ASHP CLINICAL SKILLS COMPETITION 2010

PHARMACIST'S PATIENT DATA BASE FORM

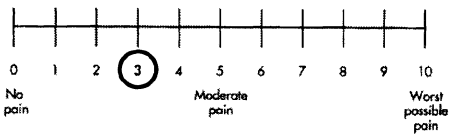
Demographic and Administrative Information		
Name: DF		Patient ID: 01028250
Address: 359 Hudson Avenue		Room & Bed: 401-A
Hoboken, NJ		Physician: Miller
Date of Birth: 8-10-59		Pharmacy: J & J Pharmacy
Height: 5'10" Weight: 210 lbs.		Race: Caucasian
Gender: Male		Religion: None specified

History of Present Illness

DF was referred to the emergency department (hospital day (HD) #1) by his primary care physician (PCP) for evaluation of his acute symptoms. He presented to his PCP with a mild but persistent headache, light sensitivity, blurry vision, and general "uneasiness". DF also had experienced chills on the night prior and in the morning. The patient stated that he travels regularly for work, with the most recent trip being 3 days prior in Florida. A CT scan was performed and had no abnormal findings. A lumbar puncture was performed to rule out bacterial meningitis and empiric antibiotics were started. Upon further questioning, the patient confirmed that he did not engage in sexual relations during the last trip. However, he admitted to contracting STDs in the past, for which he received treatment. DF was tested for sexually transmitted infections (STIs) including: gonorrhea, chlamydia, hepatitis B virus, and syphilis. An EKG showed normal sinus rhythm. On HD #2, DF begins to complain of chills, nausea, and "tossing and turning" all night. The cerebrospinal fluid (CSF) showed no growth. The serum VDRL test came back 1:128. A this time a second LP was done with a CSF VDRL and herpes simplex viral DNA PCR being sent for analysis with the standard CSF work up. The CSF VDRL results came back that afternoon as a 1:64 titer.

Vitals

Day 1
BP 134/89 mmHg
Pulse 92 bpm
Temp 99.2 °F
Resp 15 breaths/min



Day 2
BP 132/85 mmHg
Pulse 89 bpm
Temp 99.0 °F
Resp 13 breaths/min

Past Medical History

Hypertension
History of premature ventricular contractions (PVC)
History of R knee fracture (car accident in 1994)
History of multiple STIs (recalls receiving treatment on several occasions, pills and a "shot" unknown what these actually were)

Labs Day 1	
Na	141 mEq/L
K	4.3 mEq/L
Cl	103 mEq/L
CO_2	22 mEq/L
BUN	14 mg/dL
SCr	0.8 mg/dL
Glucose	104 mg/dL
AST	46 IU/L
ALT	32 IU/L
Total bili	0.5 mg/dL
Direct bili	0.1 mg/dL
Albumin	3.9 g/dL
WBC	7.8 K/μL
Hgb	14.4 gm/dL
HCT	39%
Plts	375 K/μL
INR	0.9
CSF (Day 1)	
Appearance	Clear
Glucose	54
Protein	160
RBCs	0
WBCs	14
Neuts	64%
Lymphs	36%

Labs Day 2	
Na	139 mEq/L
K	4.2 mEq/L
Cl	105 mEq/L
CO_2	23 mEq/L
BUN	10 mg/dL
SCr	0.7 mg/dL
Glucose	107 mg/dL
WBC	8.0 K/μL
Hgb	14.0 gm/dL
HCT	38%
Plts	350 K/μL
INR	1.0
CSF (Day 2)	
Appearance	Clear
Glucose	67
Protein	155
RBCs	1
WBCs	17
Neuts	65%
Lymphs	35%

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PHARMACIST'S PATIENT DATA BASE FORM (Cont.)

Family History	**Cultures**
Father: deceased at 54 from MI Mother: 76, alive, osteoporosis, HTN, DM Sister: 54, alive, HTN	Day 1 (collected) Blood Culture x2 No growth for 1 day CSF Culture x2 No growth for 1 day CSF Gram Stain negative Urethral (GC) culture No growth for 1 day
Social History	**Fasting Lipids - N/A**
Tobacco: 1 ppd x 35 years, currently smokes ETOH: 1-2 drinks/day Illicit Drugs: occasional recreational marijuana use Caffeine: 2 cups/day Occupation: sales manager (telecommunications company) Status: single; multiple partners (male and female) Children: none Physical Activity: Not specified Diet: Not specified	Other Tests Chlamydia PCR Pending HBsAg Negative HBcAb Positive HBsAb Positive Serum VDRL titer 1:128 CSF VDRL titer 1:64 **Urinalysis & Drug Screen** Appearance Clear, yellow Specific gravity 1.010 Blood None Ketones None Leukocyte esterase None Nitrites Negative Protein 1+ Glucose None RBCs 2 WBCs 4 Bacteria Few Amphetamines – Negative Barbiturates – Negative Benzodiazepines – Negative Cocaine – Negative Marijuana – Positive Opiates – Negative Blood EtOH 0 mg/dL
Procedures	**X-ray**
Lumbar puncture x 2 (Days 1 & 2)	CT scan (head) – negative

