Acute appendicitis

1. Definition and clinical manifestations of Appendicitis

Acute appendicitis is an inflammation of the appendix due to infection (LeMone et al, 2011). Appendicitis occurs when the vermiform appendix becomes inflamed which commonly causes acute pain of the abdomen, (Lemone et al, 2011). The signs and symptoms of appendicitis differ among patients (LeMone et al, 2011). Abdominal pain is the most common symptom. Specific characteristics of abdominal pain and other associated symptoms have proved to be reliable indicators of acute appendicitis (LeMone et al, 2011). Loss of appetite, nausea and vomiting are commonly associated with appendicitis (LeMone et al, 2011). as is a change in bowel habit with a tendency to constipation (LeMone et al, 2011). The patient's temperature may be normal or slightly raised. The pulse may show an increase and the tongue is usually furred and moist (LeMone et al, 2011). The white blood cell (leukocyte) count may be raised above 10, 000/m3 (LeMone et al, 2011). (Humes & Simpson, 2011) stated that " the principal presenting complaint of patients with acute appendicitis is abdominal pain". LeMone et al, 2011 claimed that the initial symptom of acute appendicitis is upper quadrant generalized pain for at least four hours, after which the pain intensifies and migrates to the right lower quadrant (RLQ) of the stomach. The pain is made worse by walking or coughing. The patient feels the pain on palpation at McBurney's point (Humes & Simpson, 2011). The pain is also felt when pressure is released. Patients with appendicitis may present with anorexia, lower grade temperature, nausea and vomiting followed by pain, which is suggestive of blockage of the bowel, (Craig & Brenner, 2012). David presented with fever, which is an indication of inflammation. Elevated

temperature of 38. 7degrees, tachycardia and tachypnoea are all indications of infection (LeMone et al, 2011). Diaphoresis is the profuse sweating and it occurred as the body tried to compensate for high temperature or fever David had (Porth & Matfin, 2009). He presented with right lower quadrant pain which is severe tummy pain accompanied by altered bowel elimination including diarrhoea. Dehydration can be a result of previous episodes of nausea and vomiting which he experienced before he presented to the Emergency Department. Some patients with acute appendicitis present with tachycardia and headache. Painful urination is also a symptom of appendicitis. (Craig & Brenner, 2012) claimed that " An inflamed appendix near the urinary bladder or ureter can cause irritative voiding symptoms and hematuria or pyuria".

2. Investigations

According to LeMone et al, 2011, possible complications of acute appendicitis can be perforation, peritonitis and abscess. Increased pain and high fever can manifest perforation. A severely swollen appendix left untreated can eventually burst within 24 hours, therefore, prompt medical examination and therapy is vital.

2. 1 Nursing Assessment

Full physical and neurological assessment is vital to get the full information regarding the patient's health. It is also important to know if the patient is allergic to any medication and the reaction to allergen, the current medications that the patient is taking at home (LeMone, 2011). Assessing the patient's Nutrition, hydration, Mobility and transfer is also very vital.

Assess the abdomen for distension, tenderness on palpation, color, bowel sounds and pain using the numerical pain rating scale

2. 2 Doctors assessment

A careful systemic examination of the abdomen is essential. This is the most accurate way to diagnose appendicitis and will be carried out by a member of the surgical team. The white blood cell count should be checked. In 80 per cent of cases the level will be elevated.

2. 3. Diagnostic testing

A careful systemic examination of the abdomen is essential. This is the most accurate way to diagnose appendicitis and will be carried out by a member of the surgical team. The white blood cell count should be checked. In 80 per cent of cases the level will be elevated. Ultrasound and computerised tomography scans are rarely used. “ A diagnosis of acute appendicitis is usually made on the basis of a patient’s clinical history in conjunction with physical examination and laboratory studies” (Incesu & Lin 2013). The doctor assesses the patient’s abdomen with information gathered from the nursing assessment then orders various diagnostic and laboratory test. LeMone et al, 2011 suggests an abdominal ultrasound as the constructive means of detecting acute appendicitis and abdominal X-rays are also other means capable of diagnosing appendicitis. According to Incesu & Lin, 2013, “ CT scanning can be used to evaluate an abnormal appendix and the nature, severity, and extent of the associated inflammatory process.” In addition to that, the doctor can also take some bloods for blood cultures and full blood

count. White blood cell count range of 10000-20000 cells/µL indicates appendicitis (LeMone et al, 2011).

