal aorta, bilateral common iliac arteries, and bilateral external iliac arteries. With preserved distal runoff through patent femoral arteries, she underwent successful endovascular revascularization using bilateral kissing balloon expandable stents. Post-procedure angiography confirmed excellent luminal restoration with resolution of symptoms. This case demonstrates the feasibility and efficacy of the kissing balloon technique as a minimally invasive alternative to open surgery in complex aortoiliac occlusions, even in patients without traditional PAD risk factors.

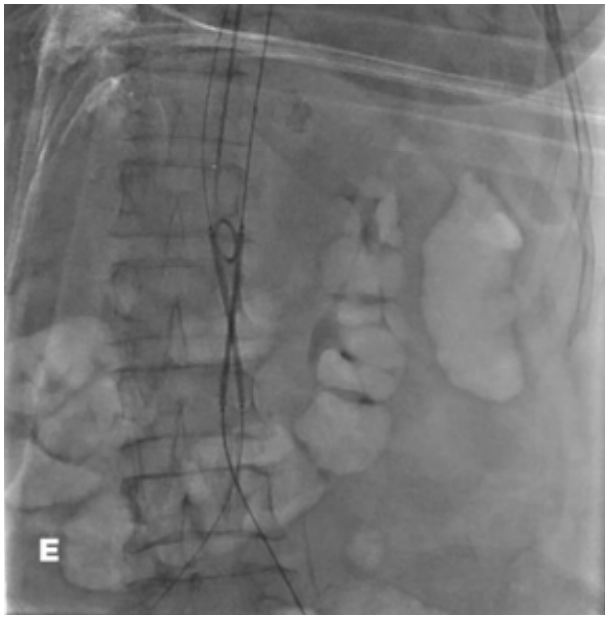
INTRODUCTION:

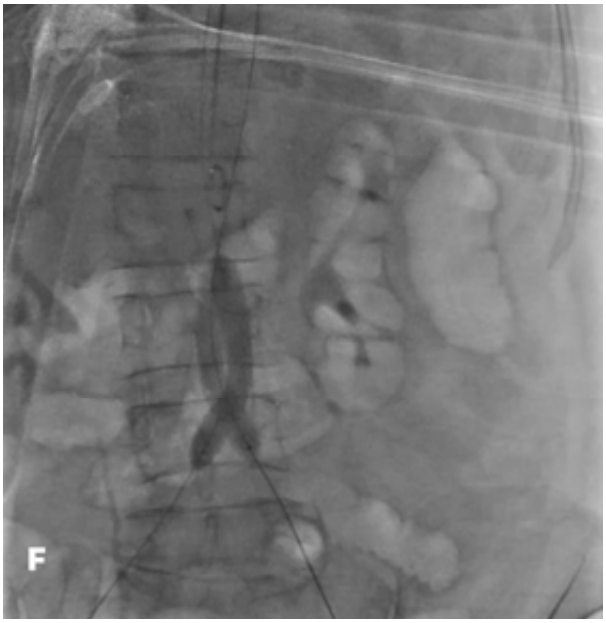
Aortoiliac occlusive disease (AIOD) is a progressive form of peripheral arterial disease (PAD) affecting the infrarenal abdominal aorta and iliac arteries. While classic risk factors include smoking, diabetes, and dyslipidemia, patients may occasionally present with extensive disease in the absence of these factors. Traditionally, extensive occlusions especially TASC II type D lesions—have been treated with aortobifemoral bypass surgery. However, advances in endovascular techniques now allow for less invasive treatment in selected cases. The kissing balloon technique enables bilateral stent deployment at the aortic bifurcation, maintaining patency in both iliac systems . This case highlights the successful endovascular management of a complex chronic aortoiliac total occlusion











in a patient with isolated hypertension and no prior vascular history[1].

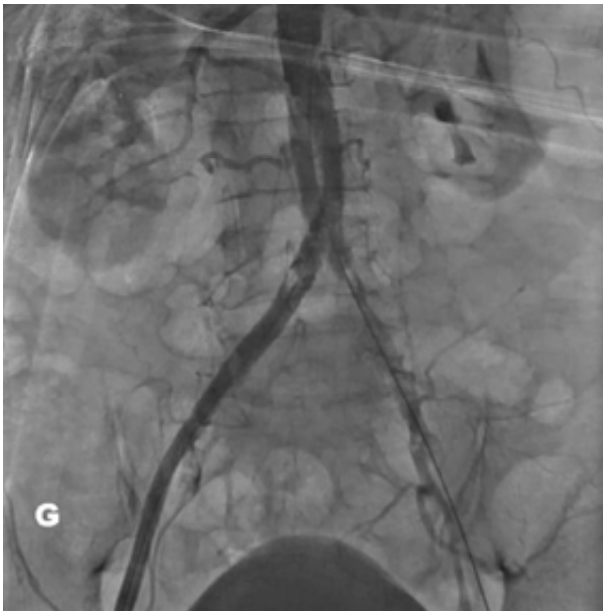
CASE PRESENTATION:

