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| **Maryland Next Gen NCLEX Test Bank Project**  **September 1, 2022** | | | |
| **Case Study Topic**:  (Standalone bowtie) | Gastroesophageal reflux disease | **Author** | Tara Sohrabi  Nursing Professor  Montgomery College |

**Case Summary**

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| A 47- year- old adult presented to the emergency with severe epigastric pain, nausea, and vomiting that started after dinner. The client is diagnosed with gastroesophageal reflux disease and receives ondansetron and morphine. The learner performs a focused assessment, educates the client about the treatments and lifestyle changes, and evaluates treatment goals. |

**Objectives**

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| 1. Perform focused assessments. 2. Educate client about lifestyle modification 3. Evaluate treatment goals |

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| **Case Study Link** | **Case Study QR Code** |
| <https://umaryland.az1.qualtrics.com/jfe/form/SV_0OOuSYLfxsb9Urk> |  |
| **Bow-tie QR Code** | **Bow-tie Link** |
|  | <https://umaryland.az1.qualtrics.com/jfe/form/SV_eJLKpkWerSV3pOK> |

**Case References**

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| 1. Hinkle, J., Cheever, K. (2022). *Brunner and Suddath’s Textbook of Medical-Surgical Nursing*15th ed. Philadelphia: Lippincott, Williams, and Wilkins. |

**Case Study Question 1 of 6**

The nurse cares for 47-year-old client with nausea and vomiting in emergency department.

* Click to highlight the 2 findings that are require immediate follow-up.

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| **Nurses’ Notes** |
| 0345: The client is admitted to the emergency department with epigastric pain, nausea and vomiting. Client reports pain 6/10 started 2 hours after eating last night and he vomited 3 times before coming to the emergency department. Reports increased episodes of epigastric pain, intermittent chest pain, and chronic cough over the last several months. The pain is keeping him awake at night. Client denies diarrhea, current chest pain, or shortness of breath. VS T 37.1 (98.9F), P 90, RR 18, B/P 130/86, Pulse oximeter 97% on RA. | |

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| **Nurses’ Notes** |
| 0345: The client is admitted to the emergency department with epigastric pain, nausea and vomiting. Client reports pain 6/10 started 2 hours after eating last night and he vomited 3 times before coming to the emergency department. Reports increased episodes of epigastric pain, intermittent chest pain, and chronic cough over the last several months. The pain is keeping him awake at night. Client denies diarrhea, current chest pain, or shortness of breath. VS T 37.1 (98.9F), P 90, RR 18, B/P 130/86, Pulse oximeter 97% on RA. | |

**Scoring Rule: +/-**

**Rationale:** The client’s epigastric pain, nausea and vomiting should be followed up immediately. The client does not have chest pain now or shortness of breath to indicate an immediate cardiac problem. Vitals signs are normal. The cough is chronic whereas the vomiting and epigastric pain are acute.

**Case Study Question 2 of 6**

The nurse cares for 47-year-old client with nausea and vomiting in emergency department.

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| **Nurses’ Notes** |
| 0345: The client is admitted to the emergency department with epigastric pain, nausea and vomiting. Client reports pain 6/10 started 2 hours after eating last night and he vomited 3 times before coming to the emergency department. Reports increased episodes of epigastric pain, intermittent chest pain, and chronic cough over the last several months. The pain is keeping him awake at night. Client denies diarrhea, current chest pain, or shortness of breath. VS T 37.1 (98.9F), P 90, RR 18, B/P 130/86, Pulse oximeter 97% on RA | |

* For each finding, click to specify if the finding is most consistent with gastroesophageal reflux disease, peptic ulcer, or cholecystitis. Each finding may support more than one condition. Each column must have at least 1 response option selected.

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| Assessment/Finding | Gastroesophageal reflux disease | Peptic Ulcer | Cholecystitis |
| Epigastric pain | * \* | * \* | * \* |
| Intermittent chest pain | * \* |  | * \* |
| Vomiting | * \* | * \* | * \* |
| Cough | * \* |  |  |

**Scoring Rule: +/-**

**Rationale:** The client’s epigastric pain, and vomiting can be seen with all three problems. Pain with GERD and cholecystitis can cause chest pain that may mimic a heart attack. GERD may cause a chronic cough after meals or when lying down at night.

