Gleneagles Hospital
HONG KONG
港怡醫院

Hosp No.	:	HKID No.:
Case No.	:	
Name	:	
DOB	:	M / F
Adm Date	:	
Contact No.	:.	

Procedure Information Sheet – Renal Artery Angioplasty and Stenting

1. Introduction

1.1. Renal artery (artery to the native or graft kidney) can become narrowed as a result of various causes, the commonest being atherosclerotic disease and fibromuscular dysplasia in native kidney. In graft kidney, the narrowing usually occurs at the surgical anastomosis. This could lead to long term problems such as high blood pressure and progressive deterioration in kidney function.

1.2. The objective of renal angioplasty and/or renal stenting is to re-open this narrowed segment of the artery and thereby re-establish normal blood flow with intention to normalize the blood pressure and/or to improve the renal function. The artery to be treated could be that of a native or graft kidney.

1.3. Technical success rate is usually high (>80%).

1.4. In over 70% of the patients who undergo such procedures for high blood pressure, their blood pressure would be successfully lowered.

1.5. In over 40% of patients who undergo such procedures for worsening kidney function, the kidney function would be improved or stop deteriorating.

1.6. Renal artery angioplasty and stenting would be performed in Department of Radiology, by radiologist(s) with special training in Interventional Radiology, under imaging guidance.

2. Before the Procedure

2.1. You will be invited to a ward or outpatient clinic for some preliminary tests including electrocardiogram, Chest X-ray and blood tests. We will also check your allergy history.

2.2. Our medical staff will explain to you and your relatives the procedure and its risks, and present to you this information leaflet. You have to sign an informed consent.

2.3. Blood thinning drug (warfarin) or diabetic drugs (metformin) may have to be stopped several days before the procedure. Special anti-platelet drugs (Clopidogrel, Ticagrelor or Prasugrel) should be taken before the intervention. Steroid will be given if there is history of allergy.

2.4. Fasting of 4-6 hours is required prior to the procedure. An intravenous drip will be set up. Shaving may be required over the puncture site.

2.5. If you are a female, please provide your last menstrual period (LMP) and avoid pregnancy before the procedure as this procedure involves exposure to radiation.

3. The Procedure

3.1. You would be required to withhold antihypertensive drugs on the day of the procedure.

3.2. The procedure would be performed under local anaesthesia using aseptic techniques.

3.3. A needle is usually inserted over the anaesthetized area in the groin, gaining access into common femoral artery. Followed by insertion of a plastic sheath, through which all subsequent procedures would be performed, hence further pain would be minimized at the skin entry site. The radial artery in the wrist is an alternative access for intervention.

3.4. Assessment of the renal arteries would be made using standard angiographic techniques. Carbon dioxide or iodinated contrast medium could be used to show the arteries of interest.

3.5. The size of a balloon catheter or the stent is measured.

3.6. Heparin (a blood-thinning drug) would be given.

3.7. A guidewire is inserted through the narrow lumen. Alternatively, a guidewire with a protective device in the distal tip may be used in suitable patients for protection of the kidney against cholesterol or clot embolization. The balloon catheter is introduced over the guidewire and the balloon is inflated, the stricture is thus dilated.

3.8. If stenting is considered necessary, a metallic stent will be inserted through a guiding catheter, with periodic angiogram through the guiding catheter to check the correct position before final deployment of stent.

3.9. Thereafter, repeat angiogram would be performed to assess the result of the treatment.

3.10. The procedure usually takes 1 – 2 hours.

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3.11. After the procedure, pressure would be applied to the puncture site wound to stop bleeding. Alternatively, a puncture-site closure device would be used. You would then be transferred back to the ward where your vital signs would be monitored regularly

3.12. Thereafter, repeat angiogram would be performed to assess the result of the treatment. You will have to take aspirin to prevent early occlusion of the artery or stent. Additional anti-platelet drugs like Plavix may be given to you.

3.13. Your antihypertensive drugs will be adjusted.

4. After the Procedure

4.1. After the procedure, catheters will be removed. The wound site will be compressed or sutured to stop bleeding. Sometimes, special devices may be used to stop bleeding.

4.2. Nursing staff will check your blood pressure, pulse and wound regularly.

4.3. Bed rest is necessary for a few hours. In particular, please do not move or bend the affected limb. If the wound is over the groin, please apply pressure with your hand when you cough or sneeze so as to avoid re-bleeding.

4.4. You should inform your nurse if you have any discomfort; particularly chest discomfort or find blood oozing from the wound site.

5. Risks and Complications

5.1. Complications occur in approximately 10% and most are minor.

5.2. Haematoma at puncture site.

5.3. Minor complications

- 5.3.1. arterial spasm
- 5.3.2. Transient renal insufficiency (< 6%)
- 5.3.3. Recurrence of the narrowing of the artery.
- 5.3.4. Broken guidewire (0.1-0.8%).

5.4. Major complications (3 – 11%)

- 5.4.1. Subintimal dissection of the renal artery
- 5.4.2. Thrombosis of renal artery (1%)
- 5.4.3. Distal embolization (either small blood clot or cholesterol emboli) to lower limb or small renal branches (3.3%)
- 5.4.4. Rupture of renal artery (1 – 2%)
- 5.4.5. Complications requiring nephrectomy (1%)
- 5.4.6. Deterioration of renal function requiring dialysis (1%)
- 5.4.7. Systemic bleeding due to heparin, aspirin or other anti-platelet agent (rare)
- 5.4.8. Procedure related death (<1%)
- 5.4.9. The overall adverse reactions related to iodine-base contrast medium is below 0.7%. The mortality due to reaction to non-ionic contrast medium is below 1 in 250000.

6. Remarks

6.1. It is hard to mention all the possible consequences if this procedure is refused.

6.2. The list of complications is not exhaustive and other unforeseen complications may occasionally occur. The risk quoted is in general terms. In special patient group (e.g. diabetics), the actual risk may be higher.

6.3. Should a complication occur, another life-saving procedure or treatment may be required immediately.

6.4. If there is further query concerning this procedure, please feel free to contact your nurse or your doctor.

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7. Reference

7.1. Hospital Authority. Smart Patient Website.

I acknowledged the above information concerning the operation or procedure. I have also been given the opportunity to ask questions and received adequate explanations concerning the condition and treatment plan.

Patient/ Relative Signature: _____

Patient/ Relative Name: _____

Date: _____