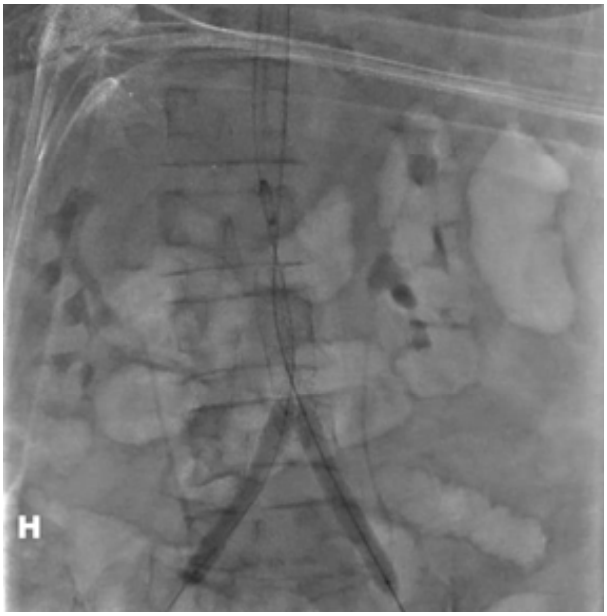
A 63-year-old female with a medical history of hypertension, but no other cardiovascular or atherosclerotic risk factors, presented with progressive bilateral leg pain and intermittent claudication for 3–4 weeks. She had no history of smoking, diabetes, dyslipidemia, or peripheral vascular disease. There were no symptoms of rest pain, tissue loss, or ulceration. She was referred from vascular surgery to interventional cardiology for further assessment. On examination, femoral pulses were weak bilaterally, and distal pulses were present. No signs of acute limb ischemia or critical limb threatening ischemia were observed. Baseline investigations were within normal limits. CT angiography revealed:

Complete occlusion of the infrarenal abdominal aorta

Total occlusion of both common and external iliac arteries

Patent bilateral common femoral arteries,





suggesting collateral flow

A diagnosis of chronic total aortoiliac occlusion (TASC II D) was made. Due to the patient's preserved distal runoff and lack of comorbid risk factors, an endovascular approach was chosen.

PROCEDURE:

Under local anesthesia, a pigtail catheter was placed in the abdominal aorta through femoral access. Digital subtraction angiography (DSA) confirmed a total occlusion of the infrarenal abdominal aorta and bilateral iliac arteries. A 6F sheath was then inserted for right femoral access. A Rubicon™ microcatheter and guidewire were advanced through the occluded segment from the aorta to the right external iliac artery. The guidewire was exchanged for a 0.038" support wire. Balloon pre-dilation was performed using an 8 mm × 80 mm EverCross™ PTA balloon. For the left femoral access, a 6F sheath was similarly placed. The occlusion was crossed and pre-dilated using the same technique. For stenting, a 10 mm × 57 mm Visi-Pro™ balloon-expandable stent was deployed from the right side, extending from the distal aorta into the right common iliac artery. A 9 mm × 57 mm Visi-Pro™ stent was then placed in parallel from the left side. Simultaneous kissing balloon inflation was performed to expand both stents symmetrically across the aortic bifurcation. Following the stenting procedure, both the common and external iliac arteries were further dilated to optimize luminal gain. The final angiography revealed patent stents with good flow through the abdominal aorta and both iliac systems. There was mild intraluminal haziness, but no evidence of dissection or distal embolization (Figure A to H). The patient was started on triple antithrombotic therapy, which included aspirin, clopidogrel, and anticoagulation, to be continued for one month.

OUTCOME AND FOLLOW-UP:

The procedure was uneventful, and the patient reported significant improvement in symptoms post-operatively. At follow-up after 1 month, she was pain-free with increased walking tolerance. Physical examination showed palpable distal pulses bilaterally. Duplex ultrasound confirmed patent stents without restenosis. No complications were observed during early follow-up.

DISCUSSION:

Chronic total occlusion of the aortoiliac segment is a complex vascular condition traditionally managed with aortobifemoral bypass surgery, particularly in extensive TASC II D lesions. However, advances in endovascular intervention, including dedicated crossing tools, high-pressure balloons, and balloon-expandable stents, have significantly improved the success

rates of minimally invasive approaches in experienced hands[1]. The kissing stent technique preserves the anatomical geometry of the aortic bifurcation and allows for symmetrical revascularization of both iliac arteries[2]. It also minimizes the risk of contralateral stent occlusion ("jailing") and optimizes bilateral flow. Recent mid-term studies report primary patency rates ranging from 83.3% to 96.5% at 12 months, supporting the durability of this approach in complex aortoiliac occlusions[1] [2]. In one study, technical and clinical success reached 100%, with 2-year patency of 90.3%, further confirming the long-term effectiveness of the kissing balloon technique[3]. The patient had no traditional PAD risk factors except for hypertension. Symptoms were of recent onset. There was extensive aortoiliac occlusion, yet successful recanalization was achieved via femoral access alone Kissing balloon stenting restored flow with excellent early outcomes. Multiple studies support this approach, showing high technical success and patency rates with low complication rates in experienced centers.

CONCLUSION:

This case demonstrates the technical feasibility and clinical success of kissing balloon expandable stenting in a patient with chronic total aortoiliac occlusion and limited cardiovascular risk factors. Endovascular therapy represents an effective, minimally invasive alternative to open surgery in selected patients, even in complex anatomical settings.

PATIENT PERSPECTIVE:

The patient expressed satisfaction with the procedure, reporting complete relief of symptoms and improved walking distance. She was particularly appreciative of the quick recovery and minimally invasive nature of the treatment.

INFORMED CONSENT:

Written informed consent was obtained from the patient for publication of this case report and associated images.

CONFLICTS OF INTEREST:

The authors declare no conflicts of interest.

FUNDING:

This report received no external funding.

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