



Perinatal Gazette

Newsletter of the Regional Perinatal Center
Westchester Medical Center



Volume 4, Issue 4

July 2004

We deliver...

Announcing the birth of our 22,500 square feet, 50 bed, family-centered, state-of-the-art Regional Level IV NICU serving the Lower Hudson Valley. Each patient bed will have the capacity to enable a parent to remain over night at the hospital during their child's illness.

The facility had its official ribbon cutting dedication on June 9, 2004 and will enable Westchester Medical Center to further extend its family-focused programs in ECMO, Cardiac Surgery, Nitric Oxide, High Frequency and Jet Ventilation as well as in all other forms of neonatal critical care & surgical management.

We are grateful to all of the work done by our nursing staff, medical staff, the founding Director Dr. Harry Dweck and each of those people among you who contributed in some way to bring us to where we are today. The new facility will allow us to serve you and our patients better in the future. Dr. La Gamma, Professor of Pediatrics, Biochemistry & Molecular Biology, NYMC and its current director is pictured cutting the ceremonial ribbon with Ms. Naomi Kaplan during the naming of the "The Naomi and Isaac Kaplan Family NICU." The Maria Fareri Children's Hospital is expected to be open on schedule in the summer of 2004.

Contact the Children's Foundation Office at (914) 493-2575 or Dr. La Gamma's office (914) 493-8558 if you would like to schedule a preview.

Some notable "stats" of the Regional Perinatal Program: Twenty-three Neonatologist and 10 Maternal Fetal Medicine Obstetrics & Gynecology experts on staff, 12 neonatal & 3 MFM fellows, 12 advanced practice neonatal & perinatal allied health staff, over 100 nurses, catchment area of >40,000 births, more babies cared for <1500g than any other RPC in the greater NY area, a neonatal case mix index at or above every other RPC in NY State, survival, morbidities and long-term outcome as good as or better than any where else in the entire country, plus \$1.8 million in NIH funding with a full clinical and basic research program, and the perinatal public health initiatives e.g. March of Dimes (MOD) funded Perinatal network. In the last 5 years, faculty recruitment has been from: Yale, UCSF, Cornell, Mt Sinai, Columbia, Toronto Children's, LA Children's, Cedar Sinai, Stony Brook, Children's Mercy Hospital Kansas City, Rainbow Babies Hospital, NYU, Stanford, Cornell, Nebraska, Harvard, Johns Hopkins, Duke, SUNY downstate, UMDNJ and of course, Westchester Medical Center. It's a new day.

See more at: <http://www.nymc.edu/neonatology>

**Save the date - RNICU Graduate Reunion
Wednesday, September 22, 2004 3pm-5pm**



*Pictures from
the NICU
Ribbon
Cutting
Ceremony*

*Dr. Edmund
La Gamma
and Ms.
Naomi
Kaplan*



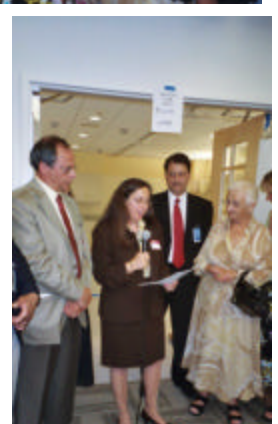
*Mr. Gene
Capello,
Natalie
Dweck,
& Dr.
Michael
Gewitz*



*The
Kaplan
Family*



*Left:
Dr.
C.D.
Hsu
Right:
Susan
B.
Rose
(MOD)*



Management Options for Ovarian Cysts Detected in Utero

With the prevalence of screening pregnancy ultrasounds has come the increased detection of ovarian cysts in girls. The fetal ovary is sensitive to fetal gonadotrophins, maternal estrogens, and placental chorionic gonadotropin, which stimulated ovarian cysts of different sizes. While the true incidence is unknown, the frequency has been reported to range from 30-40% varying with gestational age. The incidence of female ovarian cysts is higher in infants of mothers with diabetes, toxemia, and rhesus immunization presumably because of increased HCG effect.

A cyst outside the normal range (greater than 3 cm) can be considered "pathologic" and then categorized as simple or complicated. Simple cysts have an anechoic pattern. Complicated ovarian cysts have findings such as fluid debris level, retracting clot, septae, and echogenic wall, capsular calcification. These later features are almost always indicative of torsion. If there are solid features neoplasm should be in the differential, but malignant neoplasms are extraordinarily rare.

When ultrasound detects a cystic mass in the peritoneal cavity of a female, ovarian cyst will be the most common etiology, but other etiologies such as anterior meningocele, hydrometrocolpos, lymphangioma, and mesenteric or duplication cysts should still be carefully considered. There can also be secondary ovarian cysts with fetal hypothyroidism.

Complications in pathologic, complicated cysts are high (40-70%). They include hemorrhage, torsion, spontaneous rupture, and mass effects such as hydramnios, thorax compression or intestinal obstruction. One case report from India described a nine-month-old infant who developed DIC from an undetected ovarian torsion presumed to have been present for an extended period. While clinicians worry more about torsion in female neonates with cysts greater than 4 cm, torsion has been reported in 2 and 3.5cm ovaries.