**Case Study Question 3 of 6**

The nurse cares for 47-year-old client with nausea and vomiting in emergency department.

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| **Nurses’ Notes** |
| 0345: The client is admitted to the emergency department with epigastric pain, nausea and vomiting. Client reports pain 6/10 started 2 hours after eating last night and he vomited 3 times before coming to the emergency department. Reports increased episodes of epigastric pain, intermittent chest pain, and chronic cough over the last several months. The pain is keeping him awake at night. Client denies diarrhea, current chest pain, or shortness of breath. VS T 37.1 (98.9F), P 90, RR 18, B/P 130/86, Pulse oximeter 97% on RA. | |

* Complete the sentence from the list of options.

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| The nurse should recognize that the client is most likely experiencing | Cholecystitis  Gastroesophageal reflux disease \*  Peptic ulcer |

**Scoring Rule: 0/1**

**Rationale:** The client is displaying clinical manifestation of gastroesophageal disease including nausea, vomiting, chronic cough, difficulty swallowing, and history of intermittent chest pain.

**Case Study Question 4 of 6**

The nurse cares for 47-year-old client with nausea and vomiting in emergency department.

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| **Nurses’ Notes** |
| 0345: The client is admitted to the emergency department with epigastric pain, nausea and vomiting. Client reports pain 6/10 started 2 hours after eating last night and he vomited 3 times before coming to the emergency department. Reports increased episodes of epigastric pain, intermittent chest pain, and chronic cough over the last several months. The pain is keeping him awake at night. Client denies diarrhea, current chest pain, or shortness of breath. VS T 37.1 (98.9F), P 90, RR 18, B/P 130/86, Pulse oximeter 97% on RA | |
| **Progress Notes** |
| Working diagnosis probable gastroesophageal reflux | |

The provider makes a diagnosis of probable gastroesophageal reflux

* Which of the following interventions should the nurse include in the plan of care? Select all that apply.
* Obtain stool culture
* Order CBC
* Check lab report for sodium and potassium level\*
* Administer antiemetics \*
* Obtain abdominal CT scan
* Teach the client about health maintenance\*
* Administer analgesics\*

**Scoring Rule: +/-**

**Rationale**: The client’s pain, nausea, and vomiting should be treated. The sodium and potassium level should be monitored to prevent from electrolytes imbalances. The client should be educated about the lifestyle changes including weight management, eating early evening, and not eating before going to bed.

**Case Study Question 5 of 6**

The nurse cares for 47-year-old client with nausea and vomiting in emergency department.

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| **Nurses’ Notes** | |
| 0345: The client is admitted to the emergency department with epigastric pain, nausea and vomiting. Client reports pain 6/10 started 2 hours after eating last night and he vomited 3 times before coming to the emergency department. Reports increased episodes of epigastric pain, intermittent chest pain, and chronic cough over the last several months. The pain is keeping him awake at night. Client denies diarrhea, current chest pain, or shortness of breath. VS T 37.1 (98.9F), P 90, RR 18, B/P 130/86, Pulse oximeter 97% on RA  0415: Intravenous line placed with 0.9% sodium chloride started at 100mL/hr. Aministered morphine 2 mg and ondansetron 4 mg IV. Labs drawn. | | | |
| **Progress Notes** | |
| Working diagnosis probable gastroesophageal reflux | | | |
| **Orders** | |
| 1. Start 0.9% Sodium chloride at 100ml/hr  2. Administer 2 mg morphine IV stat  3. Administer 4 mg ondansetron IV stat  4. Complete blood panel test for sodium and potassium  5. Educate client about lifestyle modifications  6. Schedule follow-up with gastroenterologist | | | |
| **Laboratory Report** | |
| Lab | Results | | Reference range |
| Potassium(serum) | 3.0 mEq/L | | 3.5 to 5 mEq/L |
| Sodium (serum) | 133 mEq/L | | 1. 145 mEq/L |

The nurse receives orders.

* What modifications the nurse will include in the teaching plan. Select all that apply
* Avoid eating large meals\*
* Avoid eating late night\*
* Take aspirin for intermittent pain
* Eat a low-fat diet\*
* Limit caffeinated beverages\*
* Drink carbonated beverages for nausea
* Sleep on your right side
* Maintain a healthy weight\*

**Scoring Rule: +/-**

**Rationale:** The client should be educated about the foods that should be avoided that triggers the esophageal reflux. These typically include fatty foods, caffeinated beverages, and carbonated beverages. Aspirin is contraindicated for clients with gastroesophageal reflux disease because it irritates the inner lining of esophagus tissues. Clients should eat small meals to decrease lower esophageal pressure and avoid eating close to bedtime. Maintaining a healthy weight is and sleeping with the head of the bed elevated is recommended.

