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Pre CME study material

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The CME will focus on creation of maintenance of vascular access for haemodialysis and difficult issues in management of kidney transplantation. The material contains cases prepared by the faculty with thought provoking questions. The candidates are encouraged to answer the questions based on their knowledge and practice. The process of analysing the questions will help maximise the learning opportunity. The material includes few original articles and reviews attached to assist learning.

Case 1

A 60 year old with diabetic nephropathy, stage 5 CKD, eGFR 12 ml/min/1.73m2 is due to have kidney transplantation from a living donor. He has high blood pressure and high cholesterol, well controlled with medicines. He has never had angina. His father suffered from diabetes and died of a heart attack when he was 70 years.

1. What tests should he have for cardiac workup pre kidney transplantation, a coronary angiogram or cardiac stress test?
2. What are the chances that he will have significant epicardial coronary artery disease?

Case 2

A 56 year old female haemodialysis patient had a heart attack for which she was treated with drug eluting coronary stents. Following the stenting she was started on aspirin and clopidogrel. She has living kidney donor and wishes to have a kidney transplant as soon as possible. She has been on dialysis for one year with a left forearm artero-venous fistula and no other complications. She has an treadmill stress test 9 months ago which did not show any ischaemia.

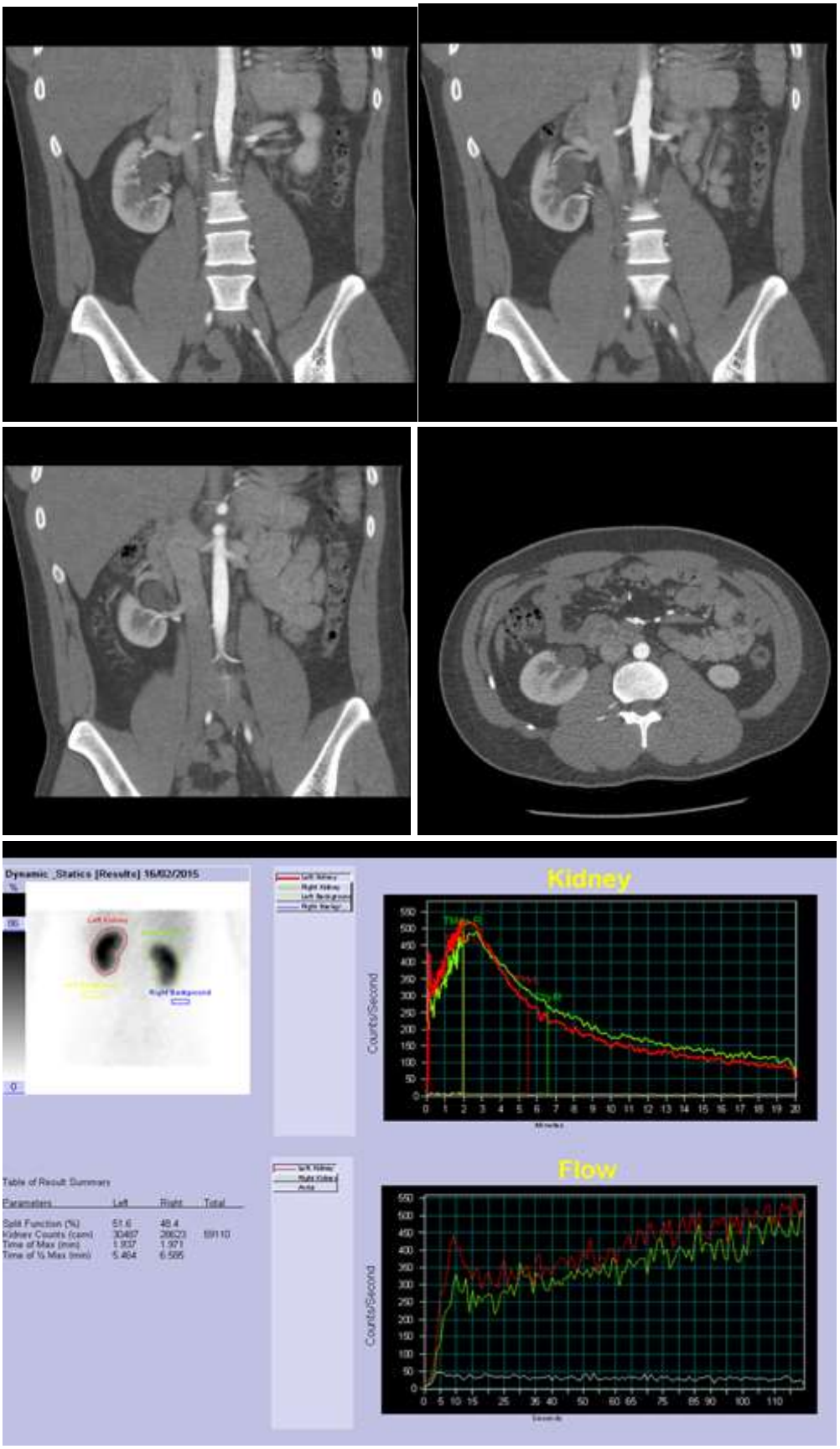
1. How will you plan her kidney transplant considering the increased risk of perioperative bleeding?
2. How do you explain the fact that she suffered from a coronary events 9 months after negative treadmill test?