3. 0. Medications

3. 1. Antibiotics

Antibiotics play a vital role in providing remedies in patients with appendicitis. (Incesu & Lin, 2013). Hanson et al, 2012 states that piperacillin plus tazobactam 4 g should be administered intravenously 8 hourly three times daily. It has activity against Gram negative and positive microbes as well as anaerobic bacteria (MIMs, 2011). It is composed of " antipseudomonal penicillin plus beta-lactamase inhibitor; inhibits biosynthesis of cell wall mucopeptide synthesis by binding to 1 or more of the penicillin-binding proteins and is effective during active-multiplication stage" (Mims, 2012). Side effects include Symptomatic hypertension characterized by nausea, headache, Nausea, vomiting, constipation, abdominal pain and diarrhoea may occur, but these reactions are often transient. Hypersensitivity reactions may occur manifested by dermatitis, pruritus or rash, with or without fever (MIMS, 2011).

3. 2 Analgesics

Tramadol hydrochloride is a narcotic analgesic that can be administered intravenously or orally to relieve moderate to severe pain. Its brand name is Tramahexal injection. Tramadol Hydrochloride is a centrally acting Synthetic analgesic of the aminocyclohexanol group with opioid-like effects (Mims, 2011). The most common side effects are, nausea, dizziness, sweating and

also common is vomiting, constipation, and autonomic nervous effects mainly dry mouth and perspiration, headache, sedation, asthenia, fatigue. Hypertension, tachycardia and dyspnea are rare (Mims, 2011).

3. 3. Antiemetic

Metoclopramide also known, as Maxolon is a dopamine antagonist used to treat nausea and vomiting (Mims, 2011). It can be administered orally, intravenously and intramuscular. Maxolon increases peristalsis resulting in accelerated gastric emptying and intestinal transit (Mims 2011) Maxolon prompts motility of the upper gastrointestinal tract without arousing gastric, biliary or pancreatic secretions (Mims, 2011). The therapeutic level of Maxolon is one to three minutes after an IV administration, 10 to 15 minutes after an IM dose, and 30 to 60 minutes after an oral administration and its effective for one to two hours. Maxolon can also be sedative (Mims, 2011).

3. 4 Intravenous hydration

LeMone et al, 2011, states that IV infusion is initiated before appendectomy in order to reinstate blood volume and stop electrolyte inequality. 0. 9% Sodium chloride solution is ideal in expanding intravascular volume as well as replacing sodium loses (LeMone et al, 2011).

4. 0. Preoperative Care

It is important to prepare a patient several hours pre-surgery. The patient should be nil by mouth at least for 12 hours pre surgery. The patient may be dehydrated due to symptoms such as vomiting. As a nurse I would administer IV fluids. I would record patient’s vital signs every 2-4 hours. I

would advise some nurses not to apply any heat over the area of pain while the patient is awaiting diagnosis as this could cause the appendix to rupture. Analgesia should not be administered before examination because this can lead to an inaccurate diagnosis as the pain may subside and the examination will be ineffective. If appendicitis has been diagnosed regular analgesia, usually an opioid depending on pain severity, should be given to make the patient comfortable before treatment. According to LeMone et al, 2011, Preoperative care involves getting the patient ready for the procedure physically and psychologically. Patient may feel anxious so I as a nurse or surgical team should fully explain the procedure to David and answer any questions. The operation site will be washed and shaved before surgery, depending on local procedures. Continue IV hydration as per doctor's orders and withhold anticoagulants if patient is on them to prevent bleeding during surgery. I would make sure the patient has two white identification bands, on wrist and ankle and red ID bands if patient has allergies. The patient will be assisted in wearing Ted stockings to avoid venous thromboembolism. Performing a pre-op Braden scale to check the patient's skin integrity is also vital.

5. Postoperative care

The severity of the patient's pain needs to be assessed with the use of a pain scale. Appropriate pain relief can then be administered. Vital signs should be regularly monitored as per hospital policy, some hospitals state half-hourly intervals for two hours postoperatively, hourly for two hours and, if stable, every four hours while the patient is recovering in hospital. The wound should be managed aseptically. If the wound is covered with a dry dressing

