Medications

Acetaminophen (Tylenol) – 500mg=1 tab, PO, Q4 PRN, Pain/Fever, Pharmacological: Nonsalicylate, Therapeutic: Antipyretic, Monitor liver function & use cautiously with renal impairment

Ketorolac (Toradol) – 15mg=1ml, IV, Q6, Acute pain, Pharmacological: NSAID, Therapeutic: Analgesic, Access patient's level of pain & administer with antacid or food to prevent GI upset

Oxycodone – 3.9mg (0.1mg/kg), PO, Q6 PRN, Acute severe pain, Pharmacological: Opioid, Therapeutic: Opioid Analgesic Controlled substance schedule II, Assess patient's level of pain & and administer with an antacid or food to prevent GI upset

Ceftriaxone – 2000mg in 0.9% NaCl (140ml/hr) *Safe dose, IV, Q24, Treat infection, Pharmacological: Third-generation cephalosporin, Therapeutic: Antibiotic, Monitor BUN and serum creatinine levels for signs of nephrotoxicity & Assess bowel patterns

Metronidazole (Flagyl) – 1,120mg (702ml/hr) *Safe dose, IV, Daily, Treat systemic anaerobic infection, Pharmacological: Nitroimidazole, Therapeutic: Antiprotozoal, Monitor for hepatotoxicity & neurological status

D5 0.9% NaCl with KCl 20mEq – 50ml/hr *Safe dose, IV, Treat hypokalemia, Pharmacological: Electrolyte cation, Therapeutic: Electrolyte replacement, Monitor serum potassium levels & monitor for cardiac arrythmias

(Learning, J & B., 2023)

Demographic Data

Admitting diagnosis: Abdominal Pain

(Acute Perforated Appendicitis)

Age of client: 10 years old

Sex: Female

Weight in kgs: 39.1 kg

Allergies: NKA

Date of admission: 09/17/2024

Psychosocial Developmental Stage: As expected, appropriate for age

Cognitive Development Stage: As expected, appropriate for age

Admission History

The patient presented to the emergency department on 09/17/2024 with severe abdominal pain. The pain was described as sharp, aching, and 10/10 on the numerical pain scale. Moving or applying pressure to the abdomen caused the pain to worsen. The patient stated the pain was still a 6/10 at rest; however, lying down was the only thing that made the pain more tolerable. No medical interventions had been taken prior to being admitted.

Pathophysiology

Disease process: Appendicitis is inflammation of the appendix, in which the appendix can become inflamed, swollen, infected, and rupture causing peritonitis (Capriotti, 2020). This is a medical emergency that typically requires surgery but may also be treated solely by antibiotics if caught early. One major cause of appendicitis may be in result of the narrowing of the appendix lumen resulting in decreased blood supply to the area (Capriotti, 2020). Another cause includes the possibility of trapped mucous secretions increasing intraluminal pressure and distention (Capriotti, 2020). Inflammation occurs due to bacteria attacking the wall of the appendix in the protective mucosal layer (Capriotti, 2020). This tissue ischemia may then result in the dying of tissue and perforation of the appendix (Capriotti, 2020).

S/S of disease: Signs and symptoms of appendicitis may include abdominal pain radiating from the umbilicus to the RLQ, guarding, abdominal distension, fever, nausea, vomiting, diarrhea, and loss of appetite (Capriotti, 2020). Common labs may indicate elevated WBCs and C-reactive protein indicating infection and inflammation (Capriotti, 2020).

Method of Diagnosis: The clinical diagnosis of appendicitis is based on mixed methods of physical examination findings, abdominal x-ray, CT scan, elevated WBCs, or an abdominal ultrasound (Capriotti, 2020). Physical examination findings include rebound tenderness upon deep palpation of the abdomen, a positive Psoas sign (Supine with right hip flexed), a positive Rovsing's sign (Palpation of LLQ with pain radiating to RLQ), or a positive Obturator sign (RLQ pain from internal/external rotation of flexed right hip).

Treatment of disease: A surgical laparoscopic appendectomy with appropriate pain management is used in treating acute perforated appendicitis. (Capriotti, 2020). In addition, effective antibiotic treatment against gram-negative bacteria should be administered pre-operatively and up to a minimum of 48 hours post-operatively (Capriotti, 2020).

Relevant Lab Values/Diagnostics

WBC – 12,850 (5000-10,000); High due to patient's history of infection, recent surgery, and response to wound healing

RBC – 3.42 (4-5.5); Low due to patient's history of recent acute perforated appendix and surgical repair

HCT – 29.9 (32-44); Low due to patient's low RBC count, elevated WBC count, and dehydration

Potassium – 3.2 (3.4-4.7); Low due to patient's increased nausea, vomiting, and diarrhea

CT scan – **Findings indicate acute appendicitis with a 9mm appendicolith and perforation present

Ultrasound – No acute findings, as expected

(Pagana et al., 2022)

Medical History

Previous Medical History: Mild Asthma, Neutropenia, Adenoid Hypertrophy, Ganglion Cyst, Langerhans's Cell Histiocytosis (Completed Chemotherapy 2018)

