



Simulation Set 2 (Civilian Programs)
Scenario A

Acute Dialysis Counseling in the ICU

Physician:

The patient, Mr. Spear, is a 24-year-old male who was injured in an industrial accident involving an explosion 5 days ago, while on the job at an oil refinery. He has had a right BKA, a high left AKA, a right sided pneumothorax, injuries to his right hand and arm, and is s/p exploratory laparotomy. He has experienced multiple surgeries (the last yesterday), and had hypotensive shock at the scene of injury. He has a right-sided pneumonia, Klebsiella sepsis, and a wound positive for acinetobacter which requires debridement, and is presently receiving multiple antibiotics. He has received 22 units of PRBCs since injury. He had evidence of rhabdomyolysis, which appears to be resolving in terms of down-trending CPK levels, but he has been oliguric (urine output 150 ml over the last 24 hours), and his creatinine is 8.2 mg%, and has been rising 1.5-2 mg% per day. Potassium is now 6.2 meq/L (without EKG changes), and has risen from 5.5 meq/L 8 hours ago. HCO₃ is 15 meq/L. pH is 7.28. He is 10 kg above admission weight, and his FIO₂ has been increased to 50% to maintain O₂sat > 90 mmHg. BP is 110/70, HR 102, and Temp 38.6.

You and your attending wish to initiate hemodialysis for hyperkalemia, acidosis, and volume overload this afternoon, as the patient is scheduled for surgery in the morning, and you are concerned by the rising potassium. The SICU team and the Trauma Team concur. You will be counseling the patient's 55-year-old mother (who is his legal next-of-kin) regarding dialysis.

Patient's Decision Maker:

You are the 55-year-old mother of Mr. Spear. You and your husband have traveled a long distance to be with your son, arriving 4 days ago, leaving many ongoing issues at home. Your husband, who has diabetes and a heart condition, is exhausted with sorrow and anxiety, and is at the hotel, sleeping. The trauma team has told you that your son is very seriously ill, may die, and is going to require surgery tomorrow to clean out his wounds. He may lose more of his leg tissue. You didn't even know he had a problem with his kidneys, and now the doctors are here to discuss dialysis. Your father-in-law died on chronic dialysis.

Scenario B

Counseling a patient with ESRD and need for chronic RRT

Physician:

The patient, Mr. Knock, is a 35-year-old white man, a corporate salesman for an IT firm, who is the husband of an Active Duty Navy Officer. He has been told in his late teens that he had protein in his urine, and that his blood pressure was a little elevated, but he didn't think much of it because he felt well. He continued to feel well and physically active, up until about 2 months ago, when, after a bout of gastroenteritis, he began to notice that he felt exceptionally fatigued after work, and started to reduce his weekend activities as well (he had formerly like to hike and kayak on the Bay).

He went to his primary care doctor (for the first time) 2 weeks ago, thinking he might have a post viral syndrome of some sort. There, he was found to have hypertension (165/110), proteinuria (with a protein to creatinine ratio of 1.9 gm/g creatinine), an hemoglobin of 7.3, and a creatinine of 7.5 with an eGFR of 8. Potassium was 5.2, HCO₃ 20. The patient was admitted, and referred emergently to Nephrology. Further evaluation revealed a bland urinary sediment, kidneys on US that were 8 cm bilaterally with thin cortices and no hydronephrosis. Albumin was 4.0. Calcium was 8.1, Phos 7.2, PTH 655.

The patient was thought to have the acute presentation of CKD, and did not have an acute indication for dialysis. He began a low potassium, low Na diet, started anti-hypertensive therapy (including Lasix), started Phoslo and Rocaltrol for calcium and phosphorus control, and you now see him in follow-up to further discuss ESRD and plans for RRT. The patient had seen the "Choices" video, and he and his wife had discussed dialysis and ESRD with you and the Nephrology nursing staff.

Patient:

You are a 35-year-old man with chronic kidney disease at end-stage. Up until a few weeks ago, you thought you were completely well, and are now looking at dialysis and transplant. You have no family history of kidney disease, and the only person you know who has any experience of dialysis and kidney disease is a colleague at work whose father had a transplant several years ago. You've read a lot, and so has your wife since this diagnosis, and you think you would like a transplant. You want to continue working, so PD is a possibility, but it seems complicated and weird. Your wife has offered to give you her kidney, but you two were planning on having a child in the next year. Your brother has also offered, and he seems healthy, but so were you 3 months ago. You feel sad and helpless.

Scenario C

Counseling a patient for Kidney Biopsy

Physician:

Mr. Older is a 74-year-old male, retired from the Air Force, who subsequently retired from the USPS, previously healthy with mild hypertension (well-controlled with HCTZ) and osteoarthritis, who was referred for evaluation of proteinuria and a rising creatinine, found during a work-up for fatigue and weight loss. About 2-3 months ago he began to lose weight (although he was not dieting), started to take an afternoon nap, and sleep 10 hours a night, but was not refreshed. He also noticed a rash on his ankles that came and went.

He saw his PCM, who noted a 9 pound weight loss, poorly controlled BP 150-160/90-100, HR 92, Afebrile. There was new onset anemia (Hgb 9.5), mildly elevated LFTs, and a serum creatinine of 1.3 mg% (previously 0.9-1.0 mg%) with 645 mg protein/g creatinine, and 1+ blood on urine dipstick. There was a rash on the anterior lower legs that was red, macular, and blanched to pressure. CXR was normal. Physical exam was otherwise unremarkable.

The patient was referred to you 3 days ago. Serum creatinine is now 1.7 mg%, there was 820 mg urine protein/g creatinine. BP was 146/92 on 25 mg HCTZ and 5 mg Lisinopril. UA shows a SpGrav 1022, pH 5.0, 2+ blood, 3+ protein, 5-10 rbc (dysmorphic)/hpf and 0-1 rbc cast and 0-1 granular cast/lpf. Hgb was 9.2 g%, C3 and C4 were normal range, but the ESR was 92 and the CRP 8.4. Coags are normal. The patient is not on ASA or any agent likely to cause bleeding. ASO is negative. Renal US is pending. ANCA, anti-GBM, and cryoglobulins are pending.

You suspect that this represents a rapidly progressive GN, possibly a vasculitis, and you would like to do an expeditious biopsy to establish diagnosis and direct therapy. You increase his Lisinopril to 10 mg daily, and counsel him for a kidney biopsy the following day.

Patient:

You are a 74-year-old man, who was previously active and in good health, on only HCTZ, a new blood pressure drug (Lisinopril) and a multivitamin. You have become suddenly ill over the past two months, and it seems that your kidneys are injured, leaking blood and protein, and getting worse. You may have a serious illness. Your wife is in her mid-60s and is healthy, and your children live locally. What could this illness be? How is it diagnosed, and what are the possible treatments. Are you going to need help around the house?