

Acute Cholecystitis: An Updated Review for Nursing Intervention Protocols

Matar Awadh Gazi Alotaibi¹, Nourah Gassim Majari Alotibi², Abdullah Saleh Ghuwainem Alfulayhani³, Maher Shaman Shutaywi Alsharari⁴, Rahi Shaman Shutaywi Alsharari⁵, Saleh Suwailem Muflih Alsharari⁶, Abdullah Salem Hadi Al-Hnedl⁷, Jumaan Said Ahmed⁸, Amal Hussain Alanazi⁹, Tahani Saud Almasoudi¹⁰, Wardah Yousef Jaberty¹¹, Khalid Shabab Alotaibi¹², Huda Saud Alotaibi¹³, Abdulrahman Turki Almutairi¹⁴, Marim Yousef Alshabi¹⁵

Abstract

Background: Acute cholecystitis, an inflammation of the gallbladder, often presents with right upper quadrant pain, fever, and nausea. This condition can occur with or without gallstones, with acute cholecystitis being more severe. Differential diagnosis is crucial due to symptom overlapping with other conditions, such as peptic ulcer disease or pancreatitis. Effective diagnosis often combines clinical evaluation, imaging, and laboratory tests. Nurses play a significant role in addressing both the physical and emotional aspects of care. *Aim:* This review aims to provide an updated understanding of acute cholecystitis, focusing on nursing intervention protocols for effective patient care. *Methods:* The review was conducted by analyzing existing literature on cholecystitis pathophysiology, diagnosis, and nursing management. Key nursing diagnoses, including anxiety, pain, and nutritional deficits, were explored. Evidence from clinical guidelines and case studies was examined to identify the best practices for nursing interventions. *Results:* The review highlights several critical nursing interventions for acute cholecystitis management. These include pain management strategies, patient education to alleviate anxiety, monitoring nutritional status, and ensuring fluid balance. Early intervention and proper management, including preparation for surgery, significantly improve patient outcomes. Additionally, nursing roles in preoperative care, such as educating patients about the procedure and postoperative care expectations, are essential to reducing anxiety and promoting cooperation. *Conclusion:* Acute cholecystitis demands comprehensive nursing care, including pain relief, emotional support, and nutritional management. Nurses must be skilled in recognizing the symptoms, facilitating timely interventions, and preparing patients for surgery. Early diagnosis and individualized care plans are critical to improving recovery rates and reducing complications. Effective nursing management leads to improved patient comfort, reduced anxiety, and enhanced postoperative outcomes..

Keywords: Acute cholecystitis, nursing interventions, pain management, anxiety, nutritional care, gallbladder surgery, patient education.

Introduction

Cholecystitis refers to the inflammation of the gallbladder, a condition that is primarily treated as a surgical issue. It can occur with or without the presence of gallstones and is classified into two main types: acute and chronic. Although it affects both men and women, certain populations may be more susceptible to

¹ Ksa, Ministry Of Health, Rafaya General Hospital - Third Cluster In Riyadh

² Ksa, Ministry Of Health, Rafaya Phc - Third Cluster In Riyadh

³ Ksa, Ministry Of Health, Al-Jouf Health Pool

⁴ Ksa, Ministry Of Health, Al-Jouf Health Pool

⁵ Ksa, Ministry Of Health, Al-Jouf Health Pool

⁶ Ksa, Ministry Of Health, Al-Jouf Health Pool

⁷ Ksa, Ministry Of Health, Eradah Complex For Mental Health -Riyadh

⁸ Ksa, Ministry Of Health, Albaha Health Cluster

⁹ Ksa, Ministry Of Health, Prince Sultan Medical Military City

¹⁰ Ksa, Ministry Of Health Prince Sultan Medical Military City

¹¹ Ksa, Ministry Of Health, Prince Sultan Military Medical City

¹² Ksa, Ministry Of Health, Diriyah Hospital

¹³ Ksa, Ministry Of Health

¹⁴ Ksa, Ministry Of Health, Afif General Hospital

¹⁵ Ksa, Ministry Of Health, Psmmc

developing this condition. Clinically, cholecystitis often presents specific signs and symptoms, such as right upper quadrant abdominal pain, fever, and nausea. However, its presentation can overlap with other medical conditions, leading to potential diagnostic challenges. For instance, it may be confused with peptic ulcer disease, irritable bowel syndrome, or even cardiac conditions due to similar symptomatology. Furthermore, both acute and chronic pancreatitis can mimic the clinical features of gallbladder disease, making differential diagnosis essential for appropriate management. Accurate diagnosis often relies on a combination of clinical evaluation, imaging studies, and laboratory tests to distinguish cholecystitis from these other conditions. The complexity of its presentation underscores the importance of a thorough diagnostic approach to ensure timely and effective treatment [1][2][3].

