Medications

The first medication this client is taking is aspirin. Aspirin is considered a Salicylate and a Non-steroidal anti-inflammatory drug (Jones, 2021). The client was prescribed this medication to treat his mild pain and inflammation, for his fever, and is important later for blood thinning purposes to lower risk of an aneurysm. Aspirin is usually avoided in children younger than 12, so the key assessments are extra important such as monitoring for any signs of Reye's syndrome, assessing for tinnitus in the client, and monitoring stools for any blood or any other active bleeding (Jones, 2021). The second medication this client was prescribed is famotidine. Famotidine is considered a histamine-2 blocker and an anti-ulcer agent (Jones, 2021). The client was prescribed this medication to prevent possible erosion and formation of gastric or duodenal ulcers that can form from aspirin use in younger children. The important assessments for famotidine are monitoring the client's liver panels, serum uric acid levels and monitoring the client's skin for any new rashes or other signs of allergic reaction (Jones, 2021).

Demographic Data

Admitting diagnosis: Systemic inflammatory response syndrome

Age of client: 5 years old

Sex: Male

Weight in kgs: 20.6 kgs

Allergies: No know allergies

Date of admission: 1/14/2023

Psychosocial Developmental Stage: Industry (Orenstein & Lewis, 2021)

Cognitive Development Stage: Preoperational Stage (Babakr et al., 2019)

Admission History

The client was brought to their local emergency department on 1/13/2023 for complaints of three consecutive days of fevers reaching 105°F and a rash of unknown origin. The rash was raised and red and noted on the trunk and lower extremities of the child. Upon further assessment the client was also exhibiting episodes of hypotension and tachypnea. The father stated that they were giving the client Tylenol to help with the fever, but it only resolved for a few hours before returning. The client was treated with three rounds of bolus to help with hypotension and several breathing treatments to help with the tachypnea before being transferred to Carle on 01/14/2023.

Pathophysiology

Disease process:

Systemic inflammatory response syndrome, aka Kawasaki disease, is an autoimmune response that occurs from cytokine-induced endothelial cell surface antigens, which cause vasculitis in the medium size arteries, including the coronary arteries (Ricci et al., 2021). Other cells, such as neutrophils, mononuclear cells, T lymphocytes, and immunoglobulin A-producing plasma cells, can enter these vessels and create life-threatening issues. After this, elastin and collagen fibers fragment, and the integrity of the vessels' structured walls become impaired (Ricci et al., 2021). The impaired vessel wall structures, along with the systemic vasculitis, create a condition in which coronary dilation and aneurysms can occur which could cause death in the affected individual.

S/S of disease:

Many signs and symptoms are associated with Kawasaki disease; therefore, many physicians require that the individual meet four or more of these criteria before being diagnosed with Kawasaki disease. Some of the symptoms include bilateral conjunctivitis without exudate, dry mouth and throat, fissured lips, strawberry tongue, pharyngeal and oral mucosa redness, hyperdynamic precordium, rash edema of hands and feet, and desquamations of the perineal region, fingers, toes, palms, or soles of feet (Ricci et al., 2021). Other symptoms of this disease include possible jaundice, lymphadenopathy, liver enlargement, fever for five or more days, tachycardia, gallop with a heartbeat, or a murmur. Out of these signs and symptoms, this client is currently experiencing bilateral conjunctivitis, a fever of 5 days or more, a rash on his trunk and lower extremities, and edema of his hands and feet. These symptoms do not all occur at once, but each occurs in different phases of the disease, such as the fever being in the acute phase and the desquamation not occur until months after the acute phase.

Method of Diagnosis:

For Kawasaki disease, the diagnosis plan is not to find things that indicate the disease but rather to find things that eliminate all other possibilities besides the Kawasaki diagnosis. The lab values that can be found in most Kawasaki clients are low red blood cell counts, elevated white blood cell count in the acute phase, and elevated ESR or CRP levels (Ricci et al., 2021). The client I was assigned had a high red blood cell count and an elevated CRP level. His white blood cells were within normal limits, but that could be because we are out of the acute phase of the disease. There are no specific tests for this disease, and no diagnostic test can also confirm the diagnosis.

