Life threatening hemorrhage after renal artery angioplasty

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Disclosure

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I have the following potential conflicts of interest to report:

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Renal artery stenosis is caused by atherosclerosis or fibromuscular dysplasia. It can be associated with ischemic chronic kidney disease, renovascular hypertension or cardiac syndromes. Endovascular treatment is controversial but may help some selected patients.
We report one case of renal artery stenting for stenosis associated with progressive renal insufficiency.

The procedure was followed by life threatening hemorrhagic shock and death.
Case report (1)

✓ 75 years old woman
✓ Past history: arterial hypertension, paroxysmal atrial fibrillation, stage 3 chronic kidney disease
✓ Admitted for weakness, tiredness and epigastralgia
✓ Blood test: chronic kidney disease raised to stage 4 (22 ml/min/1.73m²)
✓ Computed tomography
left renal artery stenosis

cœliaque trunk stenosis
Case report (2)

✓ Under general anesthesia and right common femoral puncture, angioplasty with stenting of both left renal artery and coeliac trunk
✓ Terumo® 0.035 angled guide wire to catheterize the target vessels
✓ Biotronik Dynamic® 5mm-15mm stent in the left renal artery
✓ Biotronik Dynamic® 7mm-15mm stent in the coeliac trunk
Case report (3)

✓ Some hours later: abdominal pain, anemia, hemodynamic instability
✓ Computed tomography revealed bleeding in the lower part of the left kidney
Case report (4)

✓ Coil embolization of the bleeding vessel at the lower part of the left kidney
✓ Blood transfusions needed and NSTMI

✓ Despite acute kidney injury, she recovered from the hemorrhagic shock
Case report (4)

✓ 2 weeks later: abdominal pain and ARCA

✓ MOF and death
✓ Standard 0.035 guide wire can perforate small arterial renal branches and cause hemorrhagic shock and death.

✓ Not to push the wire to far into the kidney.

✓ Other wires have to be used when stenting of renal artery is performed: rosen wire, 0.018 or 0.014 wires.
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