Nursing Diagnosis for Acute Cholecystitis

Acute cholecystitis, characterized by inflammation of the gallbladder, presents a range of clinical challenges that necessitate comprehensive nursing care. One of the primary nursing diagnoses is anxiety related to surgical intervention. Patients often experience significant emotional distress due to the anticipation of surgery, fear of potential complications, or uncertainty about the procedure's outcomes. Addressing this anxiety through patient education, emotional support, and clear communication is essential to alleviate concerns and promote cooperation with treatment plans. Another critical diagnosis is acute pain related to the disease process. The inflammation and distension of the gallbladder typically cause severe, localized pain in the right upper quadrant of the abdomen. Effective pain management, including pharmacological interventions and non-pharmacological strategies such as positioning and relaxation techniques, is vital to improve patient comfort and facilitate recovery. Additionally, anorexia related to nausea and bloating is a common issue, as patients often experience a loss of appetite due to persistent gastrointestinal symptoms. This can lead to inadequate nutritional intake, further complicating recovery. Nursing interventions should focus on managing nausea, encouraging small, frequent meals, and monitoring nutritional status. Furthermore, patients with acute cholecystitis are at risk of deficient fluid volume due to factors such as reduced oral intake, vomiting, and the systemic inflammatory response. Close monitoring of hydration status, along with intravenous fluid administration as needed, is crucial to prevent dehydration and maintain hemodynamic stability. Lastly, there is a risk for imbalanced nutrition: less than body requirements, as the combination of anorexia, nausea, and increased metabolic demands can lead to malnutrition. Nutritional assessments and tailored dietary interventions are necessary to ensure patients meet their caloric and nutritional needs during recovery. These nursing diagnoses underscore the importance of a holistic approach to managing acute cholecystitis, addressing both the physical and emotional aspects of the condition.

Causes of Cholecystitis

Cholecystitis is primarily caused by a malfunctioning gallbladder, which disrupts the normal storage and release of the bile. Bile, produced in the liver, travels through the bile duct and is stored in the gallbladder. Upon consumption of certain foods, particularly those that are spicy or greasy, the gallbladder is stimulated to release bile through the cystic duct into the bile duct, eventually reaching the duodenum to aid in digestion. When the gallbladder fails to function properly, bile may not empty completely, leading to stagnation. This stagnation can contribute to the formation of gallstones, which are a common cause of cholecystitis. Gallstones can mechanically obstruct the cystic duct, preventing bile flow and causing inflammation. This condition, known as calculous cholecystitis, is the most frequent form of the disease. In some cases, cholecystitis occurs without the presence of gallstones, a condition referred to as acalculous cholecystitis. This form is often associated with a poorly functioning gallbladder due to factors such as prolonged fasting, critical illness, or reduced blood flow to the gallbladder. Both calculous and acalculous cholecystitis result in inflammation of the gallbladder, but their underlying mechanisms differ. Understanding these causes is essential for accurate diagnosis and effective management of the condition [4][5].

Risk Factors for Gallbladder Disease

Gallbladder disease affects both men and women, but certain populations are at a higher risk of developing this condition. Women, particularly those who are pregnant or obese, exhibit an increased susceptibility to gallbladder disease. Additionally, individuals in their 40s are more prone to this condition, highlighting the role of age as a contributing factor. Drastic weight loss, whether due to dieting or acute illnesses, can also elevate the risk of gallbladder dysfunction and gallstone formation. Genetic predisposition plays a significant role, as a family history of gallbladder disease or gallstones increases the likelihood of developing similar issues. Certain medical conditions, such as sickle cell disease, further contribute to the risk by causing the breakdown of red blood cells, which can lead to the formation of pigment gallstones. Other factors, including prolonged fasting, critical illness, and metabolic disorders, may also predispose individuals to gallbladder disease. Understanding these risk factors is crucial for identifying at-risk populations and implementing preventive measures or early interventions to mitigate the development of gallbladder-related complications.

Assessment of Cholecystitis

Chronic cholecystitis typically manifests with progressive right upper quadrant abdominal pain, often accompanied by bloating, food intolerances (particularly to greasy or spicy foods), excessive gas, nausea, and vomiting. Patients may also report pain in the midback or shoulder, which can persist for years before a definitive diagnosis is made. In contrast, acute cholecystitis presents similar symptoms but of greater severity, often leading to significant discomfort and systemic distress. Due to the nature of the pain, symptoms are frequently mistaken for cardiac conditions, necessitating a thorough differential diagnosis. A key clinical finding in cholecystitis is right upper quadrant tenderness upon deep palpation, with Murphy's sign being a classic indicator of the disease. Murphy's sign is characterized by the abrupt cessation of inspiration during palpation of the right upper abdomen due to pain. Additionally, patients often associate the onset of acute symptoms with a specific dietary event, such as the consumption of fatty or rich foods, exemplified by statements like, "I ate pork chops and gravy last night." This dietary link underscores the role of gallbladder stimulation in triggering acute attacks. Accurate assessment, including a detailed history, physical examination, and diagnostic imaging, is essential to confirm the diagnosis and guide appropriate management.