Case 3 (AB)

Relationship to recipient:	**Family Friend**				
Medical history	**Age 22 yrs**	**Male**			**Allergie: None**
None significant					

Risk factors:	**Date:**		**Date:**
Hypertension	No	Smoker	No
Previous M.I.	No	Alcohol	No
Angina	No	Diabetes	No
Claudication	No	Dyspepsia / ulcer history	No
Hypercholesterolaemia	No	TB / pulmonary disease	No
Previous CVA / TIA	No	Bladder problems	No
Positive cardiac family history	No	History of malignancy	No
Family history of diabetes	No	Family history of cancer	No

Test	**Date**	**Result**	**Test**	**Date**	**Result**
Hepatitis B	8.12.14	Neg	ECG	8.12.14	See report
Hepatitis C	8.12.14	Neg	Chest X-ray	8.12.14	Normal
HIV	8.12.14	Neg	Blood pressure	8.12.14	125/82
HTLV 1+2	8.12.14	Neg	Exercise ECG*		
CMV	8.12.14	Pos	Echo*	27.1.15	Normal
EBV	8.12.14	Pos	24hr blood pressure*		
VZV	8.12.14	Pos	Urinalysis 1	8.12.14	NAD
Chemistry	8.12.14	Creat76	Urinalysis 2	13.1.15	NAD
Cholesterol	8.12.14	4.8	Urinalysis 3	27.1.15	NAD
Glucose	8.12.14	4.4	MSU 1	8.12.14	No Growth
Full blood count	8.12.14	Hb169	MSU 2	13.1.15	No Growth
Clotting	8.12.14	INR1.0	MSU 3	27.1.15	No Growth
Sickle cell screen*			Urinary protein (ACR)	8.12.14	0.7
Donor's blood group	8.12.14	O+ve	Iohexol/crEDTA GFR	13.1.15	98
Recipient's blood group		O+ve	Renal ultrasound	13.1.15	R12.2cm L11.2cm
Tissue typing	8.12.14	021 MM	Split function*	12.2.15	R50.3% L49.6%
FACS crossmatch			CT angiogram	6.2.15	R221 L111, ?RPUJ
Final crossmatch			2nd report CT		
Weight	8.12.14	93kg	MAG 3	16.2.15	R mild hydro,minor
Height	8.12.14	175cm			hold up of tracer
BMI	8.12.14	31	Mammography (Age >50)		



