Medications

Amlodipine: 1.2 mg Q12H oral
- Pharmacologic: Calcium channel blocker
- Therapeutic: Antihypertensive
- To control hypertension
- Monitor BP and HR before giving

Budesonide: Neb suspension 0.5 mg 2x daily by RT
- Pharmacologic: Corticosteroid
- Therapeutic: Antiasthmatic/Anti-inflammatory
- To provide prophylactic therapy
- Monitor with pts who have HTN, it could increase/worsen adverse effects

Ceftriaxone: 580 mg IVPB 50 mL/hr
- Pharmacologic: Third-generation cephalosporin
- Therapeutic: Antibiotic
- To treat infections, such as URI
- Be alert for precipitates in the urine, especially in children.

Dexmedetomidine: 2.9mL/hr continuous
- Pharmacologic: New generation, alpha-2 adrenoceptor agonist
- Therapeutic: Sedative
- To sedative but maintain a degree of arousability
- Monitor temperature before giving and after

Labetalol: 12 mg IV push Q4H
- Pharmacologic: Noncardioselective beta-blocker/alpha-1 blocker
- Therapeutic: Antihypertensive
- To manage hypertension
- Monitor pts BP throughout administration and after

Demographic Data

Admitting Diagnosis: Shortness of breath secondary to amphetamine ingestion

Age of client: 13 months

Sex: Male

Weight in kgs: 11.6 kg

Allergies: None

Date of admission: 1/18/23

Psychosocial Developmental Stage: Trust vs. Mistrust

Cognitive Development Stage: Sensorimotor

Admission History

13 month old male came to the ER via EMS with a worsening upper respiratory infection. The mother complains of nasal congestion, cough, and shortness of breath. Onset was 2 days ago and symptoms worsening at night. The current treatment is OTC acetaminophen and ibuprofen. In the ER the patient showed retracting and showed visible distress. A urine dipstick showed positive exposure to amphetamines. DCFS was called and the child is in protective custody at this time. Visitors include great grandmother and great grandfather.

Pathophysiology

Disease process: Shortness of breath due to an upper respiratory infection (adenovirus and bronchiolitis). The adenovirus and bronchiolitis are both common infections in infants that cause inflammation and congestion and are joined by one another. These infections develop within the respiratory tract and small airways of the lungs (Capriotti & Frizzell, 2020).

S/S of disease: Signs and symptoms of these infections start like a common cold and then progress to coughing, wheezing, and often shortness of breath (Capriotti & Frizzell, 2020).

Method of Diagnosis: When symptoms such as fever, difficulty breathing, and dehydration become concerning, it is important to call your provider. Doctors can diagnose adenovirus and bronchiolitis by a nasal swab, blood, stool, or urine samples (Capriotti & Frizzell, 2020).

Treatment of disease: There are no specific medical treatments for adenovirus and bronchiolitis. (Capriotti & Frizzell, 2020). Over-the-counter medications, such as acetaminophen and ibuprofen, are generally used. Some recommended home remedies are suctioning with normal saline, a humidifier at night, and plenty of fluids.

Relevant Lab Values/Diagnostics

Magnesium: 2.7 (1.5-2.5)
- Relates to initial BP of 180s/100s. Child had exposure to stimulants.

BUN: 19 (7-25)
- According to Carle, this lab value is elevated. An elevated BUN shows decreased kidney function, which relates to the US imaging findings.

Creatinine: 0.36 (0.50-1.00)
- Low creatinine in infants can relate to malnutrition and reduced kidney function.

CO2: 20.0 (21-31)
- Low levels of CO2 relate to decreased kidney and lung function. Relates to adenovirus and bronchiolitis.

Imaging: Ultrasound Kidneys (Abnormal)
- Found cystic spaces throughout the medulla

Amphetamines are a nervous system stimulant. Exposure to these can cause hyperactivity, high blood pressure, rapid heart rate, dilated pupils, and agitation. Because amphetamines are myotoxic, they reduce the function and filtration in the kidneys. The child has suspected long-term exposure (Pagana et al., 2018).

Medical History

Previous Medical History: Failed initial newborn screening (Due to intrauterine amphetamine, cocaine, and THC exposure)

Prior Hospitalizations: ER visit on 1/13/22 for vomiting, ER visit on 8/9/22 for candida diaper rash, ER visit on 1/18/23 for upper respiratory infection.

Past Surgical History: N/A

Social needs: Great-grandmother interaction, introducing foods outside of his bottle, playing with blocks, watching TV.

