Bronchiolitis in the Pediatric Patient

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Nursing Process for the Pediatric Patient

Client Profile

C.S. was a 5 month old Caucasian female born October 20, 2010 who was directly admitted to a pediatric floor of a local hospital by her pediatrician. Her pediatrician sent her to the hospital due to two apparent life threatening events (ALTE) and nasal congestion. At 0500 on 3/30/2011, the mother went in to check on the patient. This is when she noticed her “not breathing”. The mother picked the infant up and blew in her face and the infant startled. The mother then put the infant back to bed, but laid beside her. At approximately 0600, the mother again noticed the infant “not breathing” and blew in her face again, and the infant startled. For one day prior to this, the baby has had a cough and rhinorrhea. The mother checked the infant’s temperature and found it to be 101 degrees. There was no fever present on admission assessment. Two older brothers have also been sick with upper respiratory infections. The mother also noted some choking episodes unrelated to feedings last evening and this morning. The patient was given an RSV culture upon admission and it was found to be negative. The patient weighs 6.40kg and is 6.60cm in length.

Admitting medical diagnosis and chief complaint: Two Apparent Life Threatening Events

Primary medical diagnosis: RSV negative Bronchiolitis

Description of the child/family.

C.S. lives with her mother, father, and two older brothers. Her father works outside of the home and her mother does not work. She has Medicaid for insurance and her family is on WIC (Women, Infants, and Children).

Developmental assessment

C.S. was in the development state trust vs. mistrust, which is a theory by Erikson. This theory establishes just what it says: trust. In this development stage, the infant learns to trust the people that provide him/her care. The way they learn trust is by the people who provide them with food, clean clothes, comfort, and the security they need to feel safe. The development of this trust helps them into adulthood (Ball, Binder, & Cowen, 134).

Nutrition assessment

The patient, C.S., was born at gestation, spontaneous vaginal delivery, with no complications. At birth, she weight 3.32kg. She now weights 6.40kg. She exhibits no signs of difficulty feeding, swallowing, spitting up, fatigue, or fussiness. The infant was fed Similac Alimentium with Iron. She usually takes six to eight ounces per bottle six times a day. The bottle is not given at naps or at bedtime. When the mom took her to the doctor today, the doctor recommended starting her on rice cereal. The baby has a good appetite. There are no concerns with the baby's nutritional status. The infant passes normal, formed, brown stools two to three times a day.

Pathophysiology

Bronchiolitis is an inflammation of the bronchioles in the lower airway and the lung. It affects young children. Approximately 2-3% of all children under the age of one are hospitalized each year for bronchiolitis. October through April is considered the season for bronchiolitis (Smyth & Openshaw). RSV (respiratory syncytial virus) is the most common cause of bronchiolitis but bacteria, other viruses, and mycoplasms can also be agents that cause this disease. Most children are infected with bronchiolitis by the age

of two and reinfection (usually by siblings) throughout life is very common. Bronchiolitis is transmitted through contact with respiratory secretions or through contaminated surfaces (Ball, Binder, & Cowen, 844). Wheezing and crackles are often heard in the lungs of children with bronchiolitis. Tachypnea, low-grade fevers, difficulty breathing, increased work of breathing, and coughing are all signs and symptoms of bronchiolitis. Although bronchiolitis is fairly common, it is unknown what really makes children susceptible (Smyth & Openshaw).

Apparent life threatening event (ALTE) is an episode when an infant (usually under one year) stops breathing for a period of time. Causes of ALTE's include infection, gastrointestinal reflux, seizures, breath-holding spells, respiratory problems, and sleep apnea. Usually in ALTE's cyanosis is seen along with other color changes, limp muscles, and choking or gagging. The way to treat an ALTE is to find out the underlying cause of the ALTE and treat that. The underlying cause could be any of the mentioned above (Ball, Bindler, & Cowen, pg. 831).

Treatment

There really is no treatment for bronchiolitis. The best way to protect a child from getting bronchiolitis is to keep them out of contact with other sick people, dress them warm when going outside, along with putting a hat and coat on, and covering infants with a blanket. Children hospitalized for bronchiolitis are put on isolation precautions (gown, mask, and gloves for anyone who goes into the room that can bring other germs in), oxygen is given to support with breathing and proper air exchange, and cool mist vaporizers are put in the room to humidify the air so help loosen secretions. (Ball, Binder, and Cowen, 845). Nebulized epinephrine is also a supportive treatment for

bronchiolitis because it decreases oxygen requirements, respiratory rate, wheezing, and retractions and could lower hospitalizations and length of stay (Williamson).

Medications

Medication (Generic/or Trade)	**Classification & Action**	**Why is your patient taking this drug?**	**Nursing Implications**	**Side Effects/ Adverse Effects**
Tylenol 95mg q4h PRN Safe Dose: 64-96mg/kg (10-15mg/kg/dose)	Antipyretic/ nonopioid analgesics Lowers fever Lowers pain	in case of fever or pain	Assess temperature and pain before and after giving pain medications.	Hepatic failure, hepatotoxicity, renal failure, neutropenia, pancytopenia, leukopenia, rash, urticaria.
Sodium Chloride (Nasal) 1 spray per nostril prior to suctioning PRN Safe Dose: 1-2 sprays per nostril	Loosens nasal secretions	Suctioning nose		

Deglin, J.H, & Vallerand, A.H. (2009). *Davis's drug guide for nurses*. Philadelphia, Pennsylvania: F. A.Davis Company.

