ASHP CLINICAL SKILLS COMPETITION
PHARMACIST'S PATIENT DATA BASE FORM

Demographic and Administrative Information

Name: EP
Address: 98 Hamilton Road
Dallas, PA 18612
Date of Birth: 4/12/1968
Height: 66 inches Weight: 84.8 kg
Gender: Female

Patient ID: 123456789
Room & Bed: RP6023A
Physician: P. Kenney, MD
Pharmacy: Medicine Shoppe
Race: Caucasian
Religion: Catholic

History of Present Illness

EP was instructed by her oncologist to come to the emergency department immediately from home, where she had a fever to 101.8°F. Since her last cycle of chemotherapy four days ago she reports feeling more fatigued, increased shortness of breath and decreased oral intake. She reports an episode of chills on the way to the emergency department.

She states her abdominal and right hip pain that she has had for the past 6 months has been increasing over the last 2 weeks and she has been taking her morphine immediate release every 2 hours for the last 5 days. She currently rates her pain an 8 out of 10. Her desirable pain level is a 2 out of 10 or less. Her last bowel movement was 4 days ago. Patient reports she normally has one bowel movement per day.

Vitals & Other Tests

	Oncology clinic Cycle 2, Day1 (8/15/06)	Onc clinic Cycle 2, day 8 (8/22/06)	Emer. Dept. (8/26/06)
BP	122/78	120/74	90/60
Pulse	66	68	134
Temp	98.2°F	97.8°F	102.1°F
Resp	16	15	26

Emergency Department (8/26/06):
BP (laying): 91/62 HR (laying): 132
BP (sitting): 85/60 HR (sitting): 140
BP (standing): 78/55 HR (standing): 156

Oxygen Saturation: 92% on room air

Past Medical History

Breast Cancer Stage IV, diagnosed June 2005
- 8x7cm right breast mass with 1 cm right axillary lymph node
- Metastases to liver, and several bone metastases (thoracic and right hip)
- s/p doxorubicin + cyclophosphamide, followed by paclitaxel x 4 cycles (7/05 – 9/05)
- s/p right mastectomy (11/05) persistent tumor: 6/37 lymph nodes positive
- s/p vinorelbine x 4 cycles (1/06 – 4/06)
- April 2006: CT chest scan: multiple bilateral pulmonary nodules (biopsy + for adenocarcinoma consistent with breast cancer)
- s/p capecitabine 6/06 – 7/06 stopped secondary to toxicity (hand-foot syndrome)
- Current therapy: gemcitabine 800mg/m^2 IV Day 1 and 8 + carboplatin AUC 2 Day 1 and 8, cycle repeated every 21 days

Depression x 1 year

Chem	**8/15/06**	**8/22/06**	**8/26/06**
Na	135	134	139
K	4.2	3.9	4.4
Cl	101	100	103
CO_2	26	26	22
BUN	14	13	44
SCr	0.8	0.7	1.5
FBG	84	78	68
Calcium	9.5	8.2	8.6
Albumin	3.4	3.5	3.4
AST	36	-	38
ALT	41	-	44
Total bili	0.9	-	1.0
Direct bili	0.2	-	0.4

Family History

Father: age 63, hypertension, hyperlipidemia, Crohn's Disease
Mother: age 62, arthritis, diabetes
Sister: age 40, benign breast cysts
Brother 1: age 36, healthy
Brother 2: age 35, hyperlipidemia

Heme	**8/15/06**	**8/22/06**	**8/26/06**
WBC	7.8	5.4	1.1
Hgb	10.2	9.4	8.0
Hct	29	26	21
Plt	248	202	135
MCHC	35%	33%	35%
MCV	88	92	91
Segs	73%	50%	29%
Bands	0%	0%	0%
Lymphs	25%	47%	71%
Monos	2%	3%	0%
INR	1.0	-	1.1
PTT	21.2	-	23.4

Social History

Tobacco: 0.5ppd x 2 years, none since 1988
ETOH: 1 glass of wine on weekends
Illicit Drugs: marijuana in college, none since 1989
Caffeine: 1-2 cups/day
Occupation: real estate agent
Status: married
Children: 2 daughters, ages 4 and 6
Physical Activity: minimal to none
Diet: Tried a low-fat, low cholesterol diet a year ago, but didn't like it. Normal diet since.

