

Nursing Compendium Paper: Cholecystitis

Jared-Ramir Ronda

NUR 493: Adult Health Alterations III

Dr. Rixi Thomas

March 22, 2023

Abstract

Cholecystitis is a common and potentially recurring health problem that affects the patient's gastrointestinal and hepatobiliary systems. This essay will go over modern treatment modalities and nursing care that can help treat patients suffering from cholecystitis.

Cholecystitis is a common health problem that has afflicted millions of patients over the years, normally caused by the formation of gallstones. Cholecystitis is a common enough health issue that significant amounts of treatment and nursing care have been developed to provide relief for patients afflicted with this disease process. This essay will explore modern treatment and nursing care for this disease process.

Under normal circumstances, the gallbladder stores a substance known as bile, which is produced by the liver and travels to the gallbladder through the bile duct (Jones et al., 2022). This bile is utilized so that the body can digest fats and fat-soluble vitamins, as well as to get rid of broken-down red blood cell products known as bilirubin (Hinkle et al., 2022). However, there are conditions when the gallbladder isn't allowed to properly function, in which case cholecystitis occurs. Cholecystitis is primarily caused by gallbladder stones forming and obstructing the gallbladder, though other causes such as excessive calcium, excessive bilirubin due to sickle cell disease or other causes of red blood cell breakdown, biliary stasis, or increased biliary thickness can also cause cholecystitis (Jones et al., 2022). Due to these conditions, inflammation of the gallbladder occurs, causing the patient to experience pain and abdominal tenderness, and abdominal rigidity in the upper-right abdominal quadrant, as well as abdominal bloating (Hinkle et al., 2022). In the right conditions, cholecystitis can cause perforation or gangrene to occur (Hinkle et al., 2022). Perforation of the gallbladder is especially dangerous, as it can lead to peritonitis, which is just as serious (Rao et al., 2022). Aside from the aforementioned pain and abdominal symptoms, other signs and symptoms of cholecystitis of note would have to include Murphy's sign, in which the patient holds their breath during palpation of the right midclavicular abdominal area, pain, nausea, vomiting, and intolerance towards fatty foods (Jones et al., 2022).

One of the most important treatment modalities for cholecystitis happens to be laparoscopic cholecystectomy (Sato et al., 2022). However, one major concern for this form of treatment is the increasing population of patients in whom major surgical intervention such as laparoscopy cholecystectomy is associated with significant comorbidities that make it far less viable (Sato et al., 2022). Therefore, one major developing treatment modality in development is gallbladder drainage via the insertion of a stent, with a unique spiral-shaped stent to be inserted via endoscopic transpapillary gallbladder stenting, which itself is performed instead of cholecystectomy via the use of endoscopic retrograde cholangiopancreatography (Sato et al., 2022). The study suggested that in the short term, these spiral stents, which were used over traditional stents in order to improve drainage, were incredibly effective in the short term in relieving the cholecystitis of these patients with a reported ninety-seven percent success rate, with only mild post-operative side effects affecting patients (Sato et al., 2022). However, there were a notable number of late-term effects on a number of patients, such as recurring cholecystitis, stent migration, and penetration of the duodenum; only half of the patients were properly followed-up, and only a third of those followed-up patients suffered from late adverse effects, but there were notable side effects with the population that utilized this treatment modality (Sato et al., 2022).

Also, pertaining to alternative treatment modalities to laparoscopic cholecystectomy, another form of surgical intervention is percutaneous cholecystotomy (Park et al., 2019). While this procedure has been utilized more as a precursor treatment modality between patient stabilization and cholecystectomy, standalone percutaneous cholecystotomy has been considered an alternative to laparoscopic cholecystectomy in patients with significantly higher amounts of comorbidities or risk factors related to cholecystectomy, (Park et al., 2019). In fact, the mortality

rate for this procedure is described as less than one-fiftieth, according to one study (Park et al., 2019). However, this study notes that this mortality rate drastically increased in patients with significantly high higher amounts of comorbidities, all the way up to eighteen percent (Park et al., 2019). In addition to this, the recurrence rate of acute cholecystitis varies wildly, ranging from four percent all the way up to twenty-two percent, though this is due to these patients having significant comorbidities, and the study notes that the other related studies aren't distinguishing the recurrence rates as being caused by said comorbidities or merely the recurrence of gallbladder stones (Park et al., 2019). Nevertheless, this study has proved that percutaneous cholecystotomy has a high amount of potential as a treatment modality for cholecystitis.

However, that is not to say that laparoscopic cholecystectomy is not viable anymore. On the contrary, laparoscopic cholecystectomy is still the most common treatment modality for cholecystitis (Rao et al., 2022). In fact, it is still considered the first option for cholecystitis treatment (Park et al., 2019). Laparoscopic cholecystectomy replaced the previously common open cholecystectomy treatment modality after the latter had proven to be impractical due to significant trauma and bleeding, as well as higher incidences of infection (Rao et al., 2022). One study suggested that laparoscopic cholecystectomy is highly effective in reducing post-operative hospital stays, postoperative bleeding, and shorter times in surgery (Rao et al., 2022). Additionally, laparoscopic cholecystectomy has a significantly lower rate of infection and postoperative injury, and complications in comparison to open cholecystectomy (Rao et al., 2022). Despite this, and as stated earlier, the same study has shown that laparoscopic cholecystectomy is still impractical for more complicated cases with more comorbidities, and can lead to further complications than other treatment modalities (Rao et al., 2022). However,

even with its impracticality in more complicated cases, laparoscopic cholecystectomy is still considered the primary treatment modality for patients undergoing cholecystitis, and the procedure's short postoperative recovery time makes it ideal for non-complicated cases (Rao et al., 2022). However, no procedure by itself will help patients recover from cholecystitis, nursing care is needed for proper patient recovery.

