“Late onset of neonatal sepsis can be seen in newborn infants between days 5 to day 90 of life. 73% are caused by gram-positive organisms…”

Continued on page 7

We are delighted to send you the ETSU Department of Pediatrics Summer 2018 newsletter. We had a wonderful Conference this past August 11 (see insert for a photo and the program). I want to thank all of our speakers: Dr. George Fuchs from the University of Kentucky, who gave two talks on infant nutrition and malnutrition; Dr. Abigail Cruz, a new member of our faculty who gave a talk on childhood anemia; Dr. Tolliver assisted me in giving a talk on screening tools on used in adolescent care; Dr. Ben England gave a case-based overview of common childhood orthopedic issues; Dr. Allen Musil, Vice President for Frontier Health, reviewed the diagnosis and medical management of anxiety and depression; Dr. Jerry Walkup from TriCities Cardiology gave a talk on hyperlipidemia; and Kathryn Xixis, ETSU Pediatric faculty gave a talk on the diagnosis and treatment of headache. We had a record crowd of over 100 people and the Millennium Centre proved to be a great venue with wonderful meeting space, food and service. In this issue, we also highlight some of the research performed by our faculty. Growing the research capacity of the Department of Pediatrics is a high priority to support on ongoing growth and development as an academic department. The focus of our research, as you can see from these posters, abstracts and papers, is on the challenges to the health and welfare of children in our region and is consistent with the mission of ETSU to improve the quality of life of residents of northeast Tennessee. I hope you enjoy reading about these exciting projects and the new insights they bring to the care of children in our region.
Announcements
Faculty, Staff and Residents

Congratulations to Dr. Evan and Laura Los on the birth of their son, Isaac Alder, born August 2nd at 12:16 am weighing 8 lb 13 oz and 23 inches!

Sadie Mae Wilt
Born August 24, 2018 at 4:36 am
8 pounds 1 ounce
Mama and baby are well!

The Department of Pediatrics would like to congratulate Robin Montgomery & Family on the birth of her Grandson, Landon Robert Montgomery on June 5, 2018. He weighs 9 pounds and is 21 and 1/2 inches.

Welcome

The Department of Pediatrics would like to congratulate Dr. Nathan Justice and his wife Heather on the birth of their son, Conrad Ames Justice. Born July 9, 2018 at 3:04 am. Conrad weighs 8 lbs., 4 ounces. Mom and baby are both doing well.

Congratulations to Monica Simerly and Kurt Dauksch on their recent engagement!

Welcome

Meredith St. Clair, DO
PGY-1

Candelaria Deimundo
Reura, MD
PGY-1

Trevor Johnson, MD
PGY-1

Sarah Nichols, DO
PGY-1

Amy Parker, MD
PGY-1

Amanda Shoubaki, DO
PGY-1

Sukhvir Singh, DO
PGY-1

DEPARTMENT of PEDIATRICS
Quillen College of Medicine
East Tennessee State University
Pediatric Residents
2018-2019

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Bharti, D. Zipper induced skin injury leading to methicillin sensitive staphylococcus aureus abscess in a preterm infant-Archives of pediatrics and neonatology, volume 1, issue 1, 2018, pp 9-12


Bansal A.; Mando R.; Alvarez-Arango S.; Gabriel J.; Cuervo-Pardo L.; Malkani A.; Reddy C.; Zheng S.; Dula M.; Gonzalez-Estrada, A., YouTube and Eosinophilic Esophagitis: An Assessment of the Educational Quality of Information" poster presentation at the AAAI meeting, March 2018.


Hajianpour, MJ, “2018 American Society of Human Genetics Annual Conference” Expanding the phenotype of MED13L-associated mental retardation and distinctive facial features with or without cardiac defects; MRFACD.

In June Dr. Los presented at the American Diabetes Association 78th Scientific Sessions in Orlando, FL on “Understanding the Social Context of Managing Diabetes—What’s Life Really Like?”

In July Dr. Los hosted the Scientific poster session at the Turner Syndrome Research Symposium in Arlington, Virginia.
Previous & Upcoming Events
Faculty, Staff and Residents

Volleyball Challenge
Residents vs. Faculty

July 07, 2018
6:00 PM
Home of Dr. & Mrs. Wood
179 Glass Road
Johnson City, TN 37615

Faculty won 2-1 in games!
Congratulations to the Quillen College of Medicine Class of 2018. Pictured bottom left, Chief Residents Ashley Ham and Adam Farmer with Dr. Wilt. Pictured top left Dr. Wilt and Pratibha Agarwal, Nelson Know it All Award winner. Also pictured in the top right is Dr. Tuell and Melody Miller, Resident of the Year.
On June 28th, second year medical students Emmitt Turner and Lindsey Franklyn, the Department of Pediatrics 2017 Summer Research Fellowship Grant awardees, presented their summer research experience at the Neonatal Abstinence Working Group June Meeting. Emmitt, mentored by Dr. Shah, presented Neonatal outcomes of marijuana and opioid-exposed infants. Lindsey Franklyn, mentored by Dr. Beth Bailey from Family Medicine and Dr. Wood, presented Impact of SSRIs on NAS Severity. Student research was funded through a grant from the Southeast Affiliate of the American Heart Association, the College of Medicine Dean’s Office, and individual COM departments. The program is designed to provide a mentored research experience in an academic setting to medical and graduate students. Students selected for the Summer Research Fellowship Grant worked approximately 6 weeks over the summer conducting research with faculty mentors. Both Emmitt and Lindsey anticipate continuing their research and submitting a manuscript for publication.
Case Report

Acute Parotitis in a Preterm Infant with Methicillin Sensitive Staphylococci: A Case Review

Dee Bharti¹, Darshan Shah and Shawn Hollinger

Department of Pediatrics, Quillen College of Medicine - East Tennessee State University, Johnson City, USA

Abstract

Acute parotitis is uncommon in the neonatal period. It can present with erythema and swelling over the parotid region or a purulent drainage inside the mouth. Early clinical diagnosis with support of sonography may avoid possible need for expensive MRI or CT scan studies. Culture of the drainage material and blood are crucial for bacterial identification and successful treatment. The authors describe a case of a preterm infant diagnosed with acute parotitis with MSSA sepsis.