Physical assessment

The infant's admission assessment was fairly normal. Her temperature was 36.4 degrees Celsius, heart rate was 140, respirations were 48, and oxygen saturation level was 98% on room air. Both the anterior and posterior fontanels were flat. Eyes were level with ears and were reactive to light. Her nose was very congested and she had a

cough that was non-productive and harsh. Her mucous membranes were pink and moist and she showed no signs of cyanosis. Her skin was cool to the touch and pink. She had no rashes or skin breakdown. Her capillary refill was less than three seconds, no edema was present, and she had good skin turgor. Her lungs had some course crackles throughout. She had a good, strong heartbeat. Bowel sounds were present in all four quadrants and her stomach was non-tender and rounded. Genital area was free from diaper rash. Femoral and brachial pulses were within normal limits.

Upon assessing her at 1600, the findings were pretty much the same. Her temperature was 37.0 degrees Celsius, heart rate was 125, respirations were 33, and her oxygen saturation was 98% on room air. Her lungs still had some coarse crackles but were better and her congestion had lessened.

Normal growth and development

Having bronchiolitis should not hinder the infant's normal growth and development. The normal recovery phase for bronchiolitis is 5 to 7 days and after that, infant's should start returning to their normal self.

Nursing Diagnosis:	Ineffective Breathing Pattern R/T inflammation of lower airway AEB…
Supporting Data:	-runny nose -large amount of drainage when suctioned -nasal congestion -coarse crackles throughout Rationale: Common signs of bronchiolitis (inflammation of the lower airway) are runny nose, nasal congestion, and coarse crackles. All of these signs lead to airway obstructions that cause ineffective breathing (Smyth & Openshaw).
Goal:	STG: The patient will demonstrate normal respiratory rate for age within the next 8 hours. LTG: The patients lung sounds will be clear by discharge.
Interventions:	**1. Intervention:** Elevate head of bed while in crib **Rationale:** Elevating the head of the bed keeps airways clear (pg. 304) **2. Intervention:** Suction PRN **Rationale:** Suctioning assists in removing excess secretions and helps improve breathing pattern. (pg. 304) **3. Intervention:** Check pulse ox q4h or PRN. **Rationale:** Indirectly measures oxygen saturation and can be used to determine if treatment is effective or to indicate need for change in treatment. (pg. 304) 4. **Intervention:** Assess respiratory rate q4h or PRN. **Rationale:** If infants experience an ineffective breathing pattern the respiratory rate will change and the infant will work harder to breathe. (pg. 304)
EBP Citation	Axton, S & Fugate, T. (2009) Pediatric Nursing Care Plans for the Hospitalized Child, 3rd Ed. Upper Saddle River, New Jersey: Pearson Education
Evaluation of Goal:	STG: Goal met. Continue with care plan and continue to monitor. LTG: Goal not met. Continue with care plan and will continue to monitor.
Nursing Action:	Suctioned q1h and PRN. Instructed mother to suction baby PRN. Instructed mother when she put the infant into the crib to make sure her head is elevated and why this is important. Assessed the baby at 11 when admitted, at 2 during safety checks, and again at 4 before shift was over to check respiratory rate, work of breathing, breathing pattern.

Nursing Diagnosis:	Risk for Aspiration R/T choking episodes
Supporting Data:	-mother stated episodes of choking -ALTE -nasal congestion -excessive mucous production Rationale: Two of the biggest potential causes of ALTE's are infection and gastrointestinal reflux. Choking is a sign of an ALTE and can happen during sleep, awake, and feedings (Ball, Bindler, and Cowen, pg. 831).
Goal:	STG: The patient will have a decreased mucous production within 8 hours. LTG: The patient will show no signs of aspiration before discharge.
Interventions:	1. **Intervention:** Suction PRN **Rationale:** Keeps the airway clear from secretions (pg. 697) 2. **Intervention:** Elevate head during and after feedings. **Rationale:** Keeps airway clear from secretions. (pg. 697) 3. **Intervention:** Frequent burps during and after feedings. **Rationale:** Reduces regurgitation and spit up (pg. 324) 4. **Intervention:** Feed infants slowly during all feedings. **Rationale:** Reduces regurgitation and spit up (pg. 324)
EBP Citation:	Whaley, L. & Wong, D. (1989) Essentials of Pediatric Nursing, 3rd edition. St. Louis, Missouri: The C.V. Mosby Company
Evaluation of Goal:	STG: Goal met. Continue with care plan and continue to monitor. LTG: Goal not met. Continue with care plan and will continue to monitor.
Nursing Action:	Instructed mother on feeding the baby slowly and burping her after every ounce of formula taken and why to do this. Instructed mother not to lay the infant flat after feedings and explained why this was important. Used these same actions when I helped feed the infant. Suction q1h and PRN and also instructed the mother to do so as well.

References

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