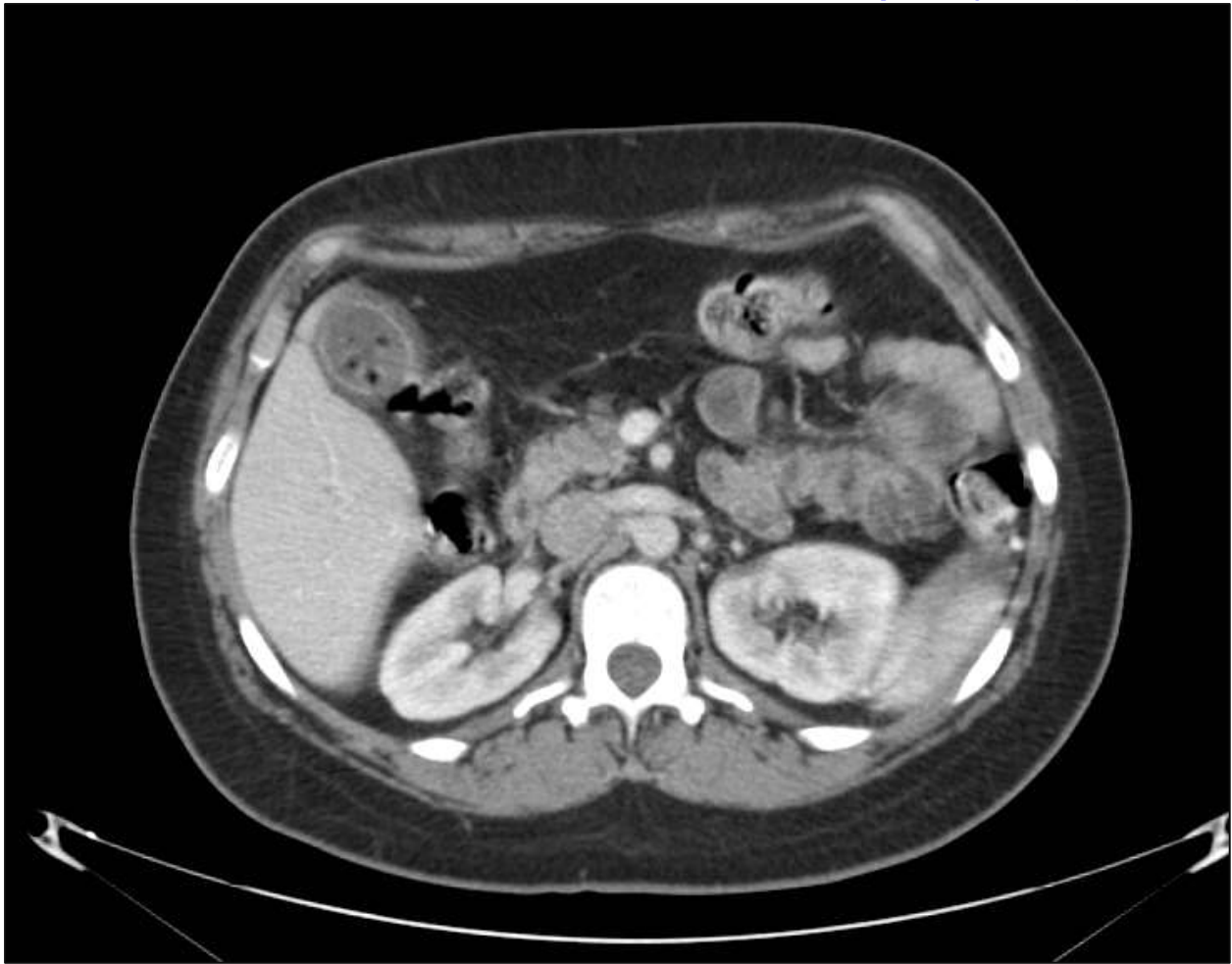


Figure 1: Acute Cholecystitis

Evaluation of Cholecystitis

The diagnosis of cholecystitis relies on a thorough physical examination and a detailed patient history, which are critical in identifying characteristic symptoms and risk factors. Laboratory tests, including a complete blood count (CBC) and comprehensive metabolic panel, are essential components of the diagnostic workup. In chronic cholecystitis, these lab results may appear normal, whereas in acute or severe cases, an elevated white blood cell count (WBC) may indicate inflammation or infection. Elevated liver enzymes can also suggest biliary involvement, and a bilirubin level above 2 mg/dL may raise suspicion of a common bile duct stone. However, it is important to note that even in severe gallbladder disease, laboratory values may remain within normal ranges. Additionally, amylase and lipase levels should be assessed to rule out pancreatitis, which can present similar symptoms. Imaging plays a pivotal role in confirming the diagnosis. Computed tomography (CT) scans are often the initial imaging modality used in emergency settings, as they can reveal signs of cholecystitis and gallstones. However, gallbladder ultrasound is the preferred initial imaging test for evaluating gallbladder disease, as it can detect a thickened gallbladder wall and the presence of gallstones, which are hallmark findings. In cases of acute cholecystitis, a hepatobiliary iminodiacetic acid (HIDA) scan is recommended to assess gallbladder function and identify cystic duct obstruction. For suspected acalculous cholecystitis, the administration of cholecystokinin (CCK) during the HIDA scan can help confirm the diagnosis, with an ejection fraction of less than 35% being indicative of the condition. These diagnostic tools collectively enable accurate evaluation and guide appropriate management strategies [6][7].