Treatment of disease:

As far as treatment of the disease goes, Tylenol is given to the client to help control the fever in the acute phase. Aspirin is also prescribed to help with the mild pain associated with possible joint pain and arthritis with the disease process, as well as helping to thin the blood to help prevent an aneurysm in the future. The aspirin starts as a high-dose aspirin coupled with a one-time dose of IVIG to help replace the necessary immunoglobulin cells in the body; after the acute phase, the aspirin will be lowered to a low dosage for longer use purposes (Ricci et al., 2021). Other than these medications, the only other treatment plan is monitoring for adverse reactions, toxicity, and changes in cardiac conditions. Someone with this condition will probably be required to go through regular cardiac testing to monitor the heart's condition and watch for coronary dilation and aneurysm that can be fatal. This client received his one-time IVIG dose and high-dose aspirin, which was lowered on 01/16/2023.

Relevant Lab Values/Diagnostics

The client had several abnormal lab values during his hospitalization, but a few were explicitly related to his current condition. His red blood cells were elevated, which related to his condition and the IVIG infusion to treat this disease (Kee, 2018). The normal range for red blood cells is 0 to 20/νl, and his level was 43/νl. Another important lab for this client was his c-reactive protein was 12.54 mg/dL when the normal range is 0 to 0.50 mg/dL. This level is elevated due to the damage to his heart over time from this disease (Kee, 2018). His blood gases also revealed several abnormal levels. His pH was 7.424 when the range was 7.310 to 7.410, his pCO2 was 27.9 mmHg when the range was 41 to 51 mmHg, and his HCO3 was 17.9 mmol/L when the range was 21.5 to 25.5 mmHg. These values indicate partially compensated metabolic acidosis, which is being caused by his tachypneic respirations. A chest x-ray was performed due to the child's tachypnea and labored breathing and showed the heart was borderline enlarged, and there were bilateral diffuse pulmonary opacities that could indicate pulmonary edema or multilobular pneumonia. This scan is important because it shows possible fluid overload from the three boluses received prior to hospitalization and the current fluid regimen.

Medical History

Previous Medical History: N/A

Prior Hospitalizations: N/A

Past Surgical History: The client had a circumcision performed on 07/12/2019.

Social needs: N/A

Active Orders

The active orders for this client include vitals signs to be taken every four hours, but only needing to check the blood pressure once in the morning. The client needs their vitals checked this often to monitor for elevated temperature and oxygen saturation changes due to his fever and tachypnea. The client is also on intake and output recording every two hours to monitor the fluid balance in the body and to make sure he is not retaining more than he should. This client is on a regular diet but also has an order for pediasure with meals due to his lack of protein and unwillingness to eat for his parents lately.

Assessment	
General	The client appears alert and oriented x4 to person, place, time, and situation. He was just waking up, so the client was a little unkempt looking but overall showing no signs of acute distress.
Integument	The client's skin was usual for ethnicity, but slightly pale in comparison to previous times as noted by the father. No cyanosis, ecchymosis, mottled, jaundice, or petechiae noted. There was a pink colored raised rash that has been improving over the past few days on the child's trunk and lower extremities. The client had non-pitting edema spread throughout the entire body that made him look "puffy". The skin waist moist and warm to touch with good skin turgor. The client had slight erythema of the palms of his hands and soles of his feet.
HEENT	Head and neck are symmetrical, trachea is midline without signs of deviation. The thyroid in non-palpable with no nodules noted. Carotid pulses were palpated bilaterally and noted the be 2+. No gross lymphadenopathy was noted, although there was mild generalized swelling in the neck region. Mild bilateral conjunctivitis was noted in the eye examination with no drainage observed. The lids were moist and pink with no discharge or lesions noted. Periorbital swelling was noted bilaterally. PERRLA was noted bilaterally and EOMs were intact. Red light reflex, Rosenbaum and Snellen were not examined during this assessment due to lack of equipment available. The client's ears were symmetrical with no visible or palpable abnormalities, lumps, or lesions. Upon gross examination, the ear canals were clear and free from drainage. The septum is midline with turbinates presenting moist and pink without exudate. No signs of epistaxis or polyps were noted. Frontal sinuses were nontender to palpation. The mouth and throat were examined and the posterior pharynx and tonsils are moist and pink without exudate. The uvula is midline and the soft palate rises and falls symmetrically. The client's hard palate is intact. Dentition is good, oral mucosa is moist and pink without lesions noted.
Cardiovascular	The client's heart sounds were auscultated on both anterior and posterior sites. S1 and S2 were auscultated with a normal sinus rhythm and rate of 93 beats/min. No murmurs or gallops were auscultated. The PMI was palpable at the 5th intercostal space. All extremities were pink, warm, and dry bilaterally. Pulses were 2+ in all extremities. Capillary refill was less than three seconds bilaterally. Previously noted non-pitting edema was observed again in all extremities. The epitrochlear lymph nodes were nonpalpable bilaterally with a negative Homan's sign.
Respiratory	Lung sounds were auscultated on both anterior and posterior sides. The lung sounds were slightly diminished and labored. Crackles were noted in the lower lobes upon auscultation. No wheezes or rhonchi were noted. The breath sounds were tachypneic at a rate of 42 to 44 breaths/min with no accessory muscle use.
Genitourinary	The client voided 125 into the urinal upon waking up, and his pull up was emptied to show 445 urine voided overnight. The urine was clear and yellow/straw colored. No mucus, sediment, or other abnormalities grossly visible.
Gastrointestinal	The client's abdomen was examined, auscultated, and palpated. The abdomen is soft, nontender with no acromegaly or masses noted upon palpation. Bowel sounds were normoactive in all four quadrants. There was no tenderness noted upon light or deep palpation bilaterally.
Musculoskeletal	All extremities have passive and active range of motion intact with overall generalized weakness noted from current condition. Hand grips and pedal pushes were equal bilaterally. The client's gait was smooth and slightly unbalanced upon walking for the first time in 24 hours.
Neurological	The client is oriented x4 to person, place, time, and situation. PERRLA is intact. The cranial nerves were not all assessed, but the patient functions neurologically within normal limits and does not exhibit signs of abnormalities or deficits. Rhomberg's test was negative. And deep

