MASSACHUSETTS GENERAL HOSPITAL

BIGELOW TEAM C: INTERN ADMISSION NOTE

PATIENT: ***********
MR#: 431-27-59

DATE OF ADMISSION: 8/13/05
DATE OF TRANSFER FROM SDU: 8/23/05
ATTENDING: **************
PCP: ************
CODE STATUS: FULL

ID/CC: 44F transferred after episode of Torsades de Pointe at OSH, MGH hospital course c/b pericardial tamponade secondary to right ventricular perforation by newly-placed AICD lead, and by pneumoperitoneum of uncertain etiology.

HPI: The patient is a 44 y/o woman with a h/o IVDU and HTN who initially presented to Melrose Wakefield on 8/12/05 with nausea, vomiting, and general malaise. On the morning of admission, she woke up feeling nauseous, went to the methadone clinic to receive her usual 200mg methadone. She felt progressively after leaving the clinic and eventually developed palpitations, hand/leg tetany, and vomiting. In retrospect, she reports that she has often had nausea and palpitations after her methadone dosing, but that the symptoms leading her to call 911 were much worse than those previous.

On presentation to Melrose Wakefield, she denied CP, SOB, dipahoresis, fever, chills, or diarrhea. During the initial evaluation of the patient, she reportedly entered Torsades, and was returned to sinus rhythm with a precordial thump. She had some continued ectopy and NSVT, for which she received lidocaine, magnesium, and amiodarone. CXR was unremarkable and EKG demonstrated "ST segment sagging in inferior leads." Drug screen was negative. Her potassium on presentation to the OSH was 3.2, magnesium 1.9.

The patient was transferred to the MGH for further evaluation and management. In the ED: BP 168/92, P 85, T 97.2, O2sat 99% 2L, EKG demonstrated bigeminy. Troponins were negative. She was admitted to the SDU, where amiodarone was discontinued. On admission, her QT interval was noted to be profoundly prolonged >500ms; this eventually normalized to 420ms off methadone and amiodarone. Echo showed EF 63%, trace MR, no gross valvular or wall motion abnormalities. EP was consulted, and although high levels of methadone are known to cause prolonged QT, there was concern that the patient has a predisposition to prolonged QT and is high risk for Torsades in the future with other medications. The decision was made to place a defibrillator; VVI AICD was placed on 8/17 with appropriate placement confirmed by CXR 8/18.

On the evening of 8/18, the patient began to c/o chest pain. Telemetry showed that her AICD was firing independently of QRS complexes; the AICD was interrogated and showed that the device was not sensing correctly and was unable to defibrillate. An emergent bedside echo was done which showed a pericardial effusion. The patient was taken to the EP lab early in the am 8/19 to assess lead placement. CXR showed that the right ventricular lead had likely perforated the right ventricle. As the lead was removed, the patient acutely dropped her blood pressure, became tachycardic, unresponsive, and then pulseless, requiring CPR for approximately 1 minute. Pericardiocentesis was performed with 150cc of blood withdrawn. The pigtail was left in place, and the patient was transferred to the CCU.

On 8/21/05, the patient had her pericardial pigtail removed and was scheduled for discharge. However, discharge Xray showed a moderate amount of free air. The patient had diffuse complaints of pain, but was found by general surgery to have a benign abdominal exam. She was initially kept NPO, but her diet was restarted on the day of transfer after CT demonstrated no perforated viscus, and no other identifiable source of free air.

On admission to White 10, the patient has no focal abdominal complaints. No chest pain or shortness of breath. She does complain, however, of chills and diffuse body pain, which she attributes to opiate withdrawal.