Fasting Lipids

	7/14/05	7/28/06
Total Chol	204	195
Trig	165	178
HDL-C	42	41
LDL-C	138	150

Urinalysis

	11/5/05 (Clinic)	8/26/06 (Emer. Dept.)
Glucose	neg	neg
Ketones	neg	neg
SG	1.010	1.042
Blood	neg	neg
pH	6.5	7.0
Protein	neg	neg
Leuk Est	mod	neg
Nitrite	pos	neg
WBC	1-2	0
RBC	0	0
Bacteria	many	0

Cultures

8/26/06:
Blood Cultures: 2 sets of cultures sent- one peripheral and one from Hickman catheter
Urine Culture: obtained specimen and sent to microbiology

Chest X-ray

1/10/06: Left lower lobe consolidation consistent with pneumonia; right lung clear.
2/26/06: Resolution of consolidation seen on last chest film; Lungs are clear. No pleural effusions or pneumothorax.
8/26/06: No infiltrates seen. Bilateral pulmonary nodules again seen as noted in 4/20/06 CT chest scan.

Physical Exam (8/26/06)

Gen: Caucasian, female, pale and ill-appearing
VS: BP 90/60 HR 134 RR 26 T 102.1°F Wt 84.8kg Ht 5'6"
HEENT: PERRLA, EOMI, dry mucous membranes, no sores or thrush
Skin: + skin tenting; no rashes, lesions or ulcers. Hickman catheter non-tender, non-erythematous. 2 tattoos on lower back
Neck: no JVD, no thyromegaly
Chest: right mastectomy- well healed incision
Heart: tachycardia, no murmur
Lungs: clear to auscultation, percussion
Abdomen: mild RUQ pain, pain not increased with palpation; no hepatosplenomegaly, + bowel sounds
GU: benign
Extremities: warm to touch, no edema, pedal pulses present
Neuro: cranial nerves intact, alert and oriented x 3
Rectal: stool guaiac negative

Plan: Admit to oncology unit for management of fever of unknown origin. Patient placed on 2 liters oxygen by nasal cannula with oxygen saturation of 99%.

ASHP CLINICAL SKILLS COMPETITION
PHARMACIST'S PATIENT DATA BASE FORM (Cont.)

Allergies/Intolerance's	**Prescription Coverage**
No Known Drug Allergies	Insurance: Pharmacare
	Copay: Brand $20 Generic $10

Drug Therapy Prior to Admission (Husband brought printed out sheet from oncologist's office)

Drug Name/Dose/Strength/Route	Prescribed Schedule	Duration Start–Stop Dates	Compliance/Dosing Issue
1. gemcitabine 800mg/m^2 IV	Day 1, 8 every 21 days	7/25/06 to present	Oncologist plans on treating patient for 4 cycles and then repeating CT scans to determine response
2. carboplatin AUC 2 IV	Day 1, 8 every 21 days	7/25/06 to present	Oncologist plans on treating patient for 4 cycles and then repeating CT scans to determine response
3. ondansetron 8mg PO	On days of chemo and then q8 hours as needed for nausea or vomting	7/25/06 to present	Also took with other chemotherapy regimens
4. lorazepam 1mg PO	Every 6 hours as needed for nausea, vomiting or anxiety	7/25/06 to present	Husband reports she has taken 2 doses each of the last 2 days
5. prochlorperazine 10mg PO	Every 6 hours as needed for nausea or vomiting	7/25/06 to present	
6. zoledronic acid 4mg IV	Every 28 days	9/19/05 to present	
7. epoetin alfa 40,000 units SQ	Every week	5/29/06 to present	Last dose on 8/22/06
8. escitalopram 10mg PO	Q Day	11/20/05 to 6/6/06	
9. escitalopram 20mg PO	Q Day	6/6/06 to present	
10. morphine sulfate sustained release 15mg PO	Twice a day	3/17/06 to 5/18/06	
11. morphine sulfate sustained release 30mg PO	Twice a day	5/18/06 to 7/5/06	
12. morphine sulfate sustained release 60mg PO	Twice a day	7/5/06 to present	
13. morphine sulfate immediate release 15mg PO	Every 4 hours as needed for pain	2/11/06 to present	Has been taking every 2 hours for last 5 days
14. docusate sodium 100mg PO	Twice a day	2/11/06	
15. Senokot 8.6mg PO	Twice a day	3/17/06	

