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FANNP NEWS

HIGHLIGHTED: Etiology of Heart Block in the Neonate Born to a Mother with Systemic Lupus Erythematosus (SLE) • Blood Abnormalities Polycythemia

PLUS: Legislative Update • Conference News • Letter from the President Brag Board • Educational Offerings • Bring it on

The Publication of the Florida Association of Neonatal Nurse Practitioners

Diana Morgan-Fuchs, ARNP, NNP-BC

The role of the nurse practitioner is ever evolving. Recently, the Florida Nurse Practitioner Network posted an article from the Bloomberg website, in which state legislators were urged to discontinue physician supervision over nurse practitioners. In summary, the article states that the Patient Protection and Affordable Care Act created an urgency for resolutions in providing health care, including a sharp increase in the number of insured individuals to be covered by Obamacare, and subsequent demand for additional providers. This newfound requisite has placed the nurse practitioner under acute focus as a possible remedy for this shortcoming. Utilizing a nurse practitioner appropriately can be an efficient, resourceful, cost effective solution to current health care demands.

Thus far, seventeen states that do not have limitations with regard to the role of the nurse practitioner, however there are still a large number of states that do. With the continued involvement of the American Medical Association (AMA), the limitations of the nurse practitioner role will most likely remain unchanged is these states. A literature review revealed that patients assigned a high satisfaction rating with regard to receiving primary care from a nurse practitioner. The review

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Conference News

The Conference Planning Committee has planned another great conference! As mentioned in prior newsletters, our keynote speaker this year will be Debra Sansoucie, Vice President of Advanced Practice Nursing at Pediatrix Medical Group. Debra will kick off the conference with a discussion titled, "Health Care Reform and the Role of the Advanced Practice Nurse". We also have confirmed many other speakers who will be discussing current issues affecting our practices. For the review track, we have many of your favorite speakers returning this year! The Beach Bash party scheduled for Wednesday evening is back by popular demand with our favorite DJ, Rob! We are trying something different this year and have scheduled a "Cocktail Hour and Poster Session" to display some of the diligent work many of you have been busily preparing! We are still looking for additional posters to share, so if you or someone you know has been busy this year, this is your chance to shine!! The conference brochure will arrive soon via mail, or you can find additional details on our website at www.FANNP.org. We hope to see you all at the conference in October!

Marylee Kraus, MSN, NNP-BC

Letter from the President

The neonatal nursing community recently lost one of our pioneer leaders, Janet Pettit. Her tragic passing has left many with a very heavy heart.

Over the past several decades, Janet led the transformation of neonatal vascular access. I remember the first time I had the great fortune to meet Janet--in the early '90s, at a PICC line workshop. Although she never knew, her gentle demeanor and patience with instruction made a profound impression on me throughout my career. The nature of the NNP profession designates us all to be teachers and mentors. Our approach to educating novice neonatal professionals will leave imprints upon those we teach--for a lifetime. So remember, the next time you are faced with a "teachable moment", take full advantage of that opportunity and evaluate how you influence those you educate. We aren't merely teaching a skill, we are forming future educators that will impact the lives of many critically ill babies.

In this time of reflection, I would like to take this opportunity to sincerely thank all FANNP members for your continuous loyalty, dedication and commitment to this organization and our success! Also, we would not have such success without the incredible leadership and hard work of our Board members and Conference Planning Committee. Mary Kraus and Jacqui Hoffman have led their team to make this year's 24th FANNP Annual Symposium extraordinary! Registration is still open, so please visit our website at www.fannp.org to make your reservations now!! Once again, we will convene in beautiful Clearwater Beach, Florida, at the phenomenal Sheraton Sand Key Resort on October 15-19, 2013. Whether you are a new or seasoned NNP, this conference is for you! We have received numerous comments from past attendees with regard to the conference playing a major role in assisting them to successfully pass their NCC Exam! So, make your plans now as you do NOT want to miss the "BEST NNP CONFERENCE EVER"! See you in October!!

Terri Marin, PhD, NNP-BC
President, FANNP

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further stated that there is minimal evidence to support any differences in medical or safety outcomes in comparing an independently functioning versus supervised nurse practitioner. However, as a multitude of states consider revoking limitations, there are still many that continue to struggle with the idea of nurse practitioners functioning independently of physician supervision.

