

Medications

Acetaminophen (Tylenol): 320mg oral tablet every 6 hours PRN

Pharmacological Class: Nonsalicylate

Therapeutic Class: Antipyretic

Why taking: To relieve and manage pain for appendicitis.

Key Nursing Assessments: Ability to swallow, assess for an allergy to acetaminophen and get pain rating before administration to evaluate pain after medication is taken (Jones & Bartlett, 2022).

Potassium Chloride in D5W and 0.45 Sodium Chloride: 1L @ 50mL/hr Continuous IV

Pharmacological Class: Electrolyte cation

Therapeutic Class: Electrolyte replacement

Why taking: To prevent low potassium levels in the body.

Key Nursing Assessments: Monitor patients potassium levels regularly, monitoring vital signs, and reporting s/s of hyperkalemia and hypokalemia (Jones & Bartlett, 2022).

Piperacillin (Tazobactam) in 0.9% Sodium Chloride: 1g @ 100mL/hr every 8 hours IV

Pharmacological Class: Penicillin's

Therapeutic Class: Antibacterial agent

Why taking: Piperacillin is effective against bacteria commonly found with appendicitis. It will help control the patient's infected appendix and prevent complications (Jones & Bartlett, 2022).

Key Nursing Assessments: Assess for allergy to penicillin's, take vitals before starting drip, monitor fluid balance and renal function, and monitor for development of antibiotic resistance (Jones & Bartlett, 2022).

Demographic Data

Admitting diagnosis: Acute Appendicitis

Age of client: 8 years old

Sex: Male

Weight in kgs: 25.8kg

Allergies: Lactose (stomach cramps)

Date of admission: 11/11/2023

Psychosocial Developmental Stage: Industry vs. Inferiority

Cognitive Development Stage: Concrete Operational

Admission History

Pathophysiology

Disease process:

Appendicitis is caused by the inflammation and infection of the appendix. The appendix is located on the lower right side (RLQ) of the abdomen (Jones, 2023). Appendicitis likely stems from obstruction by stool or foreign objects (Jones, 2023). The buildup can result in bacteria and mucus, causing inflammation and swelling. If left untreated the appendix can perforate, leading to a more critical infection. (Jones, 2023). The patient had been experiencing abdominal pain in his right lower abdomen, likely due to an appendicolith. This resulted in admission to the hospital due to RLQ pain, elevated WBC count, and indicators of inflammation (ESR & C-Reactive protein).

S/S of disease:

Signs and symptoms of appendicitis include abdominal pain starting around umbilicus and moves to right lower quadrant of the abdomen, loss of appetite, N/V, fever, and an elevated WBC count (Jones, 2023). The patient had nausea and vomiting, loss of appetite, and pain in the RLQ before being admitted to the hospital.

Method of Diagnosis:

Appendicitis is commonly diagnosed by getting a medical history, physical exam, and diagnostic test. (Jones, 2023). The provider will assess signs and symptoms, perform abdominal pain assessments in RLQ, order blood test, ultrasounds, CT, and MRI scans. These test help diagnose the patient and the severity of the case (Jones, 2023). The patient and his aunt were interviewed for a medical history. The patient received a physical exam from the provider to assess abdominal pain and was ordered a CBC and an abdominal CT scan to determine diagnosis of acute appendicitis.

Treatment of disease:

Treatment of appendicitis usually involves surgical removal of the appendix (appendectomy) (Jones, 2023). The surgery can be an open procedure or laparoscopically (Jones, 2023). Antibiotics may be prescribed both before and after the appendectomy to treat the bacterial infection of the appendix (Jones, 2023). The patient is currently on piperacillin which is effective against common bacteria found in appendicitis. It is important to note that antibiotics should not be abruptly stopped, and adherence to the medication regimen is vital.

Why patient sought care: The patient was having complaints of abdominal pain for the last two days with nausea and vomiting present.

What brought them to the hospital: The patient's guardian took him to the PCP's office where the provider noted a 102-degree fever and rebound tenderness upon assessment and palpation. PCP admitted the patient to the pediatric department.

How were symptoms managed: The patient stated that "laying down and not moving helped his abdominal pain feel better". The patient's aunt gave him acetaminophen (Tylenol) to help manage his pain. Aggravating factors included ambulation and movement.

Relevant Lab Values/Diagnostics

WBC: 15.0 (3.84-9.84 10^3 /uL) - A high WBC count indicates an immune response to the patient's appendicitis in which the area is infected and inflamed (Capriotti, 2022).

Erythrocyte Sedimentation Rate (ESR): 24 (0-10 mm/hr) - A high ESR count indicates inflammation. The patient is experiencing an inflamed appendix (Capriotti, 2022).

C-Reactive Protein (CRP): 1.5 (<1.0mg/dL) - Marker of inflammation in the patient's body due to appendicitis (Capriotti, 2022).