**Case Study Question 6 of 6**

The nurse cares for 47-year-old client with nausea and vomiting in emergency department.

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| **Nurses’ Notes** | |
| 0345: The client is admitted to the emergency department with epigastric pain, nausea and vomiting. Client reports pain 6/10 started 2 hours after eating last night and he vomited 3 times before coming to the emergency department. Reports increased episodes of epigastric pain, intermittent chest pain, and chronic cough over the last several months. The pain is keeping him awake at night. Client denies diarrhea, current chest pain, or shortness of breath. VS T 37.1 (98.9F), P 90, RR 18, B/P 130/86, Pulse oximeter 97% on RA  0415: Intravenous line placed with 0.9% sodium chloride started at 100mL/hr. Administered morphine morphine 2 mg and ondansetron 4 m IV. Labs drawn.  0445: Client verbalizes pain 1/10. No nausea and vomiting. Taught client about the diet, positioning after eating, and weight management. | | | |
| **Progress Notes** | |
| Working diagnosis probable gastroesophageal reflux | | | |
| **Orders** | |
| 1. Start 0.9% Sodium chloride at 100ml/hr  2. Administer 2 mg morphine IV stat  3. Administer 4 mg ondansetron IV stat  4. Complete blood panel test for sodium and potassium  5. Educate client about lifestyle modifications  6. Schedule follow-up with gastroenterologist | | | |
| **Laboratory Report** | |
| Lab | Results | | Reference range |
| Potassium(serum) | 3.0 mEq/L | | 3.5 to 5 mEq/L |
| Sodium (serum) | 133 mEq/L | | 1. 145 mEq/L |

The nurse educates the client about lifestyle management.

* The nurse determines that the dietary teaching was successful if the client chooses which food from the list?
* Chocolate
* Coffee
* Nonfat milk\*
* Mint tea

**Scoring Rule: 0/1**

Rationale: Client should avoid foods and drinks that triggers reflux. Common triggers include fatty or fried foods, tomato sauce, alcohol, chocolate, mint, garlic, onion, and caffeine.

**Bowtie**

The nurse cares for 47-year-old client with gastroesophageal disease in emergency department.

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| **Nurses’ Notes** |
| 0345: The client is admitted to the emergency department with epigastric pain, nausea and vomiting. Client reports pain 6/10 started 2 hours after eating last night and he vomited 3 times before coming to the emergency department. Reports increased episodes of epigastric pain, intermittent chest pain, and chronic cough over the last several months. The pain is keeping him awake at night. Client denies diarrhea, current chest pain, or shortness of breath. VS T 37.1 (98.9F), P 90, RR 18, B/P 130/86, Pulse oximeter 97% on RA. | |

* Complete the diagram by dragging from the choices below to specify what condition the client is most likely experiencing, 2 actions the nurse should take to address that condition, and 2 parameters the nurse should monitor to assess the client’s progress.

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| Action to take |  | Parameter to monitor |
|  | Condition most likely experiencing |  |
| Action to take |  | Parameter to monitor |
| **Actions to take** | **Potential conditions** | **Parameters to monitor** |
| Administer analgesics\* | Peptic ulcer | Nausea and vomiting\* |
| Assess for stomach PH | Gastroesophageal reflux disease\* | Blood pressure |
| Encourage lying on the right side | Cholecystitis | Stool for occult blood |
| Administer antiemetic\* | Esophageal cancer | Monitor electrolytes level\* |
| Encourage intake of low sodium diet |  | Monitor Hemoglobin level |

**Scoring Rule: 0/1**

Rationale: The nurse should recognize the signs of GERD as epigastric pain, nausea and vomiting after eating dinner last night along with the history of intermittent chest pain and cough. The nurse should administer analgesic to relive pain and antiemetic to treat the nausea and vomiting. The nurse should monitor clients for effectiveness of the medication that were administered. The nurse should monitor the client’s electrolytes to determine if the vomiting has caused an imbalance.