PMH:

1. **HTN**
2. **IVDU:** Patient attributes to LBP.
3. **LBP:** Herniated disk. Has had multiple procedures without relief; methadone therapy, however, was very effective in relieving her pain.
4. **Endometriosis:** s/p hysterectomy 2 months PTA at Melrose Wakefield
5. **Right extraocular muscle weakness**
6. **Left retinal detachment, cataracts:** secondary to childhood trauma
7. **PTSD**: secondary to childhood trauma, abuse

Medications on transfer:

1. Morphine taper per pain service. Currently at 65mg MSO4 per day, divided q4h.
2. Acetaminophen 650mg po q6h
3. Ibuprofen 600mg po tid
4. Ativan 1mg po tid + 2mg po qhs
5. Neurontin 300mg po qhs
6. Flexeril 10mg po tid
7. Ondansetron 4mg iv q4h
8. Nexium 40mg po qd
9. Fragmin 2500 units sc qd
10. Senna
11. Colace
12. Dulcolax prn

Allergies: Pt had superficial reaction to clindamycin and vancomycin, likely related to IV site infiltration. She also states that she has PCN allergy, reaction unknown.

FH: Mother, father with HTN. Cousin with early MI death (age 39).

SH: IVDU: opiates x 6 months. Alcohol: occasional. Tobacco: 1 cig/day x 1 year. Divorced, lives w/ mother; current stressor: custody battle for 2 children w/ ex-husband.

Physical Exam:

VS: T: 97.6 **HR:** 92 **BP:** 126/74 **RR:** 18 **O_2Sat:** 100% RA
General: Alert, oriented, conversant, no acute distress.
Pulm: Clear to auscultation bilaterally. No wheezes or rhonchi.
Back: No costovertebral angle tenderness.
Cor: Tachycardic, regular rhythm. No rub. No murmurs or gallop. Pigtail site (now removed) clean/dry/intact.
Abd: Soft, nondistended. Completely nontender, even to deep palpation. No rebound tenderness or guarding. Normal active bowel sounds. +Pfannenstiel without evidence infection.
Ext: Warm, well-perfused. No edema. DP/PT 2+ bilaterally.
Neuro: Nonfocal. Motor and sensory grossly intact.

Labs and Studies:

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Chemistry
  Lytes/Renal/Glucose
    Sodium                142   135-145 mmol/L     08/22/05 12:07
    Potassium             3.6   3.4-4.8 mmol/L     08/22/05 12:07 3.1(L) 08/19/05 09:57
    Chloride              106   100-108 mmol/L     08/22/05 12:07 98(L) 08/12/05 22:13
    Carbon Dioxide       27.3   23.0-31.9 mmol/L   08/22/05 12:07 22.9(L) 08/20/05 06:02
    BUN                    7L   8-25 mg/dl         08/22/05 12:07 7(L) 08/22/05 12:07
    Creatinine            0.8   0.6-1.5 mg/dl      08/22/05 12:07
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Glucose	102	70-110 mg/dl	08/22/05 12:07	126(H)	08/21/05 11:22
General Chemistries					
Calcium	9.3	8.5-10.5 mg/dl	08/22/05 12:07		
Phosphorus	2.5L	2.6-4.5 mg/dl	08/22/05 12:07	2.5(L)	08/22/05 12:07
Magnesium	1.5	1.4-2.0 meq/L	08/22/05 12:07	2.7(H)	08/13/05 12:12
Hematology					
Complete Blood Count					
WBC	3.6L	4.5-11.0 th/cmm	08/22/05 11:50	3.6(L)	08/22/05 11:50
RBC	3.38L	4.00-5.20 mil/cm	08/22/05 11:50	3.38(L)	08/22/05 11:50
Hgb	10.1L	12.0-16.0 gm/dl	08/22/05 11:50	10.1(L)	08/22/05 11:50
HCT	29.4L	36.0-46.0 %	08/22/05 11:50	29.4(L)	08/22/05 11:50
MCV	87	80-100 fl	08/22/05 11:50		
MCH	30.0	26.0-34.0 pg/rbc	08/22/05 11:50		
MCHC	34.5	31.0-37.0 g/dl	08/22/05 11:50		
PLT	150	150-350 th/cumm	08/22/05 11:50	125(L)	08/21/05 10:28
RDW	13.7	11.5-14.5 %	08/22/05 11:50		
Coagulation					
Routine Coagulation					
PT	13.2	11.3-13.3 sec	08/19/05 06:50	13.4(H)	08/17/05 10:15
PT-INR	1.1		08/19/05 06:50		
PTT	31.8	22.1-35.1 sec	08/19/05 06:50		
Platelet Antibodies					
Heparin-PF4 Ab	PEND	NEG	08/22/05 14:50		

Echo 8/22/05: No evidence of pericardial effusion. No echocardiographic evidence of tamponade.