Physical Exam (Day 1)
General: slightly obese male with vague neurological symptoms
Neuro: AAO x 3; CN II-XII intact; (–) Babinski, (–) Kernig, (–) Brudzinski; Folstein 28/30; moter, sensory and DTR wnl
Skin: warm, dry; intact, no lesions, tumors or moles
Normocephalic;atraumatic; PERRLA; Visual acuity 20/20 OU
Neck/LN - Neck supple; mild tonsillar lymphadenopathy, (–) thyromegaly, (–) masses. (–) supraclavicular or infraclavicular adenopathy
Chest: Tachypneic, clear to A&P
CV: Regular rhythm; no murmurs, gallops, or rubs
Abd: Soft, nontender, nondistended, (+) bowel sounds
Ext: Full ROM and strength for all major joints except R knee with slight crepitus and discomfort with limited extension to 5^0. Drawer tests wnl bilaterally: McMurray/Appley with mild discomfort and crepitus R knee only
Pelvic: Unremarkable

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PHARMACIST'S PATIENT DATA BASE FORM (Cont.)

Allergies/Intolerances	**Prescription Coverage**
DF can't recall the exact name, but developed hives and facial swelling 1 year ago after receiving a shot in his buttocks for an STD	Insurance: Blue Cross Blue Shield
Adhesive allergy	Copay: $5 per generic medication, $20 per brand
	Cost per month: n/a
	Annual Income: $90,000

Current Drug Therapy

Drug Name/Dose/Strength/Route	Prescribed Schedule	Duration Start–Stop Dates	Indication
1. Vancomycin 1.5 g IV	Q12H	Day 1 – present	Meningitis
2. Trimethoprim-Sulfamethoxazole (TMP-SMX) 480 mg-2400 mg IV	Q6H	Day 1 – present	Meningitis
3. Dexamethasone 14 mg IV	Q6H	Day 1 – present	Meningitis
4. Diltiazem 60 mg PO	Q6H	Day 1 – present	Hypertension/VFib
5. Hydrochlorothiazide 12.5 mg PO	QAM	Day 1 – present	Hypertension
6. Acetaminophen 2 extra strength tabs	Q4H PRN for pain	Day 1 – present	Headache

Outpatient Medication History

Diltiazem ER 240 mg PO daily for several years
Hydrochlorothiazide 12.5 mg PO QAM for several years
Acetaminophen extra strength two tablets 4-6 times a day as needed for chronic knee pain.

Patient Narrative

It is currently hospital day #2 and you are standing outside the patient's room with Dr Miller and the multidisciplinary team. The CSF VDRL has just come back positive from the lab. Dr Miller is confident in her diagnosis of neurosyphilis. As the clinical pharmacist on service, what are your recommendations? Prioritize your problem list as directed for this competition.

Evaluated for competition

ASHP Clinical Skills Competition - Pharmacist's Care Plan

Problem Identification and Prioritization with Pharmacist's Care Plan

Team # _____

A. List all health care problems that need to be addressed in this patient using the table below.
B. Prioritize the problems by indicating the appropriate number in the "Priority" column below:
   1 = Most urgent problem (Note: There can only be one most urgent problem)
   2 = Other problems that must be addressed immediately or during this clinical encounter; **OR**
   3 = Problems that can be addressed later (e.g. a week or more later**)**

**Please note, there should be only a "1", " 2", or "3" listed in the priority column, and the number "1" should only be used once.*

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Neurosyphilis/PCN allergy	**1**	• Resolution of infection • Prevention of long term neurologic sequelae	• Penicillin desensitization protocol • Aqueous penicillin G 4 million units IV q4h • D/C vancomycin, TMP-SMX and dexamethasone	• Monitor for signs and symptoms of penicillin hypersensitivity and other adverse effects • Resolution of neurological symptoms
Safe Sex Education	**2**	• Reduce morbidity from acquisition of sexually transmitted infections, including human immunodeficiency virus	• Assure education of safe sexual practice / STD prevention • Abstain from sexual contact with others until treatment completed • Since patient is HBsAg negative, HBcAb positive, and HBsAb positive, he has immunity secondary to previous exposure; this does not require any treatment, subsequent boosters, or follow up	• Follow-up on Urethral cultures and chlamydia PCR • Treat if infected for STI

