ATI Real Life Student Packet
N202 Advanced Concepts of Nursing
2024

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ATI Scenario: MI Complications

To Be Completed Before the Simulation

*****Blue boxes should be completed using textbook information. What do you expect to find? This information should be collected before you start the ATI simulation*

Medical Diagnosis: MI

NCLEX IV *(8)*: Physiological Integrity/Physiological Adaptation

Anatomy and Physiology
Normal Structures

Heart is a 4 chambered organ that has 3 layers (endocardium, myocardium and epicardium). It has a right and left atrium and a right and left ventricle that are separated by a muscular septum. The LV is a more muscular structure than the RV since it hast to overcome systemic vascular resistance. The RV is responsible for pumping blood into the lungs for gas exchange and thus does not need to be as muscular. Since the heart is a muscle, it relies on coronary circulation to exchange O2 and waste. This circulation happens during the period of diastole (relaxation). There are 2 major branches that come off the aorta to supply the myocardium (Right and Left coronary arteries). The RCA feeds the RA, RV, the posterior aspect of the LV, the SA node, AV node and the bundle of his. The LCA is split into 2 branches: the LAD and LC. The LAD feeds the Anterior ventricular septum and the anterior portion of the LV. The LC feed the LA, and the posterior lateral aspect of the LV.
Conduction in a healthy heart originates from the SA node and travels through and around the atrial pathway to depolarize the atria and results in a squeeze. Then the impulse travels through the AV node, through the bundle of his, and down the left and right bundle branches. This send the signal through the purkinje fibers to the ventricles. The ventricles are depolarized and generate a squeeze giving us what is known as a pulse.
Preloasd is the amount of blood left in the ventricles at the end of diastole prior to the next contraction.
Afterload is the amount of peripheral resistance the left ventricle must pump against to supply the body with oxygenated blood. In a health heart Cardiac output is measured by CO = SV x HR. This is the amount of blood pumped from the heart per minute. Cardiac Index is the preferred value for a patients cardiac function is and measured by CO/the patients surface area.

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

CAD is a progressive disease that starts with unhealthy lipid deposits called fatty streaks in the intima of artery. These deposits cause inflammation and injury to the endothelial lining of the arteries. Since the body tries to heal the injury, it creates a fibrous plaque that starts to grow. Lipoproteins and collagen cover the fatty streak and forms a fibrous plaque. The plaques can form at the site of the injury on one side or can form in a circular and narrow the entire lumen. This narrowing of the lumen reduces blood flow to the distal tissue. The body may also compensate by forming collateral circulation around the plaque to avoid tissue ischemia. This process happens over years. The last stage is the formation of the complicated lesion. The atherosclerotic lesion is the most dangerous stage of CAD. This is where the plaque can become unstable and the artery's inner wall may be compromised. To compensate, the body will send WBCs which creates a thrombus, further occluding the lumen of the artery. When the lumen becomes >70% occluded, the patient may experience angina or chest pain. This pain is from tissue ischemia. If the atherosclerotic plaque ruptures and causes and nonocclusive thrombus, this ischemia this is known as an NSTEMI. If the plaque ruptures and causes an occlusive thrombus, this ischemia this is known as a STEMI. The treatment for NSTEMI is cardiac cath. in 12-72 hrs to prevent tissue death and necrosis. The treatment for STEMI is emergent catheterization to reduce the size of infarct within 90 mins.

To Be Completed Before the Simulation

Anticipated Patient Problem: Decreased Cardiac Output

Goal 1: Pt. will have at least 30mls/hr of urinary output during my time of care.

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess HR, RR, BP and cap refill q4hr	Administer fluids and O2 as ordered PRN
Assess skin color, temp, edema and moisture level q4hr	Administer diuretic as ordered PRN and use warm blankets PRN
Assess UO q2hr	Encourage oral intake of 2000ml/24 hrs
Assess weight daily	Educate on low sodium diet prior to discharge
Assess SpO2 and tele continuously	Administer O2 is sat <90% PRN
Assess lung sounds q2hr-PRN	Encourage cough and deep breath exercises every hour while awake

Goal 2: Pt. will maintian cap refill <3 secs, HR between 60-100 and equal peripheral pulses +2 during my time of care.