Nursing treatment for cholecystitis is largely based on preoperative and postoperative care for laparoscopic cholecystectomy (Cheng et al., 2023). Fortunately, the general prognosis for cholecystitis is very favorable, and the patient can generally recover in a timely manner with minimal complications, though acalculous cholecystectomy has a higher mortality rate than calculus cholecystitis (Jones et al., 2022). In addition, it should be noted that nursing care alone isn't as efficient toward patient recovery and quality of life as a multidisciplinary approach (Lu et al., 2022). A multidisciplinary team approach to patient care has significantly better patient outcomes and higher quality of life in patients in comparison to a solitary hierarchal nursing management approach; it is better for patient outcomes when the nursing team collaborates with the rest of the multidisciplinary team when it comes to patient outcomes (Lu et al., 2022). One study suggested that the multidisciplinary team approach can fully integrate care for patients suffering from cholecystitis (Lu et al., 2022). To begin with, care is prioritized in that the patient is able to mobilize, absent of any postoperative complications, and is able to resume a normal diet as soon as possible (Cheng et al., 2023). However, there are general assessments, diagnoses, and nursing interventions to provide care for these patients. In terms of assessments, an abdominal assessment is ordered to detect for Murphy's sign and other signs of abdominal complications such as the development of peritonitis (Jones et al., 2022). Furthermore, a complete blood count may be ordered to check for elevated bilirubin levels and a liver enzyme

test is performed to check for elevated liver enzymes, both before and after the laparoscopic cholecystectomy (Jones et al., 2022). Vital signs are also monitored, as well as urine output and jaundice or other signs of liver dysfunction (Jones et al., 2022). Furthermore, all medications should be administered as prescribed, and the surgical site should be monitored for any signs of complications such as evisceration or infection (Jones et al., 2022). In terms of teaching, the patient should be taught to avoid foods that can cause exacerbations, such as carbonated drinks or fatty foods, and the patient should be able to manage postoperative pain with mobilization and analgesics, which can usually be purchased over the counter (Jones et al., 2022). Follow ups with the PCP are usually at most a month after the laparoscopic cholecystectomy, and it should be emphasized for the patient to follow up care with their PCP and to report any complications after discharge (Jones et al., 2022). Care for cholecystectomy is comprehensive enough that there should be minimal complications with the patient should everything go right.

Cholecystitis is a common, yet very treatable disease process. While it can cause significant distress for the patient, modern treatment and nursing care can help mitigate suffering and maximize recovery for the patient. With advancing medical technology and treatment modalities, while cholecystitis will never be truly eliminated, it can be treated more and more effectively until suffering is practically nonexistent.

References

- Cheng, L., Wang, L., & Xu, W. (2023). Effect of clinical nursing pathway guided by Omaha system in patients with calculous cholecystitis undergoing laparoscopic cholecystectomy. *Minerva pediatrics*, 75(1), 152–155. <https://doi.org/10.23736/S2724-5276.22.07101-4>
- Hinkle, J. L., Cheever, K. H., & Overbaugh, K. J. (2022). *Brunner & Suddarth's textbook of Medical-Surgical Nursing* (15th ed.). Wolters Kluwer Health.
- Jones, M. W., Genova, R., & O'Rourke, M. C. (2022). Acute Cholecystitis (Nursing). In *StatPearls*. StatPearls Publishing.
- Lu, L., Yang, J., Zheng, J., Zhang, C., Yang, Y., & Huang, J. (2022). The Effect of MDT Collaborative Nursing Combined with Hierarchical Nursing Management Model on the Quality of Life and Comfort of Patients with Gallbladder Stones Combined with Acute Cholecystitis after Surgery. *Computational & Mathematical Methods in Medicine*, 1–7. <https://doi-org.ezproxy.nyack.edu/10.1155/2022/8696084>
- Park, J. K., Yang, J. I., Wi, J. W., Park, J. K., Lee, K. H., Lee, K. T., & Lee, J. K. (2019). Long-term outcome and recurrence factors after percutaneous cholecystostomy as a definitive treatment for acute cholecystitis. *Journal of gastroenterology and hepatology*, 34(4), 784–790. <https://doi.org/10.1111/jgh.14611>
- Rao, L., Zhou, G., Gao, Y., Huang, Y., He, H., & Gu, Q. (2022). Effectiveness of Laparoscopic Cholecystectomy in Patients with Gallbladder Stones with Chronic Cholecystitis. *Evidence-Based Complementary & Alternative Medicine (ECAM)*, 1–5. <https://doi-org.ezproxy.nyack.edu/10.1155/2022/1434410>

Sato, J., Nakahara, K., Michikawa, Y., Suetani, K., Igarashi, Y., Sekine, A., Satta, Y.,

Kobayashi, S., Otsubo, T., & Tateishi, K. (2022). Long-term outcomes of endoscopic transpapillary gallbladder drainage using a novel spiral plastic stent in acute calculus cholecystitis. *BMC Gastroenterology*, 22(1), 1–7.

<https://doi-org.ezproxy.nyack.edu/10.1186/s12876-022-02610-5>