Active Orders

Consults:
- Respiratory: Relates to low CO2 levels and shortness of breath
- Social Work: Relates to child being put into protective services
- Speech Pathology: Pt is 13 months old and has a delayed vocabulary. Pt is also only drinking milk from a bottle.
- Nephrology: Relates to the abnormal findings from kidney US
- Poison Control: Relates to amphetamine, cocaine, and THC exposure
- Cardiology: Relates to the pts HTN

Isolation/Droplet: Relates to adenovirus and bronchiolitis
Regular diet: Patient has no diet restrictions
Q6H Assessment: Relates to the hospitals protocol
VS Q15 minutes: Pt is on continuous VS for monitoring due to BP and sedative medications
Continuous cardiac monitoring: Pt is on continuous VS for monitoring due to BP and sedative medications
Continuous pulse oximetry: Pt is on continuous VS for monitoring due to BP and sedative medications
I&O Q2H: Monitoring I&Os ensures the pt is getting adequate nutrition/hydration as well as marking kidney function

Assessment	
General	WDL X: Appears sluggish and no visible distress. (Changes throughout the assessment, starts becoming aroused and awake/alert)
Integument	WDL X: Skin is warm and dry upon palpation. Visible scratches and bite mark from cat. Normal quantity, distribution, and texture of hair. Nails without clubbing or cyanosis. Skin turgor has quick recoil. Capillary refill is less than 3 seconds fingers and toes bilaterally.
HEENT	WDL X: Head and neck are symmetrical. Bilateral carotid pulses are palpable and 2+. Bilateral sclera white, bilateral cornea clear, bilateral conjunctiva pink, no visible drainage. Bilateral lids are pink and moist. Pupils are pinpoint at 2mm but reactive. Septum is midline. Bilateral nostrils congested with visible drainage (thick and yellow).
Cardiovascular	WDL: Clear S1 and S2 sounds. Current normal rate and rhythm.
Respiratory	WDL X: Normal rate and pattern. Respirations are symmetrical and non-labored. Lung sounds show occasional coarse/rhonchi bilaterally. Congested cough and requires frequent suctioning (thick, cloudy, yellow).
Genitourinary	WDL: Patient produces good wet diapers.
Gastrointestinal	WDL: Last bowel movement 1/20/23.
Musculoskeletal	WDL: All extremities have full range of motion. Patient hand grips are normal and equal strength.
Neurological	WDL X: Pupils are pinpoint at 2mm but reactive. By end of the assessment patient was following with their head to visuals and voices.
Most recent VS (highlight if abnormal)	**Time: 10:00** **Temperature: 36.2 C (97.1 F)** **Route: Axillary** **RR: 26** **HR: 118** **BP and MAP: BP: 148/72 MAP: 102** **Oxygen saturation: 98** **Oxygen needs: Room Air**
Pain and Pain Scale Used	rFLACC: 0

Nursing Diagnosis 1 **Ineffective airway clearance related to secretions caused by infection as evidenced by thick, yellow suctioning.**	**Nursing Diagnosis 2** **Decreased cardiac output related to hypertension (vasoconstriction) as evidenced by admitting BP of 180s/100s.**	**Nursing Diagnosis 3** **Risk for ineffective renal perfusion related to an interruption of blood flow as evidenced by cystic spaces throughout the kidneys.**
Rationale Following the ABC's, airway clearance is priority. With the patient's chief complaint being shortness of breath, it is important to monitor that closely.	**Rationale** Following the ABC's, circulation comes after airway and breathing. Without proper circulation, vital organs don't receive blood, oxygen, or nutrients.	**Rationale** Following the ABC's, circulation and perfusion come after airway and breathing. Without proper cardiac output, vital organs are not properly perfused.
Interventions **Intervention 1:** Provide suctioning as needed. **Intervention 2:** Coordinate with respiratory therapy as indicated (Ex. Nebulizer treatment from RT 2x daily).	**Interventions** **Intervention 1:** Place the patient on a cardiac monitor. **Intervention 2:** Provide a calm and comfortable environment.	**Interventions** **Intervention 1:** Monitor intake and urine output. **Intervention 2:** Put patient on a continuous pulse oximetry.
Evaluation of Interventions Suctioning was done almost every time we went into the room, as the patient's drainage was prominent. It was also interesting to watch RT make and give the patient his nebulizer treatment and see how much better he was breathing afterwards.	**Evaluation of Interventions** Having the patient on a continuous monitor helped with communication between the patient's doctor and nurses. Lowering stimuli and providing the low sedative helped with keeping his BP low, but anytime we went in for suctioning or medications it would go back up.	**Evaluation of Interventions** Weighing the diapers helped us get an accurate output and showed the patient does not have issues with urinating. Putting the patient on a continuous pulse oximetry allows us to see trends (if any) in tissue perfusion.

References (3):

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