To Be Completed Before the Simulation

Anticipated Patient Problem: Acute Pain: chest pain.

Goal 1: Pt. will have 0/10 pain score on numeric pain scale during my time of care.

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess pain score on numeric pain scale and PQRST of pain q2-4 hrs	Administer morphine and nitro as ordered. Reassess pain q1hr.
Assess BP, HR, O2 sat q4hrs	Elevate HOB >30 degrees and provide distraction techniques PRN
Assess cardiac markers (troponin, CK-MB, BMP qshift-PRN	Educate on the importance of lifestyle changes with diet and exercise prior to discharge
Assess knowledge of MI and cardiac health daily	Educate of S/sx to report to PCP and when appropriate to call 911 prior to discharge
Assess PTT and PT qshift	Administer ASA or other blood thinner as ordered
Assess heart sounds q4hr-PRN	Notify provider of extra heart sounds and/or worsening cardiac condition PRN

Goal 2: Pt. will verbalize change in pain score on the numeric scale during my time of care.

To Be Completed During the Simulation:

Actual Patient Problem: Acute pain: chest

Clinical Reasoning: MI, tissue ischemia Goal: Pt. will not have chest pain during my time of care Met: X Unmet: ☐

Goal: Pt. will report any changes in pain during my shift. Met: X Unmet: ☐

Actual Patient Problem: Ineffective tissue perfusion

Clinical Reasoning: dusky nail beds, ashen skin, SPO2 of 87%

Goal: Pt. will have SPO2 >95% during my shift Met: X Unmet: ☐

Goal: Pt. will have systolic BP <140 and >110 during my shift Met: X Unmet: ☐

Additional Patient Problems: R/f Electrolyte imbalance, R/f Bleeding, ineffective health maintenance

Below will be your notes, add more lines as needed. **Relevant Assessments:** Indicate pertinent assessment findings. **Multidisciplinary Team Intervention:** What interventions were done in response to your abnormal assessments? **Reassessment/Evaluation:** What was your patient's response to the intervention?

Patient Problem	Time	Relevant Assessments	Time	Multidisciplinary Team Intervention	Time	Reassessment/ Evaluation
1,2	16:55	Pt complains of chest pain from shoveling snow	17:05	Takes 3 doses of nitroglycerin but does not relieve pain	17:15	Pain not relieved with nitro and given 325mg of aspirin
1,2	17:25	Pain 8/10	17:25	12- lead EKG performed	17:30	Showed ST elevation consistent with STEMI. Needs cardiac cath to open vessel. Pt and wife verbalize understanding of risks associated with procedure.
1,2,4	17:45	Administered 2mg morphine IVP. Transported to cath lab	20:00	PTCA of LAD with stent placement performed without complication	20:50	"Chest squeezing gone"
2	20:50	"I am feeling itchy on my chest and arms"	21:00	Admin 25 mg IV bolus diphenhydramine	21:20	"I can't seem to catch my breath"
2	21:25	Inspiratory wheezing and strider noted. Pulse ox 87% on non-rebreather mask at 15L. Nail beds are dusky and skin is ashen	21:30	Rapid response team called. Admin 0.3mg epinephrine IM	21:55	O2 sat 98%. Titrated down to 3L NC
4	22:00	Hematoma noted on R femoral insertion site.	22:10	Pressure applied for 10 mins. Bleeding resolved.	22:15	Outlined boarder to observe for any worsening overnight

2,3	22:30	Potassium 3.2 mEq/L	23:05	Oral potassium supplement	Day 2 0600	Potassium 3.2 mEq/L. SpO2 98% on 2L NC
2,	1940	Skin clammy to the touch, restless and agitated, increased O2 to 3L NC. MAP 54. Systolic BP <90 for 15 mins,	1950	Administered dobutamine drip at 16.5 ml/hr	2000	Systolic BP still <90
2	2000	Systolic BP still <90	2010	Administered Norepinephrine at 0.5 mcg/min in central line	2020	BP 124/72 " I feel less shaky and I'm not dizzy or sweating anymore"
5	Day 3 1915	Explained about daily routine and desire to go for easy meals like fast food. Explained he does not exercise because he doesn't have time.	1920	Educated about modifiable risk factors and how maintaining a lower salt diet would be more heart healthy and help to reduce HTN. Also getting active or going for a walk would be good for his health. Explained about clopidogrel to help prevent clotting for the new stent and the need to stay on aspirin.	1940	Verbalized understanding and said that he and his wife would be making lifestyle changes after he got out of the hospital. Agreed to be compliant with meds.