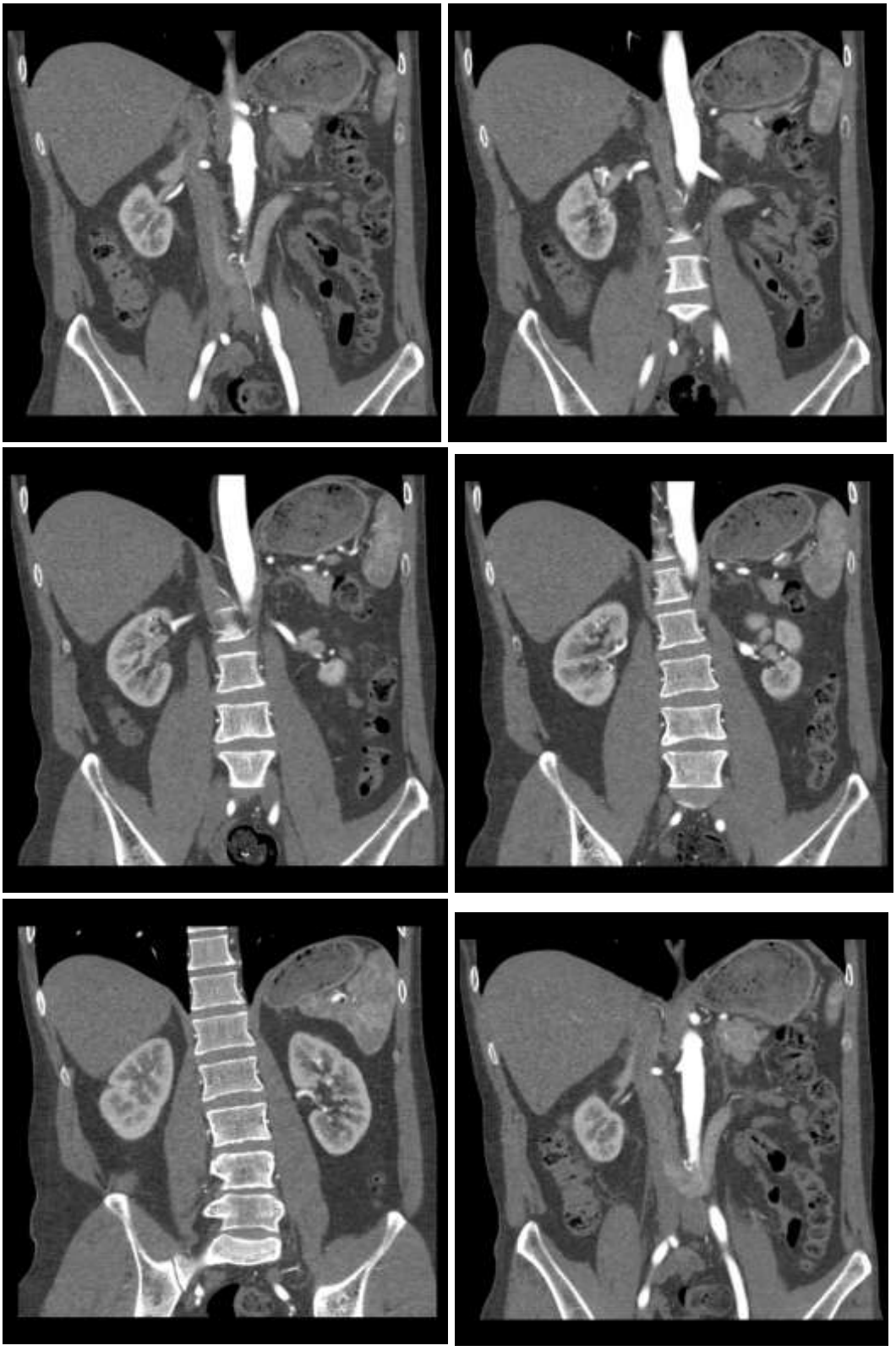
1. Would you consider for a donor nephrectomy? If yes/No why?
2. If yes how would you deal with PUJ at time of transplant?

