Written Case Presentation

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In critical care nursing, close attention must be paid to the patient status post cardiothoracic surgery in order to prevent the onset of complications and to ensure outcomes are being met. The nature of the procedure and the patient's past medical history play important roles in the postoperative recovery course of the patient, and can set the stage for complications to occur. The purpose of this paper is to examine a patient undergoing cardiac surgery with respect to review of subjective and objective data, determination of nursing diagnoses, formation of outcomes with interventions, evaluation of the outcomes, and presentation of three research questions that can be identified based on the patient's scenario.

Subjective Data

L.R., an 81-year-old Caucasian male, was admitted to the Emergency Room at Banner Good Samaritan Medical Center with the complaint of progressively worsening exertional shortness of breath for the last 2 weeks. He states that his shortness of breath has been relieved temporarily by rest, and also notes he has had bilateral extremity swelling develop over the past week. He also states that he has had to dramatically reduce his activity level over the past week due to the progressing shortness of breath and lower extremity swelling and that his urinary pattern has decreased. He denies chest pain, palpitations, orthopnea, cough, fever, or chills. The patient is currently on the Progressive Care (telemetry) Unit status post aortic valve replacement, left-sided maze procedure, and excision and removal of left atrial thrombus on 2/2; he is currently postoperative day 6. The patient's past medical history includes hypertension, coronary artery disease status post stent placement to Left Anterior Descending artery and Right Coronary Artery in 2008, hyperlipidemia, moderate aortic stenosis, sleep apnea (on CPAP at night), and benign prostatic hypertrophy. His past surgical history in addition to the stent placement also

includes back and shoulder surgeries approximately 30 years ago. Socially, the patient denies consuming alcohol or illicit drug use. He previously smoked one pack of cigarettes per day for approximately 35 years and quit 3 years ago; he currently chews tobacco approximately 3 times daily. Family history is contributory, and the patient denies allergies to food or medications. The review of symptoms yields positive findings for shortness of breath with exertion, generalized fatigue, and changes in weight gain based on bilateral lower extremity swelling. All other systems are negative for abnormalities.

Objective Data

Vital signs: oral temperature 36.3 degrees Celsius, noninvasive blood pressure 136/73 via right arm, heart rate 60 bpm and noted to be in sinus rhythm, oxygen saturations 97% on room air, respirations 18 bpm and nonlabored. Patient is awake, alert and oriented to self, place, and time. Equal bilateral weakness noted in upper and lower extremities, otherwise neurologically intact. Heart rate normal sinus rhythm, heart sounds S1, S2 with an estimated grade II systolic murmur auscultated. Lungs clear in upper lobes and diminished in bases bilaterally, equal expansion noted; postoperative chest tube incision sites have gauze dressings clean, dry, and intact. Negative for use of accessory muscles or clubbing; capillary refill within normal limits. Midline sternal incision has silver gauze dressing noted to be clean, dry, and intact. Other than surgical incisions noted, remaining skin is intact and pink. Bowel sounds noted in all quadrants, negative for pain or guarding. Patient is voiding adequate amounts of clear yellow urine without difficulty. Last bowel movement noted this morning, without diarrhea or melena. Diagnostic values include the following: WBC 7.4, Hemoglobin and Hematocrit 9.7/29.2, Platelets 193, Sodium 140, Potassium 4.4, Creatinine 1.65 (decreased from 2.61), INR 2.0, Albumin 3.0, Magnesium 2.2, BNP 330 (decreased from 1054). Morning chest radiograph shows bilateral

atelectasis in lower bases with mildly enlarged cardiac silhouette. Post-operative transesophageal echocardiogram showed an increase in ejection fraction from 25% to 35%, confirming the presence of systolic heart failure. Current medications include simvastatin, fish oil, fluoxetine, nicotine patch, vitamin C, multivitamin, docusate, enoxaparin, furosemide, potassium, aspirin, metoprolol, amiodarone, and warfarin.

Nursing Diagnoses

The first problem concerns the patient's activity intolerance related to his generalized weakness and imbalance between oxygen supply and demand as evidenced by shortness of breath with exertion and fatigue. The second problem concerns the patient's inappropriate voiding pattern related to his systolic heart failure as evidence by his decreased urinary output, increased brain natriuretic peptide level, and increased creatinine level.