ASHP Clinical Skills Competition - Pharmacist's Care Plan
2007 National Case
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, Endpoints, and Frequency
Neutropenic Fever	**1**	• Decrease mortality • Identify and treat any source(s) of infection • Relieve patient's symptoms • Prevent future episodes of neutropenic fever	• Initiate a broad spectrum antibiotic that covers gram positive organisms and gram negative organisms including *Pseudomonas aeruginosa* until the patient is no longer neutorpenic. Options include: cefepime, ceftazadime, pipercillin/tazobactam, meropenem, imipenem/cilastatin, or pipercillin (or ticarcillin) plus an aminoglycoside. • According to the IDSA, the use of vancomycin in neutropenic fever is only suggested for the following: (1) clinically suspected catheter related infection, (2) known colonization with resistant pneumococci or methicillin-resistant *Staph. Aureus*, (3) positive results of blood culture for gram-positive bacteria before final identification and susceptibility testing, and (4) hypotension or other evidence of cardiovascular impairment. Vancomycin is indicated because she is febrile, hypotensive and neutropenic. • The patient can be given acetaminophen to relieve fever and chills. Acetaminophen may be continued on an as needed basis to treat further fever and chills in the next 24 hours, however it should not be continued longer so future	• Vital signs every shift, resolution • WBC, absolute neutrophil count (ANC), daily • SCr and BUN, daily • LFT's, daily • If patient fails to respond repeat Blood and Urine cultures and Chest X-ray

			fevers are not masked. At present based upon clinical information and clinical guidelines (ASCO) it may be appropriate to start the patient on a colony stimulating factor (filgrastim, sargramostim, or neulasta). For future cycles of her chemotherapy (carboplatin plus gemcitabine), EP should receive secondary prophylaxis with a colony stimulating factor (filgrastim, pegfilgrastim or sargramostim) according to the 2006 American Society of Clinical Oncology Practice Guidelines for the use of White Blood Cell Growth Factors to prevent future episodes of neutropenic fever. • Delay next cycle of chemotherapy if neutropenia has not resolved or if infectious etiology (if identified) has not been adequately treated.	