Keywords: Acute parotitis; Preterm infant

Abbreviations

MSSA: Methicillin Sensitive Staphylococci
MRI: Magnetic Resonance Imaging
CT Scan: Computerized Tomography Scan
CPAP: Continuous Positive Airway Pressure
CRP: C Reactive Proteins

Case report

A 970 g, 30 weeks and 1 day gestation, small for gestational age, female infant was born by cesarean section for worsening pre-eclampsia. Mom is 32 years old, healthy, gravida 3, para 1010.

Discussion

Pregnancy was complicated by intrauterine growth retardation, gestational hypertension and worsening pre-eclampsia. The infant was born with Apgar scores of 4 at 1 and 7 at 5 minutes.

She was noted to have respiratory distress syndrome. She was given a dose of surfactant in the delivery room followed by continuous positive airway pressure for 7 days. Feedings were introduced on the 3rd day of life and were gradually advanced as per feeding protocol. She required supplemental hypoalantermia for 22 days of life. Total IgM was less than 20, urine for cytomegalovirus was reported negative.

On day 29 of life, infant was noted to have erythema and swelling above and below the right ear. No purulent discharge was noted inside the mouth. Complete blood count showed white blood count 29,100 with 24% bands and platelet count of 383,000/uL. CRP was 155.9 mg per L. CRP returned to normal range on day 5 of antibiotic therapy. Serum electrolytes were in the normal range.

Figure 1 is a grayscale ultrasound study in the right upper neck in the region of right parotid gland. Figure 2 is a doppler ultrasound in the right upper neck in the region of right parotid gland. Both studies indicate heterogeneous, hypoechoic, hypervascular mass in the right upper neck in the region of right parotid gland. No fluid collection or abscess was identified. Comparison images were obtained of the left neck demonstrating a normal-appearing parotid gland at the same site.

Blood culture was reported positive for MSSA. The infant initially received vancomycin for 2 days and after getting sensitivity report, she was switched to nafcillin for an additional 8 days. The erythema and swelling resolved in 5 days.
require invasive therapeutic interventions that make them potentially at higher risk for infection. Skin and mucous membranes are porous in premature infants. We reported an infant with zipper associated skin injury that led to a skin abscess requiring incision and drainage [3].

Baker and associates reported group B strep cellulitis-adenitis syndrome in infants between 2 to 10 weeks of age that presented with the abrupt onset of fever with associated poor feeding and irritability [8]. They reported cellulitis predominantly in submandibular region. Among recent interventions to prevent neonatal sepsis, the use of fluconazole prophylaxis in very low birth weight infants is the only intervention that has shown repeated efficacy in multiple trials [9].

The diagnosis of parotitis is essentially clinical. It is important to rule out cutaneous cellulitis, abscess, lipoma, subcutaneous fat necrosis and a swelling due to blocked Stenson’s duct. Enlargement of the parotid gland is uncommon in the neonatal period. It could potentially be associated with hemangioma, lymphangioma, and tumors. Rarely, parotid swelling may be associated with autoimmune disorders including Sjogren syndrome. Mumps parotitis or parotitis associated with tuberculosis or human immunodeficiency virus illness may be seen in at risk population but it is unlikely to be seen in preterm infants. Hematogenous spread to the parotid gland, or ascending infection from the mouth through Stenson’s duct, has been implicated in the development of parotitis. Malnutrition and dehydration are potentially risk factors for salivary stasis leading to bacterial contamination from the oral cavity.

Our index patient had multiple risk factors associated with the development of acute parotitis. She weighed less than 1000 g, was extremely premature, required respiratory support, and required a central venous catheter. Appropriate fluid management and electrolyte balance was provided throughout the hospital course. The diagnosis was made clinically and confirmed with ultrasound of the parotid region. CT or MRI was not needed in this case but should be considered when a diagnosis cannot be made by ultrasound. The infant had resolution of erythema within 48 hours. She required ten days of intravenous antibiotic. Otoscopic exam and examination of the mouth was unremarkable, there was no evidence of abscess based on clinical assessment or ultrasound studies.

Potentially, parotitis could be associated with morbidities and complications including respiratory compromise, pneumonitis, meningitis, thrombophlebitis of the central veins, cerebral venous emboli and infarcts, or osteomyelitis of the mandible, or temporomandibular joint. A minority of cases may require surgical treatment in the presence of an abscess. Other potential complications are facial palsy, mediasinusitis, aspiration pneumonia, and salivary fistula. Prognosis with early diagnosis and appropriate antibiotic therapy based on the sensitivity of the organism is excellent. These infants need to be monitored closely for any associated or ensuing complications. A culture of the Stenson’s duct drainage material and a blood culture should be done promptly. A consultation with an otolaryngologist or pediatric surgeon may be warranted.

Conclusion

Generally, it is easy to diagnose and treat acute parotitis with a course of antibiotics. It is important to rule out other etiologies for a swelling in the neck. Good oral hygiene and adequate hydration is advisable. Culture of the drainage material and blood is crucial for bacterial identification and successful treatment. Ultrasound studies are cheaper and convenient for a bed side diagnosis. Additional imaging with MRI or CT scan may be indicated when a diagnosis cannot be made conclusively with ultrasound studies.