Medical Management of Cholecystitis

The primary and most effective treatment for cholecystitis is laparoscopic cholecystectomy, which is associated with low morbidity and mortality rates, as well as a rapid recovery period. This minimally invasive approach is preferred for most patients due to its efficacy and reduced postoperative complications. However, in cases where patients are not suitable candidates for laparoscopic surgery, an open cholecystectomy may be performed as an alternative. For acutely ill patients who are deemed poor surgical candidates, temporary management through percutaneous gallbladder drainage may be employed to stabilize the condition and alleviate symptoms. In milder cases of chronic cholecystitis, particularly in patients who are not ideal candidates for surgery, conservative management strategies may be considered. These include dietary modifications, such as adopting a low-fat and low-spice diet, to reduce gallbladder stimulation and minimize symptoms. However, the effectiveness of dietary adjustments varies among individuals and may not provide complete resolution of the condition. Additionally, medical treatment with ursodiol, a bile acid, has been reported to achieve occasional success in dissolving gallstones, particularly in patients with small, cholesterol-based stones. While this non-surgical option may be beneficial for select patients, it is generally less effective than surgical intervention and is not suitable for all cases. Overall, the choice of treatment depends on the patient's clinical condition, severity of disease, and surgical risk profile [8][9][3].

Nursing Management for Cholecystitis

Nursing management for patients with cholecystitis involves a comprehensive and patient-centered approach to ensure optimal care and recovery. Frequent monitoring of vital signs is essential, and any abnormalities should be promptly reported to the physician. A thorough assessment of abdominal pain, including its location, intensity, and characteristics, as well as monitoring nausea and vomiting, is crucial to evaluating the patient's condition and response to treatment. Intravenous (IV) fluids and prescribed pain medications should be administered as ordered to maintain hydration and alleviate discomfort. Preoperative preparation is a key nursing responsibility. This includes keeping the patient nil per os (NPO), providing education about the surgical procedure, and explaining postoperative care expectations to reduce anxiety and promote cooperation. Positioning the patient in a semi-Fowler's position can help alleviate abdominal discomfort and improve respiratory function. Close monitoring of laboratory data, such as complete blood count (CBC), liver function tests, and electrolyte levels, is necessary, with any abnormalities reported immediately. For female patients, ensuring a pregnancy test is performed prior to surgery is critical to avoid potential complications. Postoperative education is equally important. Patients should be informed that they may experience referred pain in the right shoulder due to insufflation of air during laparoscopic cholecystectomy. Encouraging early ambulation and increased activity, such as walking as tolerated, can help reduce this pain and prevent complications like deep vein thrombosis (DVT). By addressing both physical and emotional needs, nursing management plays a vital role in supporting patients through the perioperative period and promoting a smooth recovery.

Nursing Intervention Protocols

Nursing intervention protocols for acute cholecystitis focus on comprehensive care that addresses both the physical and emotional needs of the patient. Given the potential severity of the condition and its impact on a patient's well-being, the primary goal is to alleviate pain, manage anxiety, ensure nutritional stability, and prepare the patient for either surgical or medical management. The following nursing interventions are essential in the holistic management of acute cholecystitis:

1. Pain Management

- **Assessment:** Regular assessment of pain, its intensity, location, and character, is crucial for tailoring interventions. Acute pain is a hallmark of acute cholecystitis, and patients typically experience severe right upper quadrant pain.

- **Pharmacological Interventions:** Administration of prescribed analgesics (e.g., opioids or nonsteroidal anti-inflammatory drugs) is essential to manage pain. Additionally, antispasmodics may be used to relieve biliary spasms.
- **Non-Pharmacological Interventions:** Positioning the patient in a semi-Fowler's position can help alleviate abdominal discomfort by reducing pressure on the abdomen. Heat or cold therapy, as appropriate, and relaxation techniques can also help reduce pain levels.

2. Fluid and Electrolyte Balance

- **Hydration Monitoring:** Acute cholecystitis may lead to dehydration due to vomiting, fever, and reduced oral intake. Monitoring of the patient's fluid balance through regular assessment of urine output, skin turgor, and mucous membranes is necessary.
- **IV Fluid Administration:** Administering intravenous fluids (e.g., saline or Ringer's lactate) is essential for maintaining hydration, particularly in patients who are unable to tolerate oral intake. Fluid administration also helps to correct any imbalances and improve circulation.

3. Nutritional Support

- **Assessment:** Patients may experience anorexia due to nausea and abdominal discomfort. Regular assessment of the patient's nutritional status is important to ensure adequate caloric and nutritional intake.
- **Dietary Interventions:** Initially, the patient should be kept nil per os (NPO) to rest the gastrointestinal system. Once the acute phase resolves, small, frequent meals that are low in fat and easily digestible should be introduced. The nurse should monitor for any signs of intolerance to food, such as nausea or bloating, and adjust the diet accordingly.
- **Supplements:** For patients with prolonged illness or inadequate intake, nutritional supplements or enteral feeding may be considered to ensure caloric needs are met.