Prior Hospitalizations: N/A (Nothing listed in chart)

Past Surgical History: Adenoidectomy (06/28/2016), Laparoscopic Appendectomy (09/19/2024)

Social needs: N/A

Active Orders

Vital signs – Q4 monitoring

Intake & Output – Monitoring fluid balance due to the patient's increased nausea, vomiting, and diarrhea resulting. The patient also presents with decreased appetite, dehydration, and a low potassium level

IV Peripheral Access – Ordered for IV fluid and medication administration

Ambulation – To improve blood flow to promote wound healing, and to improve breathing post-surgery due to being under general anesthesia

Med Education – To educate the patient and parents about the medications prescribed to help facilitate safe medication administration and adherence to the medication regimen

Regular Diet – Ordered as tolerated to ensure adequate fluid and nutrition needs are met

PRN Pain Medication – To meet the analgesic requirement for the patient as needed because of acute appendicitis and recovery from surgical repairment

Neonatal/Pediatric Airway Status – Indicated for airway management while the patient was under general anesthesia. Also, in monitoring status of airway with increased vomiting

Assessment	
General	Alert and responsive, no acute distress, normal appearance
Integument	Skin color normal for ethnicity, dry, warm, intact, tan, no rashes/lesions/lumps/bruises, capillary refill <2 seconds, no signs of jaundice, 3 small incision sites located in left and right lower quadrants of abdomen from laparoscopic appendectomy
HEENT	Skull and face are symmetrical, normocephalic and atraumatic, no tracheal deviation, no rashes/ lesions/lumps/bruises, no palpable lymph nodes, palpable carotid, eyes are PERRLA, conjunctiva pink, sclera white, EOMs as expected, hearing intact, no septum deviation, no pain when palpating sinuses, tongue/uvula midline, lips pink/moist, buccal mucosa pink/moist
Cardiovascular	Normal sinus rhythm, S1/S2 sounds heard upon auscultation, pulses 3+ normal, no edema, no jugular vein distension
Respiratory	Respirations regular, no use of assessor muscles, breath sounds clear bilaterally, lung aeration equal, no respiratory distress
Genitourinary	Bowel sounds active, regular diet, abdominal flat, no distension, no mass upon palpating, abdominal tenderness around surgical sites (Result of acute perforated appendicolith and laparoscopic appendectomy), no guarding, surgical incisions in lower abdomen (Result of laparoscopic appendectomy), surgical site clean, last bowel movement today (09/20/2024)
Gastrointestinal	No pain upon urination, no catheter present, no incontinence
Musculoskeletal	All extremities symmetrical movement, no weakness, no use of supportive devices, equal grip strengths
Neurological	No deficits, alert and oriented to person/place/situation/time, answered questions and responded appropriately
Most recent VS (highlight if abnormal)	**Time:** 16:30 **Temperature:** 36.8 C **Route:** Oral **RR:** 20 **HR:** 81 **BP:** 112/68 **Oxygen saturation:** 99% **Oxygen needs:** Room Air
Pain and Pain Scale Used	Numerical Pain Scale (3/10)

Nursing Diagnosis 1	**Nursing Diagnosis 2**	**Nursing Diagnosis 3**
Risk for acute pain related to surgical intervention as evidenced by expression of pain around surgical site	Risk for fluid and electrolyte imbalance related to diarrhea and vomiting as evidenced by decreased appetite and low potassium	Risk for infection related to surgical interventions as evidenced by the patients need for assistance managing wound care
Rationale This nursing diagnosis was chosen due to the patient's pain post-surgery	**Rationale** This nursing diagnosis was chosen due to the patient's diagnosis causing increased nausea, vomiting, and diarrhea. The patient also presented with a low serum potassium level	**Rationale** This nursing diagnosis was chosen due to the high risk for infection post-surgery, and the patient needing parental management of the surgical site upon discharge
Interventions **Intervention 1:** Administer pain medications as ordered to keep post-surgical pain at a tolerable level **Intervention 2:** Assist the paint with transferring to the bathroom, and in positioning in bed to keep them comfortable	**Interventions** **Intervention 1:** Administer antiemetic and antidiarrheal medications as ordered to assist in preventing excess vomiting and diarrhea **Intervention 2:** Monitor intake and output to ensure the patient maintains a proper fluid balance. Collect and evaluate serum electrolyte results as ordered	**Interventions** **Intervention 1:** Administering antibiotics as ordered to prevent infection and promote wound healing **Intervention 2:** Provide proper wound care to the surgical site by keeping the site clean and dry, and educating the parents throughout the process to ensure they understand how to manage the wound step-by-step
Evaluation of Interventions The patient tolerated both pharmacological and nonpharmacological interventions for pain management very well	**Evaluation of Interventions** The patient maintained adequate fluid balance consistent with ordered diet. The patient-maintained electrolyte levels within normal limits	**Evaluation of Interventions** The patient kept the surgical site clean and dry and remained symptom-free of infection

(Phelps, 2023)

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