then it should be changed every 1-2 days.. Before discharge, the patient must be confident in how to manage their wound and have details of who they should contact in case of concern. I would encourage David to get up and out of bed as soon as possible to prevent the formation of emboli. Anticoagulants are usually administered in the form of subcutaneous injections before surgery and postoperatively. Antiembolism (ted stockings) should be worn. If peritonitis has developed, the patient's postoperative management will be over a longer period but will follow the same principles. The hospital stay for patients who have undergone an uncomplicated appendectomy is usually 2-3 days. In most cases the patient will be discharged when their temperature is normal and their bowels have started to function again (Peterson, 2002). Continue with IV infusion once David is back to the war. Measure and record fluid input and fluid output, assess the level of consciousness (nursing Practice guideline 55). I would continue the patient controlled analgesia observations hourly and maintain a pain score below 5/10. I would check the wound and assess any bleeding and signs of infection. I would encourage patient to do deep breathing and early mobilization to improve his respiratory function (McConnell, 2001). I would also listen for bowel sounds and check if the patient is passing flatulence so as to commence diet and fluids orally.

6. 0. Postop Care plan

1. Pain related to effects of surgery/surgical incision.

Expected Outcomes – Patient will verbalize that pain management regimen alleviates pain to satisfactory level

Nursing Interventions	Rationale
1. Assess the intensity and location of pain a client by using a self-report such as the 0 to 10 numerical pain rating.	Systematic assessment and documentation of pain intensity and location gives direction for the pain treatment plan.
2. Perform pressure area care.	Enhance patient comfort.

2. *Potential for wound infection related surgical incision.*

Expected Outcomes- Patient will remain infection free throughout the period of hospitalisation.

Nursing Interventions	Rationale
1. Assess and report any signs of infection such as redness, warmth, and discharge.	Nurses should use aseptic technique during wound care management to prevent infection.
2. Use careful sterile technique during wound care management.	Literature search revealed that sterile gloves should be used for postoperative wound dressing changes (NANDA, n.
3. Use universal precautions for	

instance hand washing technique.	d.) To prevent cross infection.

4. Imbalanced Nutrition related to depression manifested by Poor appetite and weight loss

Expected outcomes: will enhance dietary intake; identify the nutritional needs for recovery.

Nursing Interventions	Rationale
1. Assess the patient's nutritional state and ensure patient tolerates diet and fluid.	To overcome nutritional imbalances and insure a balanced diet (Nanda, n. d.).
2. Assess the	

patient’s ability to meet nutritional requiremen t.

1931 words

References

Bachman, c., (2013). Fostering Quality anesthesia and Perioperative care and alleviating pain in children: Preoperative Fasting. Retrieved fromhttp://www. pedsanesthesia. org/patiented/fasting. iphtml

Craig, S. & E Brenner, B. E., (2012). Appendicitis, Retrieved fromhttp://emedicine. medscape. com/article/773895-overview

Crisp, J. & Taylor, C. (2009). Fundamentals of nursing (3rd ed.). NSW: Mosby

Carpenito-Moyet, L. (2010). Hand book of Nursing Diagnosis (13th ed.). Philadelphia, USA: Lippincott Williams & Wilkins

Humes, D. J., & Simpson, J. (2006) Acute Appendicitis. BMJ. 333(7567): 530-534

Incesu, L., Lin, E. C., (2013). Appendicitis Imaging, Retrieved fromhttp://emedicine. medscape. com/article/363818-overview

LeMone, P., Burke, K., Dwyer, T., Levitt-Jones, T., Moxham, L., Reid-Searl, K., Berry, K., et al, (2009). Medical-Surgical Nursing: Critical Thinking in Client Care (1st Australian Edition). Sydney: Pearson & Prentice Hall.

McConnell, E. A. (2001). Appendicitis: What a pain! Nursing. 31, 8;

MIMS, (2011)

NANDA. (No date). Nursing diagnosis and nursing interventions for appendicitis. Retrieved fromhttp://nanda-nurse-diary. blogspot. com. au/2013/01/ncp-appendicitis-6-nursing-interventions. html

Porth, C. M., & Matfin, G. (2009). Pathophysiology: Concepts of Altered States (8th Edition). Philadelphia: Lippincott Williams & Wilkins

Hansson, J., Korner, U., Ludwigs, K., Johnsson, E., Jonsson, C., et al. (2012). Antibiotics as First-line Therapy for Acute Appendicitis: Evidence for a Change in Clinical Practice. World Journal of Surgery. Retrieved from

http://search. proquest. com. dbgw. lis. curtin. edu. au/pubidlinkhandler/sng/pubtitle/World+Journal+of+Surgery/$N/47185/ PagePdf/1032774639/fulltextPD F/1419915CA7D223482DF/6? accountid= 10382

Page1of8