This information raises many questions regarding the value, cost effectiveness, scope and job satisfaction of the nurse practitioner. How does an individual assess one's value as a professional practitioner? Are we a cost effective adjunct to a holistic approach to health care? Will an expansion in the scope of one's practice be congruent with salary increases? Can greater job satisfaction be achieved with an increase in autonomy, academic challenges or providing a higher standard of care? These and many other questions will be directly and indirectly affected by legislative decisions. Therefore, I urge you to review your current state legislation's website and remain informed regarding policies, proposed bills and key components of the fore mentioned decisions.

Free Nurse Practitioners from Supervision. Retrieved (08/31/13), from http://www.bloomberg.com/news/2013-08-30/free-nurse-practitioners-from-supervision.html

Etiology of Heart Block in the Neonate Born to a Mother with Systemic Lupus Erythematosus (SLE)

Gina Clarkson, MSN, NNP-BC

This month's feature article is provided by Gina Clarkson, MSN, NNP-BC as an education tool utilized at All Children's Hospital, to assist bedside nurse's to better understand specific topics in Neonatology. The nurse's are encouraged to submit topics for which they have specific inquiries or interest to the practitioners. Their questions are then answered and published in the weekly unit-wide update, in a section entitled, "Ask the Practitioner". The below topic is regarding the etiology of heart block in the neonate born to a mother with systemic lupus erythematosus (SLE).

Question: Why is a baby born to a mother with SLE at risk for fetal heart block and what causes it?

Response: Mothers diagnosed with an autoimmune disease such as systemic lupus erythematosus (SLE) or Sjogren syndrome may have anti-SSA/Ro and/or anti-SSB/La antibodies. These antibodies can be passed transplacentally to the fetus causing congenital heart block in neonatal lupus syndrome (NLS) [2].

Congenital heart block typically develops in utero between 18-24 weeks gestation and is the most serious clinical sign of NLS [4]. Although the etiology of the phenomenon is not fully known with respect to the exact antibody that causes heart block, it is suspected that heart block results from binding of the anti-SSA/Ro and/or anti-SSB/La antibodies to fetal cardiac tissue [2]. This binding leads to autoimmune injury of the AV node and surrounding tissue, which can result in conduction disturbance resulting in complete heart block [2].

Incidence: The most common clinical signs of NLS are an erythematous skin rash and congenital heart block. There is a 2% incidence of congenital heart block in babies born to mothers with anti-Ro antibody and 16% recurrence in subsequent pregnancies [3]. NLS is responsible for 80 to 95 percent of all cases of congenital complete heart block diagnosed in utero or in the neonatal period [3]. In one study, of 187 children with congenital heart block whose mothers also were positive for anti-Ro antibodies, nine had prolonged PR interval on EKG at birth, and four progressed to more advanced AV heart block [2]. Secondary to possible progression from exhibiting a prolonged PR interval to experiencing complete congenital heart block, EKGs are conducted upon all infants whose mothers are positive for anti-SSA/Ro-SSB/La antibodies [2]. Often, the mother's antibody status is unknown at the time of delivery making the obtainment of an EKG prudent for infants born to mothers with one of the fore mentioned autoimmune diseases. Congenital heart block has an associated 15 to 30 percent mortality rate by the end of infancy, with nearly two thirds of the survivors requiring pacing in the first year [2].

Pathophysiology: As previously mentioned, the exact antibody that causes heart block has not been identified, but the cellular mechanism is known. In vitro (cell culture) studies, human fetal cardiomyocytes were observed to be bound together by anti-Ro/La antibodies [2]. The cardiomyocytes were found to be apoptotic (undergoing cell death), which suggests these antibodies may play a major role in cell destruction, possibly contributing to tissue injury near the AV node [2]. Since congenital heart block is typically not seen in adults diagnosed with autoimmune diseases with positive antibodies, one can presume that the fetal cardiomyocytes may be more at risk for induced apoptosis. Fibrosis or scarring of the AV node is the main type of cardiac lesion seen in congenital heart block. Therefore, congenital heart block may occur "as a consequence of the unresolved scarring of the AV node" [2]. A possible contributory mechanism is that "Anti-Ro/SSA autoantibodies antagonize the serotonin-