Plan and Interventions

The patient's plan of care will include interventions that maximize the patient's energy level, promote rest, control pain levels, promote increased renal function, prevent further respiratory decline, and increase in complexity in order to practice activities of daily living before discharge. Interventions will include close monitoring of vital signs during activity, as increased heart rate can decrease myocardial perfusion and lead to recurrence of arrhythmias. Administration of antihypertensive and diuretic medications will also be completed, as these medications promote myocardial perfusion and decrease preload (Gulanick & Myers, 2007). Having the patient participate with the multidisciplinary team in setting goals will allow for realistic goals that the patient will be motivated to complete for discharge. Frequent resting periods in between activities and ambulation is also essential for maximizing energy levels as well as reducing oxygen demands. Slow progression of activities will also occur as this will

allow for resting periods, preventing myocardial overload and exhaustion (Mullen-Fortino & O'Brien, 2009).

The patient's acute renal failure has been attributed to his systolic heart failure and volume overload conditions, prompting need for interventions that decrease volume status and promote effective renal clearance. For this condition, interventions will focus on assessing daily weights, need for supplemental oxygen, placing the patient on a fluid restriction, administering prescribed diuretic medications, and educating the patient on signs and symptoms of heart failure, as well as dietary and lifestyle considerations. In order to manage the renal failure currently occurring, interventions will be focused on maintaining sufficient fluid volume to prevent cardiac workload (Warise, 2010). The goal of the interventions is to decrease the patient's signs and symptoms of heart and renal failure post-surgery, promoting quality of life and functional status.

Evaluation

Evaluation of the interventions and goals will take place during daily multidisciplinary rounding at the patient's bedside. The bedside nurse, clinical nurse specialist, respiratory therapist, physical therapist, cardiac rehab therapist, clinical pharmacist, case manager, and social worker participate in goal creation, assessment, evaluation, and revision. The rounding team also discusses potential needs for successful discharge. Monitoring of the patient's vital signs will allow for evaluation of cardiac workload after activities as well as while at rest. Daily chest radiographs will evaluate the presence of fluid status; the patient's weight trend will evaluate the progress of diuresis and need for additional medication regimens. Performing "teach back" education with the patient through discussion and administration of short quizzes can assess the patient's retention of information, providing direction for continued education to take

place. Lastly, monitoring the trends in the patient's ambulation with respect to distance, length, and use of assistive devices will evaluate the patient's activity tolerance and improvement in functional status.

Three research questions can be formulated from this case presentation. This patient did not receive preoperative education from the Clinical Nurse Specialist due to time constraints; therefore, the first question concerns the type of education patients receive in the preoperative setting. The first question is: Does the use of preoperative sternal precaution education decrease the presence of sternal infection and the hospital readmission rate in post-open-heart-surgery patients? The second question concerns a patient's ability to retain education surrounding heart failure care. The second question is: Does the use of "teach back" education decrease the 30-day readmission and mortality rates for heart failure? The third question concerns training patients during hospitalization to care for their heart failure condition as a means to prepare for discharge to home. The training would consist of one-on-one education, as well as teaching patients to record their weights, foods, and fluids consumed in a daily diary to track progress and review for changes. The third question is: Does the use of a "heart failure diary" decrease overall current inpatient hospitalization, as well as the 30-day readmission and mortality rates for heart failure?

Summary

In summary, the patient in this case presentation underwent an aortic valve replacement, maze procedure, and excision and removal of a left atrial appendage despite a complex past medical and surgical history. The daily rounding sessions from the multidisciplinary team and clinical nurse specialist yielded thorough, careful planning of interventions and goals, enabling healing and positive outcomes. The continuous assessment, planning, and evaluation of goals and interventions allowed care to be tailored to the patient's individual needs, promoting patient-

and family-centered care. Lastly, the thorough execution of care allowed the patient to eventually be discharged from the hospital to home with home health and physical therapy on postoperative day 9.

References

Gulanick, M., & Myers, J. L. (2007). *Nursing care plans: Diagnoses, interventions and outcomes* (7th ed.). St. Louis, MO: Mosby.