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters, Endpoints, and Frequency
Hypovolemia [Sepsis (Hypotension, Dehydration, Renal Insufficiency)]	**2**	• Decrease mortality • Rapid identification, diagnosis and elimination of the pathogen • Initiation of antimicrobial therapy • Resolution of organ failure and prevention of worsening organ failure	• Initiate antimicrobial therapy with use of agents described above. • Provide hemodynamic support with rapid fluid resuscitation- sodium chloride 0.9% and titrate to effect based upon heart rate, blood pressure, urine output and mental status. EP is also anemic, so a RBC transfusion is another option to provide hemodynamic support in addition to fluids.	• Vital signs, every shift • Urine output, every shift • SCr and BUN, daily • O2 saturation, every shift • Hgb/Hct, daily • LFT's, daily • Blood and Urine Cultures, daily
Metastatic Breast Cancer	**2**	• Improve symptoms • Improve quality of life • Prolong survival • Minimize chemotherapy toxicity	• Continue current chemotherapy regimen, unless signs of progression or intolerance occur. • Consider delaying next cycle of chemotherapy if the patient's ANC is not >500 or if infectious etiology is identified and not adequately treated. • Continue zoledronic acid every month to prevent skeletal related complications (spinal cord compression, fractures) and hypercalcemia of malignancy.	• Monitor tumor response using imaging (CT scans, x-rays) for radiographic improvement, periodically • CBC with platelets and differential, to assess neutropenia, daily • SCr, Calcium, Albumin, daily • Objective assessment of quality of life (pain, fatigue, activities of daily living), daily or with each outpatient cycle • Signs or symptoms of peripheral neuropathy (paresthesias, numbness, pain), daily or with each outpatient cycle
Pain Management	**2**	• Improve pain relief and minimize pain • Prevent toxicity and adverse events with pain management	• Increase EP's long acting morphine from 60mg BID to 150mg PO BID- based upon her use of MSIR over the last 5 days- she has been taking an additional 180mg of morphine per day (15mg every 2 hours). The long-acting dose can be titrated every 2-3 days. • Increase EP's breakthrough dose of MSIR to 30mg PO Q4 hours PRN. The breakthrough dose should be 10-20% of the total long-acting daily dose (range 30-60mg for a breakthrough dose). The short-acting dose can be titrated based upon effect dose to dose until desired analgesia is achieved. • Bowel regimen to be discussed later.	• Pain assessment, including pain Score (1-10 scale), pain intensity, pain relief, daily • Use of breakthrough pain medicine, daily • Vital signs, every shift • Quality of life, periodically • Side Effects: GI symptoms, (nausea, vomiting and bowel function), daily • Sedation or altered mental status , daily

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters, Endpoints, and Frequency
Anemia	**2**	• Alleviate signs and symptoms of anemia • Correct underlying etiology (if present) • Prevent recurrence of anemia • Improve quality of life	• RBC transfusion as EP is symptomatic from anemia and is also hemodynamically unstable. Each transfusion should increase the Hbg by 1g/dL. • Increase dosage of epoetin alfa to 60,000 units Q week. EP has been on current dose for longer than 8 weeks without satisfactory response. • One may consider initiating therapy with darbepoetin alfa in place of epoetin as there is some data demonstrating responses with darbepoetin in epoetin failures. Initial dosing: 2.25-4.5 mcg/kg SQ Q week or 100-200mcg SQ Q week; or 200-300mcg SQ Q 2 weeks • Check iron studies (serum ferritin and transferrin saturation) to identify if patient would benefit from iron replacement therapy. • Check erythropoietin levels, if >200 mU/mL patient is unlikely to respond to therapy.	• Hgb/Hct, daily • Blood pressure, every shift • Chemistry, daily • Scr/BUN, daily • Serum Ferritin, periodically • Transferrin saturation, periodically • Erythropoietin level, periodically • Signs or symptoms of edema, daily • Number of blood transfusions, daily • Quality of life measurement, periodically

Health Care Problem	Priority	Therapeutic Goals	Recommendations for Therapy	Monitoring Parameters, Endpoints, and Frequency
Constipation	**3**	• Relieve symptoms and restore normal bowel function • Prevent further episodes of constipation	• Continue docusate sodium • Increase Senokot dosage to three times daily • Initiate milk of magnesium 30mL PO Q2 hours or lactulose 30mL Q2 hours until bowel movement. • Another option would be miralax (polyethylene glycol 17 gram packet mixed in water) and given BID until bowel movement • Avoid the rectal administration of any medications or manual disimpaction as patient is neutropenic and this could cause bowel perforation or introduction of bacteria into patient. • Increase intake of crude fiber to 10 grams per day • Increase intake of water • Instruct patient that if she is increasing her use of opioids to use an additional agent to prevent constipation	• Bowel movement(s), flatus, daily • Symptoms (abdominal pain, distention), daily • Nausea and/or vomiting, daily
Depression	**3**	• Eliminate or reduce the symptoms of depression • Minimize adverse effects • Improve quality of life • Prevent further episodes of depression	• Continue escitalopram	• Elimination or reduction of symptoms that triggered treatment, daily or at each clinic visit • Changes in social functioning, daily or at each clinic visit • Emergence of suicidal ideation, , daily or at each clinic visit • Adverse events, , daily or at each clinic visit