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Brag Board

FANNP is very fortunate to be associated with and supported by a multitude of talented and professional Practitioners who continually grow and develop themselves. The purpose of the "Brag Board" is to call attention to achievements such as acceptance by a professional organization for poster presentations, completing an MSN, DNP or PhD program, passing the NCC exam, acceptance to be published in a professional publication, or even survival of one's dissertation defense. The FANNP would like to recognize the following individuals for their recent accomplishments:

Ashley Darcy Mahoney, PhD, NNP-BC, was published in the August 2013 issue of *Advances in Neonatal Care* for her article titled "Autism Spectrum Disorders and Prematurity: A Review Across Gestational Age Subgroups".

Dinorah Rodriguez-Warren, MSN, NNP-BC has been formally invited to speak regarding management of Neonatal Abstinence Syndrome at both The Alexander Center for Neonatology at Winnie Palmer Hospital Neonatal Nursing Symposium and The 13th National Neonatal Nurses Conference held by The Academy of Neonatal Nursing.

Stacy Stanford, MSN, NNP-BC, graduated from Stony Brook University with her MSN degree in May, 2013. She successfully passed her NCC exam on July 31st and has accepted a position at All Children's Hospital, located in St. Petersburg, FL. Stacy attended the FANNP conference in 2012, and found it to be a great resource for her exam.

Congratulations and strong work to Dinorah Rodriguez-Warren, MSN, NNP-BC, all of our recent graduates and Stacy Stanford, MSN, NNP-BC. Congratulations to those who have been published recently and Ashley Darcy Mahoney, PhD, NNP-BC! Do YOU have an exciting professional accomplishment you would like to share with us? If so, please email TiffanyGwartney@gmail.com with submissions. Thank you!

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induced L-type calcium channel activation on human fetal atrial cells and trigger an inflammatory response" [4]. This inflammation may lead to apoptosis, fibrosis, and scarring to the AV node, sinus node, and bundle of His, resulting in congenital heart block [4]. There is still much that is not fully understood regarding the pathogenesis of NLS. Most likely, there are more contributing factors than mere transplacental passage of antibodies [1]. Further in utero and fetal factors may also be contributory, as suggested by the rarity of NLS and the fact that it can arise discordantly among monozygotic twins [2].

Resources:

1. Buyon, J.P. Neoantal lupus. Up to date. Eds. Lehman, T.A., Triedman, J.K. & Garcia-Prats, J.A. (2012). www.uptodate.com/contents/neonatallupus.
2. Buyon, J.P. & Clancy, R.M. Neonatal lupus syndromes. Current Opinion in Rheumatology 2003; 15: 535-541.
3. Khamashta, M.A. Systemic lupus erythematosus and pregnancy. Best Practice &Research Clinical Rheumatology 2006; 20: 685-694.
4. Hon, K.L.& Leung, A. Neonatal lupus erythematosus. Autoimmune Diseases 2012; September 2, 2012: Online edition doi: 10.1155/2012/301274

POCKET NOTEBOOK

Diane McNerney DNP, NNP-BC

Blood Abnormalities
Polycythemia

• **Definition:** Polycythemia is defined as a central hematocrit (Hct) greater than 65%. As the central Hct level increases, viscosity and arterial oxygen content also increase. Increased viscosity affects blood flow and oxygen delivery to some organs that are dependent on the plasma flow, such as glucose.

• **Pathophysiology:** Viscosity and Hct have a congruent relationship. Viscosity is influenced mainly by the Hct; viscosity increases as Hct levels increase. Other factors that contribute to blood viscosity in the neonate are increased RBC volume and decreased deformability of the fetal erythrocyte. Plasma proteins, platelets, WBCs, and endothelial factors also contribute to viscosity; however they are low-risk to the newborn. The central venous Hct level peaks 6-12 hours after birth, and then decreases until the infant is 24 hours of age. Infants with a Hct level greater than 64% at 2 hours of life continue to have an elevated Hct at 12 hours of life or later.

• **Risk Factors:** Polycythemia is more common in infants who are small for gestational age (SGA) and large gestational age (LGA). However, most infants with polycythemia are of average for gestational age (AGA). Maternal diabetes, prepregnancy or gestational increases an infant's risk for polycythemia. Hypertransfusion via delayed clamping of the umbilical cord, twin-to-twin transfusion, or intrapartum asphyxia also pose an increased risk for polycythemia.