4. Anxiety and Psychological Support

- **Education and Communication:** Patients with acute cholecystitis often experience significant anxiety related to the uncertainty of surgery, the risks involved, and the potential outcomes. Nursing staff should provide clear and empathetic explanations about the condition, potential treatments (including the risks and benefits of surgery), and postoperative expectations.
- **Emotional Support:** Offering psychological support through active listening, reassurance, and addressing patient concerns can help alleviate anxiety. Encouraging the patient to express their fears and concerns can also enhance their emotional coping mechanisms.

5. Preoperative and Postoperative Care

- **Preoperative Care:** Nursing staff should prepare patients for surgery by ensuring they are NPO (nothing by mouth), conducting necessary laboratory tests (e.g., liver function tests, CBC), and ensuring informed consent is obtained. Anxiety reduction techniques and preoperative education about the surgical procedure and postoperative care are critical in reducing fear and ensuring cooperation.
- **Postoperative Care:** After surgery, the nurse must monitor for signs of complications, including infection, bleeding, or bile leakage. Postoperative pain management is essential, and patients should be encouraged to begin early ambulation to reduce the risk of complications such

as deep vein thrombosis (DVT). Teaching about the management of postoperative discomfort and the expected recovery process is key for a smooth recovery.

6. Monitoring and Diagnostic Support

- **Continuous Monitoring:** Nurses should continuously monitor vital signs (temperature, heart rate, blood pressure), particularly in the acute phase when infection or systemic inflammation may occur. An elevated white blood cell count (WBC) and liver enzymes may signal worsening infection or complications.
- **Diagnostic Assistance:** Nurses should assist in preparing patients for diagnostic procedures, such as ultrasound or HIDA scans, and ensure proper documentation of symptoms, test results, and any changes in the patient's condition.

7. Post-Discharge Planning and Health Education

- **Patient Education:** After discharge, nurses should educate patients about post-surgery care, including wound care, signs of complications (e.g., infection), and the importance of avoiding high-fat foods to prevent further complications.
- **Lifestyle and Diet Modification:** Nurses should guide patients on dietary modifications, promoting a healthy, low-fat diet and encouraging weight management to reduce the risk of recurrent cholecystitis. Stress management techniques may also be recommended to help prevent the recurrence of symptoms.

8. Patient and Family Education

- **Empowerment through Information:** Educating both patients and their families about the symptoms of acute cholecystitis, potential complications, and when to seek help is vital in ensuring ongoing health. Family members should be encouraged to provide emotional and practical support during the recovery phase.

By addressing these critical areas, nursing intervention protocols can improve patient outcomes and ensure a smooth recovery from acute cholecystitis. The nursing role in managing this condition is multifaceted, combining clinical assessment, pain management, emotional support, and health education to promote recovery and prevent complications.

When to Seek Help for Cholecystitis or Postoperative Complications

Patients with cholecystitis or those recovering from gallbladder surgery should seek immediate medical attention if they experience certain warning signs. A high fever may indicate an infection, such as cholangitis or abscess formation, and requires prompt evaluation. Symptoms of jaundice, including yellowish discoloration of the sclera (eyes), clay-colored stools, and dark urine, suggest possible bile duct obstruction or liver dysfunction and warrant urgent assessment. Severe abdominal pain accompanied by persistent vomiting may signal complications such as gallbladder perforation, pancreatitis, or bowel obstruction, necessitating immediate intervention. Additionally, elevated liver enzymes on laboratory tests may indicate biliary obstruction or liver involvement, which should be addressed promptly. Postoperatively, patients should monitor their surgical site for signs of infection or disruption, such as swelling, redness, warmth, or pus, as these may indicate a wound infection or dehiscence. Any unusual drainage, increased pain, or separation of the incision should also be reported to a healthcare provider without delay. Early recognition and management of these symptoms are critical to preventing serious complications and ensuring optimal recovery. Patients should be educated on these warning signs and encouraged to seek help immediately if they occur.

Outcome Identification for Cholecystitis Management

The primary goals in managing cholecystitis focus on alleviating symptoms, restoring normal function, and improving the patient's quality of life. Key outcomes include the patient being free of pain and nausea, which are hallmark symptoms of the condition. Effective pain management and resolution of inflammation should lead to a significant reduction or complete elimination of discomfort and gastrointestinal distress. Additionally, the patient should be able to tolerate a regular diet without experiencing food intolerances, particularly to fatty or spicy foods, which often exacerbate symptoms. Dietary adjustments and successful treatment should enable the patient to resume normal eating habits. Another critical outcome is the patient's ability to return to their daily activities at a level consistent with their preoperative or pre-illness baseline. This includes performing routine tasks, engaging in physical activity, and maintaining independence without limitations caused by pain, fatigue, or other symptoms. Achieving these outcomes indicates successful management of cholecystitis, whether through surgical intervention, medical treatment, or conservative measures. Monitoring these goals helps ensure that the patient's recovery is on track and that they can resume a normal, healthy lifestyle.