One of the best overviews of neonatal ovarian cysts comes from a tertiary referral center in Italy. Their first series reported on 42 cases of fetal ovarian cysts between 1985-1992 and their second series reported on 73 ovarian cysts between 1992 and 1999. Highlights of their experience are summarized below. In their first series 12/42 cysts were echogenic at the first prenatal ultrasound and in all of those patients ovarian torsion was later confirmed surgically. The final groups of cysts were the simple ones less than 5 cm. In this final group of 34 simple cysts, 26 regressed spontaneously, 7 torsed, and 1 persisted at birth. The reported cases of ovarian in utero decompression are growing, and there have not been any complications with this technique reported to date.

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Proponents of this therapy argue that most torsions occur prenatally, citing authors such as ML Brandt who found that in 92% of cases of neonatal torsion there was sonographic evidence that the torsion had occurred prenatally. They argue that decompression may not only prevent torsion and loss of future ovarian function, but also secondary complications such as intestinal obstruction and need for future laparotomy. Author Dr. Crombleholme believes certain characteristics of an antenatal cyst should give more weight to selecting it for antenatal decompression. He believes those criteria are anechoic cyst > 3.9 cm, those noted to wander around the abdomen, and those showing rapid enlargement. If fluid is aspirated it can be sent for cytology and hormone chemistry. Luteinizing granulosa cells confirm ovarian etiology and continuing function. Hemosiderin-laden macrophages indicate past hemorrhage or torsion. While malignancy has never been reported, cytology could assist in consideration of a cancer diagnosis. Cyst fluid chemistries may include progesterone, testosterone, and prostaglandin E2.

If the decision is made to follow a patient antenatally and the nature of the cyst mandates intervention after birth, surgeons can now modify the traditional surgical approach with new laparoscopic techniques. The following case illustrates some of these issues. A 20-week-old fetus was discovered on routine ultrasound to have a 4cm debris layered ovarian cyst. The cyst size remained stable throughout the pregnancy. The child's birth was uneventful and the patient's cyst was followed by ultrasound every 4 months. At nine months of age the pediatric gynecologist and surgeon performed a diagnostic laparoscopy. The left tube and ovary were no longer connected to the uterus or infundibulopelvic ligament, but floating in the pelvis with a small attachment to the small bowel. This attachment was disconnected with the harmonic scalpel, the cyst was collapsed and removed laparoscopically, and the pelvis irrigated. The patient had no complications and was discharged from the hospital the next day.

In summary, ovarian cysts detected in utero have become increasingly common, because of routine screening ultrasounds. Published data to date show practitioners that in utero are an option for the right patient. Postnatal aspiration should be encouraged if there are still no signs of torsion at birth. If all of the above windows of opportunity close and the cyst must be evaluated surgically, then newer laparoscopic techniques can now be applied safely in this young age for a faster recovery with less risk of adhesive disease.

Monique M. Regard, M.D.
Pediatric and Adolescent Gynecology
New York Medical College &
Maria Fareri Children's Hospital at
Westchester Medical Center
Phone: (914) 594-3335

Pain

Infants feel pain.

Neural pathways for pain transmission are present in the most premature infants.

Pain is defined by the International Association of Pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage...the inability to communicate in no way negates the possibility that an individual is experiencing pain and is in need of appropriate pain relieving assessment and treatment."

The second part of the statement speaks to the needs of a neonatal population. For too many years misconceptions about a neonate's ability to feel pain resulted in under recognition and inadequate treatment of pain in this population. Historically, one of the major reasons for this has been the inadequacy of pain scales and therefore, poor ability to assess pain in a critically ill population.

Today, a number of pain scales are available to evaluate pain in the neonate. In the Regional Neonatal ICU at WMC we use the Neonatal Pain, Agitation, & Sedation Scale (NPASS) tool because we feel it best meets the needs of our infants. A pain committee composed of nurses, and physicians was established to evaluate pain assessment and management of pain in the RNICU. Our first goal was to utilize the NPASS tool for all neonatal patients with each set of vital signs. As the tool was introduced, the nurses on the committee were instrumental in mentoring their nursing colleagues in appropriate use of the tool.

The N-PASS was developed in 2000 by Pat Hummel & Mary Puchalski, both advanced practice nurses from Loyola University Health System, Loyola University, Chicago. The NPASS tool allows for evaluation of both pain and level of sedation. Both are scored separately. The pain portion of the tool has 5 assessment criteria:

1. Crying/ Irritability
2. Behavior state
3. Facial expression
4. Extremities / Tone
5. Vital signs: heart rate, respiratory rate, blood pressure, oxygen saturation.