	tendon reflexes were 2+ bilaterally in all locations. The client has normal cognition and his speech was clear but quiet when not feeling well.
Most recent VS (highlight if abnormal)	**Time:** 1100 **Temperature:** 98.5°F **Route:** Oral **RR:** 44 breaths/min **HR:** 96 beats/min **BP and MAP:** N/A (last BP was 116/79 and MAP was 94 at 0824) **Oxygen saturation:** 98% **Oxygen needs:** N/A
Pain and Pain Scale Used	The client was asked about pain and stated that he had none. But the nurse and I still used the FLACC scale to assess his pain status and there were no nonverbal signs of pain either with a FLACC scale of 0.

Nursing Diagnosis 1	**Nursing Diagnosis 2**	**Nursing Diagnosis 3**
Excess fluid volume related to excessive fluid volume intake as evidenced by overall body edema.	Risk for decreased cardiac tissue perfusion related to disease process as evidenced by risk for cardiac aneurysm.	Activity tolerance related to generalized weakness/not feeling well as evidenced by client reports of fatigue and not wanting to get up.
Rationale This diagnosis was chosen first because the patient is exhibiting signs of fluid overload such as his chest x-ray showing opacities and his overall edema noted in his physical exam. This is currently affecting him and extra fluids are not necessary for him at this time.	**Rationale** This diagnosis was chosen secondary because this is not a problem that is currently affecting him but is something very serious that can happen in the future and that he is at an extremely higher risk for than others.	**Rationale** This diagnosis was chosen last because it is currently affecting the client, but it is not high on the pyramid of needs and is something that will likely be corrected as other issues resolve and the child gets better.
Interventions **Intervention 1:** Stop extra fluids and monitor intake	**Interventions** **Intervention 1:** Educate patient and family on signs	**Interventions** **Intervention 1:** Have the client walk around the

and output closely. **Intervention 2:** Elevate extremities while at rest.	and symptoms of decreased cardiac tissue perfusion to monitor for. **Intervention 2:** Emphasize the importance of following the treatment plan and compliance with regular cardiology visits.	unit at least once per shift. **Intervention 2:** Perform range of motion exercises in bed when the client is resting.
Evaluation of Interventions Once the fluids were stopped, and the client got up and moved around the unit the swelling seemed to subside a little. The parents understood the importance of elevating the extremities. Interventions were successful.	**Evaluation of Interventions** The parents were educated on the importance of treatment compliance and were educated on the signs and symptoms to watch for prior to discharge. The parents stated they would, “Watch him closely and make sure he gets where he needs to go to”. Interventions were successful.	**Evaluation of Interventions** Although the client did not want to participate in range of motion exercises in the morning, as the shift went on the child got up and walked to the playroom and around the unit before discharge. Once he heard he was going home he perked up a little bit. Interventions partially successful.

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