DIAGNOSTICS:

ABD CT Scan findings: Appendix found to be dilated by more than 6mm, thickening of wall more than 2mm, adjacent mesenteric fatty stranding and lymph nodes, appendicolith, and peri-intestinal fluid were identified.

Relation: The findings indicate a confirmed diagnosis of appendicitis. Dilation, wall thickening, appendicolith, and other findings are strong indicators of appendicitis.

Medical History

Previous Medical History:

Gastroenteritis (2017)

Prior Hospitalizations:

Dehydration following gastroenteritis (2017)

Past Surgical History: N/A

Social needs:

The patient lost his parents at a young age and his current guardian is his aunt.

The patient may need emotional support from counseling or therapy, stable living arrangements, and support groups to provide guidance.

Active Orders

Activity-Up ad lib - Patient can move around as they need, after surgery ambulation and movement is encouraged.

Cardiac monitor - Monitors patient heart rate and rhythm and for infusion of Potassium Chloride.

Daily Weight - To detect any changes in the patient such as dehydration and fluid retention.

Incentive Spirometry - Improve lung function after surgery.

Intake and Output-Strict - To closely monitor the fluids they receive and fluids they eliminate.

Vital signs - To monitor for any changes and complications.

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Diet-Clear liquids - To reduce strain on inflamed appendix.

Diet-NPO - To prepare patient for appendectomy.

Assessment	
General	Alert and Oriented to person, place, time, and situation (A&Ox4). Speech is clear and patient is calm, and in no acute distress.
Integument	Skin is usual for ethnicity, without discoloration, warm and dry upon palpation.
HEENT	Head and neck is symmetrical with no deviation or lymphedema. Eyes, ears, nose, and teeth are within normal limits.
Cardiovascular	Clear S1 & S2 sounds without murmurs, gallops, or rubs. Normal rate and rhythm.
Respiratory	Normal rate and pattern of respirations, nonlabored, lung sounds clear without crackles, wheezes, or rhonchi noted.
Genitourinary	No abnormalities noted upon inspection. The patient is voiding clear-yellow urine.
Gastrointestinal	Abdomen is soft, tenderness and pain located in Right Lower Quadrant (RLQ). Rebound tenderness was noted upon deep palpation of RLQ and the patient is guarding painful area. No organomegaly or masses noted upon palpation of RUQ, LLQ, LUQ. Bowel sounds are hypoactive in all four quadrants. McBurney's sign: Positive for appendicitis. The patient's pain, rebound tenderness, guarding, and positive McBurney's sign are related to acute appendicitis (Wagner, 2023).
Musculoskeletal	All extremities have full range of motion. Hand grips and pedal pushes and pulls are normal and equal strength. Balanced and smooth gait with abdominal pain on ambulation.
Neurological	PERRLA intact, Negative Romberg's sign, and alter and awake answering questions appropriately.
Most recent VS (highlight if abnormal)	Time: 0206 Temperature: 98.8°F Route: Oral RR: 22 HR: 96 bpm BP and MAP: 98/60 and 72 (MAP). Oxygen saturation: 97% Oxygen needs: Room air
Pain and Pain Scale Used	Faces pain rating: 2

<p align="center">Nursing Diagnosis 1 Acute Pain related to appendicitis as evidenced by positive McBurney's sign (Wagner, 2023).</p>	<p align="center">Nursing Diagnosis 2 Ineffective Tissue Perfusion related to appendix obstruction as evidenced by hypoactive bowel sounds (Wagner, 2023).</p>	<p align="center">Nursing Diagnosis 3 Risk for Deficient Fluid Volume related to vomiting as evidenced by NPO order for surgery (Wagner, 2023).</p>
<p align="center">Rationale Pain around umbilical region and RLQ.</p>	<p align="center">Rationale Decreased perfusion to appendix resulting from obstruction.</p>	<p align="center">Rationale Acute appendicitis can put the patient at risk for dehydration.</p>
<p align="center">Interventions Intervention 1: Keep patient NPO for appendectomy. Intervention 2: Administer pain medication as needed to control inflammation (Wagner, 2023).</p>	<p align="center">Interventions Intervention 1: Administer piperacillin (Tazobactam) antibiotics. Intervention 2: Administer oxygen PRN (Wagner, 2023).</p>	<p align="center">Interventions Intervention 1: Administer IV fluids (Normal saline + Potassium Chloride in D5W.) Intervention 2: Continue liquid clear diet until patient can tolerate soft foods (Wagner, 2023).</p>
<p align="center">Evaluation of Interventions Patient will report signs of comfort after surgery and understands the need for medication (Wagner, 2023).</p>	<p align="center">Evaluation of Interventions Patient will begin to maintain active bowel sounds in all four quadrants. Clear diet still active (Wagner, 2023).</p>	<p align="center">Evaluation of Interventions Patient will maintain fluid balance evidenced by daily weights, vital signs, and adequate I&O (Wagner, 2023).</p>

References (3):

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