Endovascular stenting treatment for juxtarenal aortic occlusion

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Title
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1. Generality for Juxtarenal aortic occlusion

(1) Concept:

- It mainly refers to the infrarenal aortic occlusion caused by atherosclerosis.
- Juxtarenal aortic occlusion is a special type that makes endovascular treatment a big challenge.
1. Generality for Juxtarenal aortic occlusion

(2) Targets of the endovascular treatment for juxtarenal aortic occlusion

1) Recanalization of occluded artery;

2) Prevention of complications.
2. Recanalization Techniques for Juxtarenal Aortic Occlusion (JRAO)
(1) Multi–puncture approaches:

1) left brachial artery
2) bilateral femoral arteries
(2) Catheter directed thrombolysis
used urokinase 500,000 u for three days

used urokinase 500,000 u for five days
(3) Guide wire cut through technique from brachial artery to femoral arteries

Advantage:
Easy contral bleeding
3. Prevention of complications for Recanalization of JRAO
（1）Complications of recanalization for juxtarenal aortic occlusion

1) Renal artery embolism
Example of complications ---- Renal artery embolism

- Male patient, sixty years old;
- Intermittent claudication for 6 months and rest pain for 2 months;
- Doppler Ultrasound showed severe stenosis bifurcation of the abdominal aorta six months ago.
- He discontinued antiplatelet drugs three months before admission.
Left renal artery embolism after thrombectomy of the proximal parts of aortic thrombi

Suction of emboli with catheter
CDT

Stenting after failure of suction and CDT
Complications of recanalization for juxtarenal aortic occlusion

(2) Blue toe syndrome
For example: Recanalization using bare stent in aortic artery
Used anticogulation and vasodilator drug

Necrotic toes skin fell off and new skin has grown
How to prevent complications

1. Protection of renal artery ---- to prevent renal artery embolism

- Adel Bin Jabr et al. reported to use Chimney grafts to preserve visceral flow and allow safe stenting of juxtarenal aortic occlusion

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Put a temporary balloon in renal artery through upper limb approach to avoid embolism caused by aortic thrombus or plaque.
Protection of lower left renal artery

Protection of both renal arteries for same level renal arteries
2. Prevention of Blue toe syndrome

– use of cover stent
(1) Abdominal aorta angioplasty with single cover stent
Small aortic diameter after single cover stent may threaten long-term patency.
(2) Abdominal aorta angioplasty with parallel cover stents
Example

- A 56 years old, male patient;
- Bilateral lower limb claudication for 2 years;
- Hypertension for 15 years.
1. Endovascular stenting treatment for juxtarenal aortic occlusion is feasible with complex techniques.

2. Prevention and treatment of PTA complications play an important role in the success of endovascular therapy.
Thank You
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