Mullen-Fortino, M., & O'Brien, N. (2009, January). Caring for a patient after coronary artery surgery. *Nursing2009CriticalCare*, 22-27.

Warise, L. (2010). Update: Diuretic therapy in acute renal failure: A clinical case study. *MEDSURG Nursing*, *19*(3), 149-152.

The following is the assignment for which this sample case study presentation was written.

Clinical Assignment 1: Written Case Presentation

Choose a patient from your clinical experience and develop a written clinical case presentation.

1) Use a clinical decision-making process to present your patient, for example:
   a) SUBJECTIVE DATA
      i) Chief complaint
      ii) Past medical history
      iii) Family history
      iv) Social history/Spiritual
      v) Focused review of systems
      vi) Cluster the data to determine or modify the differential diagnoses.
   b) OBJECTIVE DATA
      i) Complete a focused physical exam.
      ii) Identify any additional diagnostic data.
   c) ASSESSMENT
      i) Determine your nursing diagnosis(es)/ collaborative problem(s).
   d) PLAN
      i) Identify a prioritized plan of care that addresses the patient's needs related to each of the nursing diagnoses and collaborative problems you determined.
      ii) The plan should include interventions that are evidence-based with rationale and target specific etiologies of illness or risk behaviors.
      iii) The interventions integrate the unique needs of the patient.
      iv) The interventions have measurable outcomes.
      v) Examples of outcomes include:
         (1) Improved clinical status
         (2) Quality of life
         (3) Functional status
         (4) Alleviation or remediation of symptoms
         (5) Patient satisfaction and cost of care
   e) EVALUATION
      i) Describe methods you will use to evaluate the outcomes of your patient.
      ii) Identify three research questions, based on your case study.
      iii) At least three evidence-based resources should be used along with other descriptive references.
      iv) Reference and citations should be in APA 6th ed format.
   f) CONCLUSION
      i) Give an overall appraisal of what you have learned from this case study.
2) Refer to the grading rubric.

Written Case Presentation Rubric

	1. Unsatisfactory	2. Less Than Satisfactory	3. Satisfactory	4. Good	5. Excellent	Total
Content 80%						
Subjective Data -Chief complaint -Past medical history -Family history -Social/Spiritual history -Focused review of systems -Functional health pattern assessment -Cluster the data and determine/modify differential diagnoses **Objective Data** -Complete focused physical exam including related systems. -Identification of diagnostic data.	**0-10 points** Minimal to no subjective or objective data.	**11-14 points** Insufficient subjective and/or objective data	**15-16 points** Includes all the elements of subjective and objective data but lacks in comprehensiveness	**17-18 points** Includes all the elements of subjective and objective data in a moderately comprehensive manner.	**19-20 points** Includes every element of the subjective and objective data in a comprehensive detailed manner for each element.	
Assessment Determined nursing diagnosis(es) and collaborative problem(s). **Plan** For each nursing	**0-10 points** Does not clearly include assessment, plan and interventions. Interventions are not	**11-14 points** Includes incomplete assessment, plan and/or interventions Interventions loosely	**15-16 points** Adequately includes an assessment, plan and interventions. Interventions are evidence-based for	**17-18 points** Includes assessment, plan and interventions. **All interventions** are	**19-20 points** Clearly includes and articulates assessment, plan and interventions. **All** interventions are	