• **Physical Exam:** The most obvious finding of polycythemia is plethoric or ruddy skin coloring. Other symptoms include lethargy, irritability, jitteriness, tremors, and seizures. Increases in Hct are associated with a decrease in pulmonary blood flow. In infants with a Hct level of 65% or greater, the decrease in pulmonary blood flow may be associated with respiratory distress and cyanosis. These infants are also at an increased risk of developing necrotizing enterocolitis (NEC). An estimated 44% of term infants with NEC have polycythemia, decreased glomerular filtration rates, oliguria, hematuria, proteinuria, and renal vein thrombosis. Hypoglycemia is commonly observed in up to 40% of infants with polycythemia. Hypocalcaemia is the next most common metabolic derangement and is found in an estimated 11% of neonates with polycythemia. Coagulation can be affected. Thrombocytopenia may be noted. Disseminated intravascular coagulation (DIC) is rare.

• **Diagnostics** include but are not limited to the following:

- Central CBC
- Serum glucose and calcium levels
- Bilirubin level [Jaundiced and polycythemic infants have an increased red blood cell (RBC) mass which leads to an increased load of bilirubin precursors that can result in hyperbilirubinemia]
- Arterial blood gases (ABG) [Assessment of oxygenation in the symptomatic infant with respiratory distress and cyanosis]
- Platelet count [Infant may have thrombocytopenia if thrombosis or disseminated intravascular coagulation (DIC) are present]

• **Treatment:** Treatment is dependent upon both the measured central venous Hct level and the presence or absence of symptoms. Clinical observation is indicated for asymptomatic patients with a Hct level of 65-75%. Clinical observation consists of monitoring Hct and glucose levels every 6-12 hours, and observing the patient for symptoms for at least 24 hours or until the Hct level decreases.

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Kim Nolan Spirit Award

FANNP Members and NNP students eligible!

Characteristics:
Can-do attitude; Service to family, work, & community

Purpose:
• To honor the contribution that Kim Nolan, founding member, made to FANNP and her community.
• To recognize an NNP who exemplifies the characteristics of Kim.

Eligibility Requirements:
• A nominee must be a member of FANNP.
• A nominee may be a practicing NNP, a retired NNP, or a NNP student.

Selection Criteria:
• A nominee should demonstrate service to his/her community or professional organization.
• A nominee should possess excellent communication skills.
• A nominee should demonstrate positive "can-do" behavior in daily activities.

Nominee Characteristics:
• Enthusiastic;
• Family oriented;
• Role model/mentor;
• Caring, nonjudgmental, respectful.

Selection Process:
• Nominations will be accepted from any FANNP member.
• Blinded applications will be reviewed by the Spirit Award Committee members.
• Once selected, the award recipient will receive written notification of selection.

Award Recognition:
The recipient will receive the following:
• Complimentary conference registration and accommodations for this or next year's NNP Symposium in October;
• One year waiver of FANNP dues;
• Recognition in the newsletter and on the Website;
• A certificate suitable for framing;
• A Lladro statue

Previous Recipients:
2002 Pam Laferriere
2003 Madge Buus-Frank
2004 Leslie Parker
2005 Kim Irvine
2006 Karen Theobald
2007 Ruth Bartelson
2008 Cheryl Robinson
2009 Gail Harris
2011 Mary lee Kraus
2012 Terri Marin

Nominate someone today on our website: FANNP.org.

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For a Hct level greater than 75% on repeated measurements, one should consider a partial exchange transfusion (PET) or clinical observation with intravenous fluids for added hydration. A PET may be indicated if symptoms worsen. Careful monitoring of vital signs, bilirubin, glucose, and electrolyte levels is also indicated.

Prognosis: Prognosis is dependent upon the underlying cause of polycythemia. Overall the prognosis is favorable, with no long-term complications.

References

Murray, N.A., Roberts, A.G., (2007). ABO incompatibility and hemolytic disease of the newborn. Archives of Diseases in Childhood: Fetal & Neonatal; March; 92(2): F83–F88.