Monitoring for Cholecystitis and Postoperative Care

Effective monitoring is essential for patients with cholecystitis or those recovering from gallbladder surgery to ensure timely detection of complications and assess treatment efficacy. Key parameters to monitor include vital signs, such as temperature, heart rate, blood pressure, and respiratory rate, as abnormalities may indicate infection, dehydration, or systemic inflammation. A thorough abdominal exam should be performed regularly to assess tenderness, distension, or rigidity, which could suggest worsening inflammation, perforation, or other complications. Urine output is a critical indicator of hydration status and renal function, particularly in patients with vomiting or reduced oral intake. Decreased urine output may signal dehydration or impaired kidney perfusion, necessitating prompt intervention. Additionally, monitoring skin and eye color is vital to detect jaundice, which may indicate bile duct obstruction or liver dysfunction. Yellowish discoloration of the sclera (eyes) or skin, along with dark urine and clay-colored stools, should be reported immediately. By closely monitoring these parameters, healthcare providers can identify potential complications early, adjust treatment plans as needed, and ensure optimal patient outcomes. Regular assessment and documentation of these findings are integral to comprehensive care for patients with cholecystitis.

Coordination of Care

Managing acute cholecystitis has become a standard practice, yielding favorable outcomes for most patients. However, challenges persist in cases involving acalculous cholecystitis and bile duct stones. Patients with acalculous cholecystitis often require intensive care unit (ICU) management and may initially undergo aspiration before becoming stable enough for definitive surgery. Due to their high comorbidity rates, continuous monitoring is essential. Additionally, patient and family education is crucial, as acalculous cholecystitis carries a significant mortality risk. Patients with bile duct stones may require an extended hospital stay. These cases necessitate an endoscopic retrograde cholangiopancreatography (ERCP) before undergoing cholecystectomy. Since ERCP is associated with potential complications, patients must receive thorough education regarding the procedure and associated risks. Individuals with multiple comorbidities should undergo a preoperative cardiology evaluation before receiving general anesthesia. The preoperative nurse must confirm the completion of necessary assessments, including cardiac clearance, electrocardiogram (ECG), chest radiography, and blood tests, before surgery [10][11][12]. Patients with uncomplicated acute cholecystitis generally have an excellent prognosis, with minimal mortality risk. However, cases with delayed intervention may lead to gallbladder perforation or gangrene. Acalculous cholecystitis is associated with a high mortality rate ranging between 20% and 50%. Severe cases of acute cholecystitis can result in significant inflammation, complicating surgical intervention. This increases the likelihood of bile duct injury, which can lead to substantial morbidity [13][14].

Health Teaching and Health Promotion

Health education and promotion play a crucial role in preventing and managing cholecystitis, particularly for individuals at risk or those recovering from gallbladder-related issues. Patients should be advised to avoid foods high in fat, such as fried foods, greasy snacks, and rich desserts, as these can overstimulate the gallbladder and exacerbate symptoms. Instead, they should be encouraged to adopt a healthy, balanced diet rich in fruits, vegetables, whole grains, and lean proteins to support overall digestive health and reduce the risk of gallstone formation. Additionally, patients should be educated to avoid foods and beverages that cause gas, such as carbonated drinks, coffee, and certain vegetables like broccoli and cabbage, as these can contribute to bloating and discomfort. Emphasizing the importance of small, frequent meals rather than large, heavy meals can also help minimize gallbladder strain. Patients should be encouraged to maintain a healthy weight through regular physical activity and portion control, as obesity is a significant risk factor for gallbladder disease. For those with a history of cholecystitis or gallstones, regular follow-ups with healthcare providers are essential to monitor their condition and prevent recurrence. By promoting these dietary and lifestyle modifications, healthcare professionals can empower patients to take an active role in managing their health and reducing the risk of future gallbladder-related complications.

Discharge Planning

Discharge planning following gallbladder removal focuses on ensuring the patient's comfort and understanding of post-operative care. Most patients can be discharged on the same day as the surgery. Pain after the procedure is typically minimal and can usually be managed with over-the-counter analgesics. However, some patients may experience severe shoulder pain due to retained CO₂ from laparoscopic insufflation. This discomfort is common and should be explained to the patient, as it will gradually dissipate with movement and the absorption of gas, which may take up to three days. Before discharge, patients should be educated on the potential for intolerance to greasy foods. This intolerance can lead to bloating or diarrhea, which may be temporary or, in some cases, permanent. The cause of this is the decreased speed of fat emulsification due to the loss of bile storage in the gallbladder. Over time, most patients experience an increase in bile production from the liver, leading to an improvement in symptoms. Patients should be scheduled for a follow-up appointment 3 to 4 weeks after the surgery to monitor progress and address any ongoing concerns. This follow-up ensures that any potential issues are addressed early and that the patient's recovery is on track. Proper discharge planning and patient education are essential to a smooth recovery process.

Other Issues

Laparoscopic cholecystectomy has become the standard of care for treating gallstones, offering a less invasive alternative to open laparotomy. This minimally invasive procedure has low mortality and morbidity rates, a quick recovery time of around one week, and good long-term outcomes. As the preferred treatment for gallstones, it is associated with fewer complications compared to open surgery. Cholecystitis, an inflammation of the gallbladder, can occur in individuals of all ages, but the highest incidence is seen in the fourth decade of life. The classic risk factors for cholecystitis are often described by the saying "fat, forty, fertile, and flatulent." Food intolerances, particularly to greasy or fatty foods, are often the initiating cause of symptoms such as nausea, vomiting, and bloating. As the condition progresses, symptoms may persist even without food intake. The recommended treatment for cholecystitis is gallbladder removal, which historically was done through open surgery. Today, laparoscopic cholecystectomy is the preferred method, providing a quicker recovery and fewer complications. While some patients present with mild symptoms of cholecystitis and gallstones, which may be managed conservatively with dietary changes and weight loss, many eventually present with acute cholecystitis in the emergency department. When this occurs, urgent surgery is required, often increasing the risk of operative complications. For this reason, general surgeons typically recommend elective laparoscopic cholecystectomy earlier in the disease course, which can help avoid complications such as biliary obstruction and pancreatitis from passed gallstones.