To Be Completed After the Simulation

The orange boxes should be filled out with your simulation patient's actual results, assessments, medications, and recommendations

NCLEX IV *(7)*: Reduction of Risk

Actual Labs/ Diagnostics

CXR (showed some aortic calcification but no fractures or fluid around the heart)
CMP, ABGs, creatinine, potassium
H&H – normal
STAT EKG (ST elevation)
Troponin- elevated
Creatine kinase- elevated
Tele monitor (tachy with PVCs)
Urine output
Coags- normal

NCLEX II *(3)*: Health Promotion and Maintenance

Signs and Symptoms

SOB, dizzy, nausea, crushing chest pain, tachcardia with PVC, HTN, dyspnea, dusky nails and ashen skin, cool, clammy, restless, agitated, cough and itching

NCLEX II *(3)*: Health Promotion and Maintenance

Contributing Risk Factors

HTN
Former smoker (recently quit)
Poor diet
Overweight
Sedentary lifestyle
CAD

NCLEX IV *(7)*: Reduction of Risk

Therapeutic Procedures

Non-surgical
Nitro
ASA

Surgical
Percutaneous coronary angioplasty

Prevention of Complications

(Any complications associated with the client's disease process? If not what are some complications you anticipate)

Infection
r/f bleeding
occlusion of another vessel

NCLEX IV *(6)*: Pharmacological and Parenteral Therapies

Medication Management

Nitro
ASA
Dobutimine
O2 via mask and NC
Diphenhydramine
Fluids (D5W)
Epinephrine

NCLEX IV *(5)*: Basic Care and Comfort

Non-Pharmacologic Care Measures

Pressure on groin site when coughing
O2 PRN
Therapeutic communication

NCLEX III *(4)*: Psychosocial/Holistic Care Needs

Stressors the client experienced?

Anxiety from chest pain and dyspnea.
SOB from allergic reaction
Anxiety from cath procedure

Client/Family Education

Document 3 teaching topics specific for this client.

- Diet low in salt
- Increase exercise and modifiable risk factors
- pressure on groin site while coughing

NCLEX I *(1)*: Safe and Effective Care Environment

Multidisciplinary Team Involvement

(Which other disciplines were involved in caring for this client?)

Nursing staff, cardiologist, radiologist, pharmacy, wife/family,

Patient Resources

Cardiology, nutritionist/dietitian, maybe a personal trainer, MI support group

Reflection Questions

Directions: Write reflection including the following:

1. What was your biggest “take away” from participating in the care of this client?
   I think the biggest thing I took away was early recognition of changes and implementation of interventions leads to a better outcome for the patient. If the wife had not realized that her husbands condition was worsening, things could have gone much worse for the patient.

2. What was something that surprised you in the care of this patient?
   The allergy to contrast dye and the fact that he went into cardiogenic shock. I thought that after the stent was placed, he would recover quickly but instead he got worse before he got better. Early sign recognition by the nurse allowed for the patient to have a good and preferable outcome.

3. What is something you would do differently with the care of this client?
   I wish there was a way to initiate referrals for him because he could use follow up with a nutritionist and cardiac rehabilitation. Knowing that those things are going to be critical for long-term health. I know the nurse talked about some of these things but that would be something worth consideration.

4. How will this simulation experience impact your nursing practice?
   Understanding that subtle changes and gut feelings are helpful and impactful when caring for a patient. I know that sometimes we may not be able to figure out what is wrong, but knowing that it needs to be investigate was what made the difference for the patient.