diagnosis or collaborative problem, determined at least two specific measurable patient outcomes. *(refer to examples in assignment description)* The plan also includes nursing interventions that are evidence-based with rationale and target specific etiologies of illness or risk behaviors. Interventions integrate the unique needs of the patient.	clearly evidence-based and do not include rationale. Interventions do not target specific etiologies of illness or risk behaviors. Interventions do not integrate the unique needs of the patient.	supported by evidence with minimal rationale. Some interventions target specific etiologies of illness or risk behaviors. Interventions do not clearly integrate the unique needs of the patient. .	the most part with rationale provided. Interventions target specific etiologies of illness or risk behaviors. Some interventions integrate the unique needs of the patient.	evidence-based through 1 EBP article and a standard of care that is evidence-based. Rationale for each intervention apparent Targeted etiologies of illness or risk behaviors present. Interventions integrate most unique needs of the patient.	evidence-based by >2 EBP articles and standards of care that are evidence-based. Rationale for each intervention is clearly identified with comprehensive rationale provided and targeted etiologies of illness or risk behaviors are clearly present in a comprehensive manner. Each intervention integrates the unique needs of the patient.	
Evaluation Describe the methods used to evaluate each of the patient outcomes.	**0-10 points** Evaluation does not clearly describe the methods used to evaluate each patient outcome.	**11-14 points** Incomplete description of the methods used to evaluate each patient outcome.	**15-16 points** Some detail in describing the methods used to evaluate each patient outcome.	**17 to 18 points** Moderate detail in describing the methods used to evaluate each patient outcome.	**19-20 points** Comprehensive detail in describing the methods used to evaluate each patient outcome.	.
Conclusion Identify three research questions based on the case study. Support the three research questions with a	**0-10 points** Less than 2 research questions based on the case study are without EBP/descriptive	**10-14 points** Identifies 2 research questions based on the case study. Less than two EBP	**15-16 points** Identifies 3 research questions. Two EBP resources and one descriptive resource.	**17-18 points** Identifies 3 research questions based on the case study. Two EBP resources and one	**19-20 points** Identifies 3 research questions based on the case study. Three EBP resources and	

brief discussion of evidence-based resources along with other descriptive references.	resource support. No discussion.	resources and one descriptive resource. No discussion	Minimal discussion on resource support apparent.	descriptive resource. Discussion of resource support apparent	two to three descriptive resources provided. Brief rich discussion of resource support that is clearly articulated.	
						/80
Format and Style **15%**						
Appearance/Layout	**1 point** Inadequate appearance & layout.	**2 Points** Uneven appearance & layout.	**3 Points** Adequate appearance & layout.	**4 Points** Standard appearance & layout.	**5 Points** Excellent appearance & layout.	
Mechanics of Writing (includes spelling, punctuation, and grammar)	**1 Point** Surface errors are pervasive enough that they impede communication of meaning.	**2 Points** Frequent and repetitive mechanical errors that distract the reader.	**3 Points** Some mechanical errors or typos are present, but are not overly distracting to the reader.	**4 Points** Prose is largely free of mechanical errors, although a few may be present.	**5 Points** Writer is clearly in control of standard, written American English.	

Language Use and Audience Awareness (includes sentence construction, word choice, etc.)	**1 Point** Inappropriate word choice and/or sentence construction, lack of variety in language use. Writer appears to be unaware of audience. Use of "primer prose" indicates writer either does not apply figures of speech or uses them inappropriately.	**2 Points** Some distracting and/or inconsistencies in language choice (register), sentence structure, and/or word choice are present. Sentence structure may be occasionally ineffective or inappropriate.	**3 Points** Sentence structure is correct and occasionally varies. Language is appropriate to the targeted audience for the most part.	**4 Points** The writer is clearly aware of audience; uses a variety of sentence structures and appropriate vocabulary for the target audience.	**5 Points** The writer uses a variety of sentence constructions, figures of speech and word choice in unique and creative ways that are appropriate to purpose, discipline, and scope.	
						/15
APA Format **5%**						
References	**0 Points** No references.	**0.5 Points** Insufficient use of references.	**1 Points** References are loosely used.	**1.5 Point** References are correctly utilized, but not often.	**2 Points** Correct references.	
Headings	**0 Points** Headings are not used or only one heading is identified. Reading is impeded without use of headings.	**0.5 Points** Headings are incorrect. Headings are appropriate to subsequent written information. Uses at least 2 headings that	**1 Points** Headings are partially incorrect. Headings are correlated with subsequent written information that	**2 Point** Headings are usually correct. Headings reflect assignment description for the most part. Headings	**3 Point** Headings are used correctly. Headings reflect assignment description and are appropriate to their subsequent written	

		reflect assignment description.	reflects assignment description for the most part.	guide the reader along.	information clearly guiding the reader along with ease.	
						/5
TOTAL						**/100**
Strengths						
Areas To Improve						
Additional Comments:						

Revised 9/2010