Conclusion

Acute cholecystitis is a common yet complex condition requiring a multi-faceted approach to care, particularly from a nursing perspective. Its clinical presentation includes right upper quadrant pain, fever, nausea, and vomiting, which are often mistaken for other conditions, posing a diagnostic challenge. Early detection is key, and a combination of physical assessment, laboratory tests, and imaging plays a crucial role in confirming the diagnosis. Nurses are integral to managing both the physical symptoms and the emotional distress that often accompanies the diagnosis of acute cholecystitis, particularly when surgery is necessary. One of the primary nursing diagnoses in managing acute cholecystitis is anxiety. Patients often face fear and uncertainty regarding the surgical intervention, making it essential for nurses to provide emotional support and clear communication. Providing information about the procedure and postoperative expectations can help alleviate anxiety and improve patient cooperation. Additionally, pain management is a crucial aspect of nursing care. The inflammation of the gallbladder leads to significant pain, which can be managed through both pharmacological and non-pharmacological methods, including relaxation techniques and positioning. Nutritional management is another important nursing intervention. Acute cholecystitis often leads to anorexia due to nausea and gastrointestinal discomfort. Nurses must monitor the patient's nutritional intake and ensure that small, frequent meals are encouraged once the acute phase subsides. Fluid balance is also critical, as dehydration may result from vomiting and decreased oral intake. Intravenous fluids should be administered as necessary to prevent dehydration and maintain hemodynamic stability. The postoperative care phase also requires attentive nursing management. Patients undergoing laparoscopic cholecystectomy need education on managing postoperative pain, potential complications, and recovery expectations. Early mobilization, monitoring complications like infection, and providing clear discharge instructions are all essential nursing responsibilities that contribute to optimal recovery outcomes. Ultimately, comprehensive nursing care, including timely interventions, emotional support, and postoperative education, ensures that patients with acute cholecystitis achieve favorable outcomes and a smoother recovery process.

References

- Burmeister G, Hinz S, Schafmayer C. [Acute Cholecystitis]. *Zentralbl Chir.* 2018 Aug;143(4):392-399.
- Walsh K, Goutos I, Dheansa B. Acute Acalculous Cholecystitis in Burns: A Review. *J Burn Care Res.* 2018 Aug 17;39(5):724-728.
- Kohga A, Suzuki K, Okumura T, Yamashita K, Isogaki J, Kawabe A, Kimura T. Is postponed laparoscopic cholecystectomy justified for acute cholecystitis appearing early after onset? *Asian J Endosc Surg.* 2019 Jan;12(1):69-73.
- Yun SP, Seo HI. Clinical aspects of bile culture in patients undergoing laparoscopic cholecystectomy. *Medicine (Baltimore).* 2018 Jun;97(26):e11234.
- Wilkins T, Agabin E, Varghese J, Talukder A. Gallbladder Dysfunction: Cholecystitis, Choledocholithiasis, Cholangitis, and Biliary Dyskinesia. *Prim Care.* 2017 Dec;44(4):575-597.
- Halpin V. Acute cholecystitis. *BMJ Clin Evid.* 2014 Aug 20;2014
- Behari A, Kapoor VK. Asymptomatic Gallstones (AsGS) - To Treat or Not to? *Indian J Surg.* 2012 Feb;74(1):4-12.
- Apolo Romero EX, Gálvez Salazar PF, Estrada Chandi JA, González Andrade F, Molina Proaño GA, Mesías Andrade FC, Cadena Baquero JC. Gallbladder duplication and cholecystitis. *J Surg Case Rep.* 2018 Jul;2018(7):rjy158.
- Sureka B, Rastogi A, Mukund A, Thapar S, Bhadoria AS, Chattopadhyay TK. Gangrenous cholecystitis: Analysis of imaging findings in histopathologically confirmed cases. *Indian J Radiol Imaging.* 2018 Jan-Mar;28(1):49-54.
- Tootian Tourghabe J, Arabikhan HR, Alamdaran A, Zamani Moghadam H. Emergency Medicine Resident versus Radiologist in Detecting the Ultrasonographic Signs of Acute Cholecystitis; a Diagnostic Accuracy Study. *Emerg (Tehran).* 2018;6(1):e19.
- Joshi G, Crawford KA, Hanna TN, Herr KD, Dahiya N, Menias CO. US of Right Upper Quadrant Pain in the Emergency Department: Diagnosing beyond Gallbladder and Biliary Disease. *Radiographics.* 2018 May-Jun;38(3):766-793.
- Thangavelu A, Rosenbaum S, Thangavelu D. Timing of Cholecystectomy in Acute Cholecystitis. *J Emerg Med.* 2018 Jun;54(6):892-897.
- Ke CW, Wu SD. Comparison of Emergency Cholecystectomy with Delayed Cholecystectomy After Percutaneous Transhepatic Gallbladder Drainage in Patients with Moderate Acute Cholecystitis. *J Laparoendosc Adv Surg Tech A.* 2018 Jun;28(6):705-712.
- Yeh DD, Chang Y, Tabrizi MB, Yu L, Cropano C, Fagenholz P, King DR, Kaafarani HMA, de Moya M, Velmahos G. Derivation and validation of a practical Bedside Score for the diagnosis of cholecystitis. *Am J Emerg Med.* 2019 Jan;37(1):61-66.
- Gulaya K, Desai SS, Sato K. Percutaneous Cholecystostomy: Evidence-Based Current Clinical Practice. *Semin Intervent Radiol.* 2016 Dec;33(4):291-296.
- Bagla P, Sarria JC, Riall TS. Management of acute cholecystitis. *Curr Opin Infect Dis.* 2016 Oct;29(5):508-13.