Wagel, S., Rosenkrantz, T., (2011). Hemolytic disease of the newborn. Retrieved on-line 2/6/2013. emedicine.medscape.com

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Answers:

1. Answer is C; First-degree AV block is defined as prolongation of the PR interval beyond the normal for the patient's age and heart rate. The upper limit of normal for a 1-3 week old infant with a heart rate of 120-140 is 0.11 seconds.

2. Answer is B; Causes of first-degree AV block include digitalis toxicity, myocarditis, endocardial cushion defect, ASD, Ebstein's anomaly and hyperkalemia.

3. Answer is C; In hemihypertrophy, some or all of the structures on one side of the body are larger in circumference and/or length. Hemihypertrophy carries a significant risk for Wilms tumor. The majority of cases are sporadic and not part of a syndrome, but Beckwith-Wiedmann syndrome should be considered in the differential diagnosis.

EDUCATIONAL OFFERINGS

Current Concepts in Neonatal Care
September 25-28, 2013
Napa Valley Marriott Hotel & Spa
Napa, CA
www.symposiamedicus.org

National Association of Neonatal Nurses 29th Annual Educational Conference
October 2-5, 2013
Nashville Renaissance Hotel
Nashville, TN
www.NANN.org

Vermont Oxford Network 2013 Annual Meeting & Quality Congress
October 5-6, 2013
Sheraton Chicago Hotel & Towers
Chicago, IL
www.regonline.com/2013VONAMQC

The 24th FANNP Neonatal Nurse Practitioners Symposium: Clinical Update and Review
October 15-19, 2013
Sheraton Sand Key Resort
Clearwater Beach, Florida
FANNP.org

Neonatal Resuscitation Program NRP Current Issues Seminar: It's a Small World After All
October 25, 2013
Orange County Convention Center
Orlando, FL
www.aap.org/nce

Contemporary Forums Neonatal Developmental & Behavior Care
November 6-9, 2013
New Orleans Downtown Marriott-Convention Center
New Orleans, LA
www.contemporaryforums.com

Contemporary Forums The Fetus & The Newborn
November 6-9, 2013
Washington, DC
www.contemporaryforums.com

Medical University of South Carolina Neonatal Pharmacology Conference: Incorporating Evidence-Based Practice into Clinical Decision Making
November 10-13, 2013
Francis Marion Hotel
Charleston, SC
www.musc.edu/cme

The 27th Annual Gravens Conference on the Physical and Developmental Environment of the High Risk Infant
February 5-8, 2014
Sheraton Sand Key Resort
Clearwater Beach, FL
www.cme.hsc.usf.edu

CLASSIFIEDS

Newsletter Advertising

Acceptance of Advertising

- Classified ads only
- Link on website for direct submission
- All advertisements are subject to review and approval by the Editor

Ad Options

May run ad in one newsletter or all year- 4 total newsletters, December, March, June, and September issues

Cost

- $50.00/ad each newsletter or $150.00 for all 4 newsletters. No cash discounts.
- Payment must be received in full prior to the scheduled close date for the quarterly issue.
- Payments can be made though the PayPal link on the FANNP website

Format

- The classified ad section of the newsletter will be limited to 1 page only with approximately 30 ads per page
- Ads will be processed on a first come first serve basis

Closing Dates for Space and Advertising Materials

- December 2013-ads must be received by November 8, 2013, and paid in full
- March, 2014-ads must be received by February 14, 2014, and paid in full
- June, 2014-ads must be received by May 9, 2014, and paid in full

– FANNP BOD

Bring it On...

Practice Questions to Prepare for the NNP Certification Exam

1. A 2 week old infant with a VSD and CHF has been receiving Digoxin and Furosemide. The EKG rhythm strip has the following characteristics: Ventricular rate of 125 bpm, regular R-R interval, PR interval of 0.18 seconds, and no dropped beats. These characteristics are associated with which of the following?

   A. Wenkebach phenomenon
   B. Sinus bradycardia
   C. First-degree atrioventricular (AV) heart block

2. What is the likely cause of the abnormal rhythm in the patient above?

   A. Hypokalemia
   B. Digoxin toxicity
   C. VSD

The tumor most often associated with hemihypertrophy of the newborn is:

   A. Sacrococcygeal teratoma
   B. Neurofibroma
   C. Wilms tumor

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