Pain is scored from 0 -2 for each of the 5 criteria, then added for a total pain score. The total pain score may be a number from 0 - 10. Interventions are indicated for scores greater than 3. Points are added to the premature infant's pain score based on their gestational age to compensate for their limited ability to behaviorally or physiologically communicate pain:

- +3 for an infant less than 28 weeks gestation / corrected age
- +2 for an infant between 28-31 weeks gestation / corrected age
- +1 for an infant between 32-35 weeks gestation / corrected age

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Another objective of the pain committee is to develop best practices for pain management for our diverse population. We currently use a variety of pain management techniques. Non - pharmacologic measures include containment, positioning, holding, swaddling, reduction of noxious environmental stimuli, and non - nutritive sucking. Pharmacologic measures include use of sucrose pacifiers for select patients undergoing painful procedures, administration of analgesia, sedation and anesthesia.

Effective management of pain has been shown to reduce adverse physiologic responses such as fluctuations in heart rate, blood pressure, and arterial oxygen saturation in the neonate. This has significant implications for affecting both short and long term outcome in this vulnerable population.

If you are interested in more information about the N-PASS tool or pain assessment and management in the neonate a list of references is included.

Kathleen Rogan, MS, RN,C
Neonatal Outreach Coordinator
Maria Fareri Children's Hospital at
Westchester Medical Center
Email: rogan@wmc.com
Phone:(914) 493-7362

International Association for the Study of Pain www.iasp-pain.org

Cochrane Reviews www.nichd.nih.gov/cochraneneonatal
Mary Puchalski mpuchalski@lumc.edu

Happenings:

"The first annual Maria Fareri Children's Hospital child abuse conference, titled "Celebrate Children, Keeping Them Safe" held on June 10, 2004 was a huge success. The conference focused on the multidisciplinary approach to the evaluation of child physical and sexual abuse through case presentations and panel discussions. The work of the Children's Advocacy Center at The Maria Fareri Children's Hospital was highlighted through presentations by the Advocacy Center's medical and social work staff. Panel participants included Dr. Jennifer Canter, the medical director of the Advocacy Center, as well as members of the Westchester County District Attorney's office and Child Protective Services. Opening remarks were made by Dr. Michael Gewitz, District Attorney Jeannine Pirro, and County Executive Andrew Spano. The keynote speech was presented by an honored guest, Marilyn VanDerbur a former Miss America and incest survivor, who spoke eloquently about sexual abuse awareness, its long-term effects, and prevention. In addition, a program to educate parents about shaken baby syndrome was presented (more about this program in a future newsletter).

Breastfeeding Grand Rounds 2004

Satellite Broadcast

Presented by The New York State Institute for Human Lactation

Thursday, August 5, 2004; 7:30 a.m. - 9:30 a.m. ET

Program: **Promoting Breastfeeding in Minority Communities**

Clinical presentation by **Michal Young, MD**, Neonatologist, Washington Hospital Center with **Ruth Lawrence, MD**, Professor of Pediatrics, Obstetrics and Gynecology, University of Rochester, and author of *Breastfeeding: A Guide for the Medical Profession*

Workplace Practices that Support Breastfeeding

Public health lecture by **Mary Applegate, MD, MPH**, Medical Director, Bureau of Women's Health, New York State Department of Health

- ❖ **NYMC- Learning Center will be hosting the broadcast, for more information please contact Rhonda Valdez-Green at (914) 493-7575**

For additional information about this program, email coned@albany.edu or visit the web site at www.albany.edu/sph/coned/womenhgr.html.

State Perinatal Database Team &

Perinatal Gazette Editorial Board

Edmund LaGamma, M.D., Director Newborn Medicine

(914) 493-8558 (edmund_lagama@nymc.edu)

Chaur- Dong (C.D.) Hsu, M.D., M.P.H., Director OB/GYN

(914) 593-8950 (mailto:chaur-dong_hsu@nymc.edu)

Heather L. Brumberg, M.D., M.P.H., Neonatal Epidemiologist

(914) 493-8491 [mailto:\(heather_brumberg@nymc.edu\)](mailto:heather_brumberg@nymc.edu)

Susan Marchwinski, R.N., C., M.S., SPDS Coordinator

(914) 493-8590 (marchwinskisa@wcmc.com)

Donna Dozor, R.N., M.S. Neonatal Data Collection

(914) 493-8309 (dozord@wcmc.com)

Nancy Satou, R.N. Maternal Data Collection & Editor

(914) 493-8346 (satoun@wcmc.com)

We are interested in providing you with a newsletter that is relevant and of interest to you. Please contact us with perinatal topics you would like to see addressed. For a copy of our newsletter or to be placed on our mailing list contact us by phone or e-mail. Please see below the NYMC neonatal web site address to locate other issues of The Perinatal Gazette and the RPC web site:

<http://www.nymc.edu/neonatology>

<http://www.nymc.edu/depthome/peds/rpc/index.asp>

The Maria Fareri Children's Hospital at Westchester Medical Center

95 Grasslands Road

Valhalla, New York 10595

Phone: 914-493-8590

Fax: 914-493-1493

E-mail: dozord@wcmc.com satoun@wcmc.com

marchwinskisa@wcmc.com

ADDRESS CORRECTION REQUESTED