CXR 8/22/05:

Lines/Tubes: There is an AICD with lead in the right ventricle with good position. Pigtail catheter has been removed.

Lungs and Pleura: The lungs are well inflated and clear. There is no pleural effusion or pneumothorax.

Heart and Mediastinum: The heart size is normal. The visualized mediastinum is unchanged.

Bones and soft tissues: The bones are unremarkable. The patient has pneumoperitoneum.

IMPRESSION: Pneumoperitoneum. Clear lungs.

CT 8/23/05 (report from SDU JAR, who reviewed with radiologist): No perforated viscus, no other identifiable source of free air.

EKG on transfer: NSR 93bpm. TWI precordial, inferior leads-appears unchanged vs. previous. QT/QTc 338/420ms.

Assessment/Plan: 44F transferred with long QT and Torsades de Pointe, s/p ICD insertion c/b RV perforation and tamponade, s/p emergent pericardiocentesis and pigtail insertion, now with pneumoperitoneum of unclear etiology.

1. **Pneumoperitoneum.** Unclear etiology. Abdominal CT today demonstrated no perforated viscus and no other identifiable source of free air. Given this patient's history of mediastinal instrumentation, it seems probable that the pigtail catheter (or, less likely, the AICD) entered the peritoneum. Other benign sources of free air include vaginal or urinary instrumentation, but there's no reason to suspect these in this patient. Despite her significant pneumoperitoneum, the patient is asymptomatic and without evidence of focal abdominal pathology, or a source for continued air entry into the peritoneum. Regular diet restarted today before transfer. After transfer to Bigelow, we will follow serial abdominal exams. Repeat CXR tomorrow to assess interval progression/ regression of free air. Holding antibiotics, but I would have a low threshold for starting broad

coverage for any compelling evidence of intrabdominal process (pain, systemic signs of infection, etc.). Churchill White following; appreciate assistance.

2. **Dysrrythmia/prolonged QT.** Etiology likely multifactorial. Methadone clearly contributed to prolonged QT in this patient, as restarting methadone at 50mg in-house led to an increase in QTC to 460 ms, with occasional VPCs and a 3 beat run of NSVT. She should never take methadone at any dose. She probably has a genetic predisposition to long QT, drug-related prolongation of QT, and was tipped over by her hypokalemia (K 3.2 at OSH). Amiodarone was not a contributor to her initial presentation, but should clearly be avoided in this patient. AICD in place. Daily EKGs, monitor QT. Supplement Mg/K to goal 2.0/4.0.

3. **Pain.** Lower back pain (preexisting) + diffuse chest discomfort, likely pericarditis-related. Pain service following. Morphine taper per their plan. Standing ibuprofen/Tylenol.

4. **Substance abuse.** Patient entered on methadone 200mg QD, was planned to discharge home on methadone 50mg, but now cannot take methadone (at any dose) secondary to prolonged QT. Subjective evidence of withdrawal now, will get back on morphine taper asap. West End consult.

5. **Thrombocytopenia.** Etiology unclear. HIT Ab pending. Avoid heparin containing products for now.

6. **Questionable antibiotic allergy**. Superficial reaction to clindamycin and vancomycin, likely related to IV site infiltration rather than a true allergy. Will discuss with allergy service, as I think it's unlikely that this patient will not need vancomycin at some point in the future, given her h/o IVDU.

7. **Psychiatry**. Psych service following, evaluation for depression negative.

8. **Dispo.** On discharge, patient needs discharge summary faxed to her methadone clinic. Contact info: Dr. William Medrid, fax 978-774-4184, tel 978-777-2121.

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Pager #22367
PGY-1