- Kohga A, Suzuki K, Okumura T, Yamashita K, Isogaki J, Kawabe A, Kimura T. Outcomes of early versus delayed laparoscopic cholecystectomy for acute cholecystitis performed at a single institution. *Asian J Endosc Surg*. 2019 Jan;12(1):74–80.
- Ahmed O, Rogers AC, Bolger JC, Mastrosimone A, Lee MJ, Keeling AN, Cheriyan D, Robb WB. Meta-analysis of outcomes of endoscopic ultrasound-guided gallbladder drainage versus percutaneous cholecystostomy for the management of acute cholecystitis. *Surg Endosc*. 2018 Apr;32(4):1627–1635.
- Jones, M. W., Genova, R., O'Rourke, M. C., & Carroll, C. (2023). Acute Cholecystitis (Nursing). In StatPearls [Internet]. StatPearls Publishing.

التهاب المرارة الحاد: مراجعة محدثة لبروتوكولات التدخل التمريضي

الملخص:

الخلفية: التهاب المرارة الحاد هو التهاب في المرارة، وغالبًا ما يظهر مع ألم في الربع العلوي الأيمن من البطن، وحمى، وغثيان. يمكن أن يحدث هذا المرض مع أو بدون حصوات في المرارة، حيث يكون التهاب المرارة الحاد أكثر شدة. يعد التشخيص التفريقي أمرًا بالغ الأهمية بسبب التشابه في الأعراض مع حالات أخرى مثل قرحة المعدة أو التهاب البنكرياس. يعتمد التشخيص الفعال غالبًا على التقييم السريري، الفحوصات التصويرية، والفحوصات المخبرية. يلعب الممرضون دورًا مهمًا في معالجة الجوانب الجسدية والعاطفية للرعاية.

الهدف: تهدف هذه المراجعة إلى تقديم فهم محدث لالتهاب المرارة الحاد، مع التركيز على بروتوكولات التدخل التمريضي لرعاية المرضى بشكل فعال.

الطرق: تم إجراء المراجعة من خلال تحليل الأدبيات الموجودة حول الفسيولوجيا المرضية لالتهاب المرارة، والتشخيص، وإدارة التمريض. تم استكشاف التشخيصات التمريضية الرئيسية، بما في ذلك القلق، الألم، ونقص التغذية. تم فحص الأدلة من الإرشادات السريرية ودراسات الحالة لتحديد أفضل الممارسات للتدخلات التمريضية.

النتائج: تبرز المراجعة العديد من التدخلات التمريضية الحاسمة لإدارة التهاب المرارة الحاد. تشمل هذه التدخلات استراتيجيات إدارة الألم، تعليم المرضى لتخفيف القلق، مراقبة الحالة التغذوية، وضمان توازن السوائل. التدخل المبكر والإدارة الصحيحة، بما في ذلك التحضير للجراحة، يحسن بشكل كبير من نتائج المرضى. بالإضافة إلى ذلك، فإن دور التمريض في الرعاية قبل الجراحة، مثل تعليم المرضى حول الإجراءات وتوقعات الرعاية بعد الجراحة، أمر أساسي لتقليل القلق وتعزيز التعاون.

الخاتمة: يتطلب التهاب المرارة الحاد رعاية تمريضية شاملة، تشمل تخفيف الألم، الدعم العاطفي، وإدارة التغذية. يجب أن يكون الممرضون مهرة في التعرف على الأعراض، وتسهيل التدخلات في الوقت المناسب، وتحضير المرضى للجراحة. التشخيص المبكر وخطط الرعاية الفردية أمران حاسمان لتحسين

معدلات الشفاء وتقليل المضاعفات. يؤدي التدبير التمريضي الفعال إلى تحسين راحة المريض، وتقليل القلق، وتعزيز نتائج ما بعد الجراحة.

الكلمات المفتاحية: التهاب المرارة الحاد، التدخلات التمريضية، إدارة الألم، القلق، الرعاية التغذوية، جراحة المرارة، تعليم المرضى.