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Acetaminophen overuse/osteoarthritis	**2**	• Improve pain relief and minimize pain • Reduce risk of chronic Acetaminophen overdose	• Educate patient about dangers of Acetaminophen overuse • Pain evaluation/consult • NSAID options: -Ibuprofen 400-800 mg/dose PO every 4-6 hours (maximum daily dose: 3.2 g) - Naproxen 250-500 mg/dose (base) PO every 6-8 hours (maximum daily dose: 1250 mg) - Nabumetone 1000 mg PO once or twice daily (maximum daily dose: 2 g) - Meloxicam 7.5-15 mg PO once daily (maximum daily dose: 2 g) • Patient counseling for NSAIDS	• Monitor for pain relief (pain scale) after changes in dosing schedule and/or after switching to an alternative analgesic • Pain scores, prn oxycodone use, ADLs, serotonin syndrome (e.g. fever, rigidity, tachycardia, altered mental status) • If pain controlled with acceptable dosages of acetaminophen, continually monitor liver transaminases • If switched to NSAID, monitor for GI tolerability and renal function periodically • Endpoint: Decreased pain scores
Discharge Planning	**2**	• Ensure patient can obtain parenteral therapy as outpatient • Ensure all discharge medications have an indication	• Contact insurance provider to determine home IV infusion eligibility • Medication reconciliation	

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
Smoking Cessation	**2**	• Circumvent nicotine craving symptoms, including insomnia, anxiety, irritability, etc., while hospitalized • Reduce risk of morbidity and mortality from cardiovascular disease and malignancy	• Question patient on level of comfort while hospitalized and abstaining from smoking • If patient is experiencing nicotine withdrawal symptoms or if patient request pharmacologic therapy, add nicotine gum or lozenge (4 gram piece preferred but 2 g acceptable): chew PRN for craving (Max: 24 pieces per day) • **(Patches should be avoided due to potential reaction to adhesives in product)** • Counsel patient on risks of continue smoking	• Monitor for signs and symptoms of nicotine withdrawal • Monitor for adverse effects of nicotine replacement: nausea, dry mouth, dizziness, headache, etc.
Substance Abuse (Alcohol/Marijuana)	**3**	• Reduce morbidity and mortality from liver disease and malignancy • Minimize unsafe sexual practices	• Psych consult • Suggest counseling as outpatient • Question about safety of marijuana source; warn of potential for laced products	
Hypertension	**3**	• Blood pressure < 140/90 mmHg • Decrease cardiovascular and renal morbidity and mortality	• Continue antihypertensive medications • No medication changes needed at this time	• Blood Pressure every 3 to 6 months. • Serum creatinine 1 to 2 times per year. • Serum potassium 1 to two times per year. • Evaluate for proteinuria • Evaluate risk for diabetes mellitus • Follow up on elevated AST/ALT

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters and Endpoints
HIV testing	**3**	• Reduce morbidity and mortality from HIV infection • Prevent the transmission of HIV	• Highly recommend HIV testing	• Retest after 6 months of last exposure • Regular testing if continued exposure

Note to the judges:

The Pharmacist Care Plan has been constructed to be as exhaustive as possible. Judges for the Clinical Skills Competition are experts in the field of clinical pharmacy and will have insights into this case that could not be accounted for in a feasible manner. Thus, as a topic expert, if you identify a drug related problem that we did not account for, please feel free to judge the student's responses based on your best judgment. We can envision industrious students listing "level 3" problems such as: outpatient vaccinations, outpatient cancer screenings, patient literacy assessments, domestic violence assessments, etc. Please use your discretion in judging these points in the context of the larger case.

<u>Here is some additional guidance to assist you with the judging.</u>
This case, has several subtle caveats that may not be overt, hopefully the following comments may offer some assistance for interpreting and judging the case.

Problem – Neurosyphilis
The student is to identify in the patient's allergy that the "shot for STD" is a beta-lactam (likely ceftriaxone) and primary therapy for neurosyphilis would involve penicillin desensitization. Though alternatives are available, strength of the evidence should preclude students fromrecommending other options.

Problem – Safe Sex Education
Though simple enough, counseling on abstinence from sexual intercourse is often overlooked and should be an integral part of STI treatment regimen.

Problem – Acetaminophen overuse.
The student is to identify that patient is taking 4 to 6 gm of acetaminophen while consuming alcohol daily. Due to the nature of the pain, degenerative joint disease, NSAID's are preferred.

Problem – Discharge planning
The course of therapy would warrant 10 to 14 days of IV therapy, which would require home infusion. This area is to highlight transition of care.

Problem – Smoking Cessation.
The student is to identify that the adhesive allergy will negate the possibility of Nicotine patches and should provide alternative, nicotine replacement therapies if the patient is uncomfortable upon questioning, when possible.

Problem – Substance Abuse
This area highlights other concurrent unsafe practices. There is also a high potential for using contaminated or laced illicit substances.

Problem – Hypertension
The patient's diltiazem switched from ER to immediate release as part of hospital automatic substitution policy. On urinalysis the patient has proteinuria, which can a potential area for student questions on blood pressure management.

Problem – HIV testing
The student is to identify that this patient is being treated for a sexually transmitted infection. Missing from the essential diagnostic work-up is an HIV test. This is an opportunity for the pharmacist to identify a missing test while on rounds. Not standard for pharmacy, but should have been picked up by the team and is an opportunity for the pharmacist to provide value to the team.