ABSTRACT
Common femoral artery occlusions are usually treated with open vascular surgical repair. We present a case of common femoral artery occlusion that was successfully treated with the FoxHollow SilverHawk atherectomy catheter. The use of this device obviated the need for adjunctive balloon angioplasty and stenting. The patient was discharged without complications after 1 day.

INTRODUCTION
Invasive treatment of a common femoral artery (CFA) stenosis or occlusion is generally surgical. This area is usually easily approached surgically with a small incision and endarterectomy with or without patch angioplasty. Surgical reconstruction has excellent long-term results with minimal surgical morbidity and mortality.

Percutaneous options for this region are limited due to the often unsatisfactory results of balloon angioplasty alone and the desire to avoid stenting this region. Stenting of the common femoral artery has the potential disadvantage of complicating future percutaneous and/or vascular surgical procedures, in-stent restenosis, and stent fracture due to excessive joint movement with hip flexion and extension. Furthermore, occlusion of the CFA can diminish or occlude blood flow into the profunda femoris artery. The profunda femoris artery is the major collateral pathway to the thigh and hence preservation of this arterial flow is essential for limb preservation. Atherectomy with the FoxHollow SilverHawk (FoxHollow, Redwood, CA) catheter is a new percutaneous modality that potentially allows treatment of this vascular segment without adjunct balloon angioplasty or stenting.

CASE
A 69-year-old man with a history of coronary artery disease, hypertension, dyslipidemia, and polycystic kidney disease on hemodialysis presented for consultation of left lower extremity claudication. The patient was treated with maximal medical therapy including antiplatelet agents and statin, and his blood pressure was well controlled. The patient had undergone right common femoral endarterectomy 1 year prior for claudication symptoms. The patient’s resting ankle-brachial index on the left was 0.57 and he had severe lifestyle limiting claudication. Angiography demonstrated an occluded common femoral artery with reconstitution proximal to the femoral bifurcation. In order to avoid the associated risks of balloon angioplasty and the stenting in this region, FoxHollow atherectomy was performed. The lesion was successfully crossed with a hydrophilic 0.035 in. wire. This was exchanged for a 0.014 in. stiff coronary wire to accommodate the FoxHollow atherectomy device. Several passes were made with the small atherectomy catheter followed by the medium sized catheter. Post atherectomy demonstrated <50% residual common femoral artery stenosis, and no dissection nor evidence of peripheral embolization. The patient’s ankle-brachial index (ABI) increased to 0.80 and, clinically, he no longer claudicates. There were no peri-procedural complications (Figure 1).

DISCUSSION
The common femoral artery is a unique vascular territory. Typically, atherosclerosis is not isolated to this arterial segment, and stenosis or occlusions are uncommon in the absence of more extensive inflow and outflow disease. Furthermore, the common femoral artery represents a frequently used site for percutaneous vascular access as well as being the proximal anastomotic site for lower extremity bypass grafts. Thus, placing of an endovascular stent in this region is ideally avoided. Direct surgical approach to occlusive disease in the common
femoral artery is generally well tolerated and preserves
the arterial segment for potential future procedures. In 1
study of common femoral artery endarterectomy with or
without patch angioplasty, the mean ABI increased from
0.49 to 0.67 with no operative mortality.\textsuperscript{1}

Although some have reported excellent results with an
endovascular approach to the common femoral artery, we
felt that it was important to avoid angioplasty and the pos-
sibility of stenting this important vascular segment.\textsuperscript{2} In
an effort to minimize vascular trauma and reduce stent utili-
zation and possibly restenosis, the FoxHollow’s SilverHawk
atherectomy catheter was used in this case. The SilverHawk
is a monorail single operator device over a 0.014 in. wire. The
rear end of the catheter has a motor drive unit with a battery
pack and thumb switch to activate the cutter. The working
end of the catheter has a cutter blade that when activated
apposes the vessel wall and rotates at a speed of 8000 revo-
lutions per minute. Once activated, the catheter is passed
through the lesion and the plaque is collected in the distal
end of the nosecone. By removing plaque, avoiding baro-
trauma and plaque shift, it is thought that the FoxHollow
SilverHawk reduces the utilization of adjunctive proce-
dures, complication rates, and restenosis rates. However,
long-term outcome data are lacking. Mid-term results sug-
gest that FoxHollow atherectomy is at least comparable to
angioplasty and stenting of the superficial femoral artery
and infrapopliteal arteries.\textsuperscript{3,4} Favorable positive remodeling
has been documented during the next 30 days and beyond.
The safety of the SilverHawk catheter was demonstrated in
the TALON registry, with a perforation rate of 0.7% and
dissections 2.5% among 281 procedures.\textsuperscript{5}

Angiographically, our patient had successful recan-
nulization of his common femoral artery without the
need for adjunctive procedures such as balloon angi-
oplasty or endovascular stent deployment. Clinically, his
symptoms of claudication have resolved and his ABI
improvement is equivalent to the results obtained with
open surgical revascularization. Furthermore, the pa-
tient was discharged from the hospital the day after the
procedure without any complications.

**CONCLUSION**

Common femoral artery lesions represent a challenge to
treat percutaneously. We present a case of common femo-
ral artery occlusion that was successfully treated with per-
cutaneous atherectomy. The FoxHollow catheter may rep-
resent a new treatment modality for this vascular territory,
oblitating the need for balloon angioplasty and stenting.

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