Case 4 (AB)

Relationship to recipient:	**Nephew**				
Medical history	**Age: 45**	**Male**		**Allergie**	**None**
None Significant					

Risk factors:	**Date:**		**Date:**
Hypertension	No	Smoker	Ex
Previous M.I.	No	Alcohol	No
Angina	No	Diabetes	No
Claudication	No	Dyspepsia / ulcer history	No
Hypercholesterolaemia	No	TB / pulmonary disease	No
Previous CVA / TIA	No	Bladder problems	No
Positive cardiac family history	Yes	History of malignancy	No
Family history of diabetes	Yes	Family history of cancer	No

Test	**Date**	**Result**	**Test**	**Date**	**Result**
Hepatitis B	15.7.14	Neg	ECG	19.8.14	Normal
Hepatitis C	15.7.15	Neg	Chest X-ray	19.8.14	Normal
HIV	15.7.14	Neg	Blood pressure	15.7.14	120/87, 120/82
HTLV 1+2	15.7.14	Neg	Exercise ECG*		
CMV	15.7.14	Pos	Echo*		
EBV	15.7.14	Pos	24hr blood pressure*		
VZV	15.7.14	Pos	Urinalysis 1	15.7.14	1+ blood
Chemistry	15.7.14	Creat 86	Urinalysis 2	19.8.14	1+ blood
Cholesterol	15.7.14	6.4	Urinalysis 3	10.9.14	1+ blood
Glucose	15.7.14	5.1	MSU 1	15.7.14	No Growth
Full blood count	15.7.14	Hb154	MSU 2	19.8.14	No Growth
Clotting	15.7.14	INR1.0	MSU 3	10.9.14	No Growth
Sickle cell screen*	15.7.14	N/A	Urinary protein (ACR)	15.7.14	0.7g/mol
Donor's blood group	15.7.14	B+ve	Iohexol/crEDTA GFR	19.8.14	92m/L/1.73m*2
Recipient's blood group		B+ve	Renal ultrasound	19.8.14	R10.7cm L10.6cm
Tissue typing	15.7.14	111MM	Split function*	24.11.14	L50.8% R49.1%
FACS crossmatch			CT angiogram		
Final crossmatch			2nd report CT		
Weight	15.7.14	74.3kg	GTT*		
Height	15.7.14	176cm	Cervical smear (Age 25-64)		
BMI	15.7.14	24	Mammography (Age >50)		



1. Would you consider a donor nephrectomy?
2. Which kidney would you choose to Biopsy?

Case 5

A 76 year old female with eGFR of 11 ml/min/1.73m^2 was followed up in the advanced CKD clinic and her preferred renal replacement therapy was haemodialysis. Over two months she developed nausea and anorexia. She was seen in the vascular access clinic. Vascular access scan showed the radial artery to have diameter of 1.5 mm and the cephalic vein 2.5 mm, brachial artery 4 mm.

1. What do you suggest the best plan of vascular access for dialysis?
2. Would you advice antiplatelet agent or anticoagulation after fistula creation to increase chance of successful use?

Case 6

A 28 year old male with end-stage renal failure due to IgA nephropathy underwent live donor renal transplantation from his wife. The initial immunosuppressive regimen was Basiliximab induction with tacrolimus, mycophenolate and prednisolone (for 7 days). Biopsy to investigate a rising serum creatinine on day 17 showed Banff 1A acute cellular rejection which responded to steroid. The rejection responded to steroid but 5 days later random blood glucose was 17 mmol/L.

1. What is the optimal immunosuppressive regimen in the early period after transplantation (including doses) and what is the role of therapeutic drug monitoring?
2. What is the optimal approach to management of post-transplant diabetes?

Case 7

A 56 year old female with end-stage renal failure due to membranous nephropathy received a deceased donor renal transplant in 2005. Her current immunosuppressive regimen is ciclosporin, azathioprine and prednisolone. Serum creatinine had been stable at around 125 µmol/L but on the last two clinic visits has been higher and is now 170 µmol/L.

1. How would you investigate her renal dysfunction?
2. How would you manage chronic transplant glomerulopathy?