L'Hôpital de Montréal pour enfants
The Montreal Children's Hospital
Centre universitaire de santé McGill
McGill University Health Centre

Pediatric Medical News

November 2009

Edition one, Volume one

REFERRING A PATIENT

General pediatrics 514-412-4242
Pediatric surgery.....514-412-4242
Psychiatry.....514-412-4242
Pediatric subspecialty 514-412-4242
Pediatric ER 514-412-4499
Neonatal Intensive Care 514-934-4425
.....1-888-590-1617
Pediatric Intensive Care 514-412-4238

CLINICAL NEWS

Hypothermia Program

Hypothermia Program for neonates with perinatal asphyxia

The Neonatal Intensive Care Unit at The Montreal Children's Hospital has set up a hypothermia program for neonates who have suffered from perinatal asphyxia. Currently, there is evidence from six randomized controlled trials that therapeutic hypothermia is beneficial to term newborns with hypoxic ischemic encephalopathy. Cooling reduces mortality without increasing major disability in survivors.

There exists a therapeutic "window of opportunity" of about six hours in the interval following resuscitation of the asphyxiated newborn before the secondary phase of impaired energy metabolism and injury sets in. Therapeutic total body cooling aims to lower the temperature of the vulnerable deep brain structures and the basal ganglia by lowering the core temperature to 33.5°C.

Identification of infants with hypoxic ischemic brain injury at risk of future disability who may benefit from hypothermia is important and challenging because the window of opportunity is only 6 hours for recognition, transfer and the initiation of cooling.

All infants who are transferred to The Montreal Children's Hospital for hypothermia will be closely observed during cooling and re-warming periods. As part of the investigation the infant will undergo an MRI prior to discharge and will be evaluated by occupational therapy. A strict follow up plan has been established with the Neonatal Follow-Up Clinic.

If you would like additional information or would like to receive cue cards designed to help you determine if a newborn is a candidate for hypothermia, do not hesitate to contact us and we will be pleased to help.

Neonatal Intensive Care Unit / Neonatal transport team
Please contact us: 514-412-4455 (regular working hours)
For emergencies: 514-412-4400 #22389 or 1-888-590-1617

Pediatric Medical News is published by
Public Relations and Communications
THE MONTREAL CHILDREN'S HOSPITAL
MCGILL UNIVERSITY HEALTH CENTRE
2300 Tupper St., Room F-372
Montréal, QC H3H 1P3
514-412-4307
info@thechildren.com

COMMENTS?

We are interested in your feedback about this newsletter: Info@thechildren.com

ELECTRONIC VERSION

If you would like to receive an electronic version of this newsletter, please subscribe at: info@thechildren.com

SHARE YOUR NEWS

MCH Pediatric Medical News is published twice a year. If you have news about initiatives in your region, we'd be pleased to publish it in an upcoming issue. Please send us a 200-word text along with photo or illustration to: info@thechildren.com

CLINICAL NEWS

Craniofacial Program

New multidisciplinary team at The Montreal Children's Hospital treats children with severe craniofacial deformities

The Division of Plastic Surgery at the Montreal Children's Hospital recently established a Craniofacial Surgery Program to treat children with severe deformities. The program, under the leadership of Dr. Mirko Gilardino and orthodontist Dr. Broula Jamal, comprises a multidisciplinary team of 19 specialists including representatives from dentistry, genetics, otolaryngology, ophthalmology, neurology, neurosurgery, and respiratory medicine among others.

This team approach allows The Montreal Children's Hospital to better manage each patient's treatment options with the ultimate goal of reducing the number of surgical interventions.

Dr. Gilardino did his fellowship in Pediatric Craniofacial Surgery at the number-one-ranked Children's Hospital of Philadelphia before returning to Montreal. In addition to state-of-the-art cleft lip and palate surgical care, his specialty is surgical correction of complex facial and skull anomalies (craniosynostosis), both traumatic and congenital. The most advanced midface and mandibular distraction techniques are employed.

Dr. Jamal was trained at the University of Western Ontario, and has subspecialized training from New York University in the orthodontic treatment of children with cleft lip/palate and complex facial anomalies. Together with Dr. Gilardino, she provides the most advanced orthodontic care for these patients, including Nasoalveolar molding (NAM) to optimize outcomes following cleft lip repair.

The Craniofacial Surgery Program specializes in the treatment of:

- Cleft lip and/or palate (including NAM)
- Craniosynostosis
- Congenital mandibular deformities (Pierre-Robin Sequence)
- Midfacial deformities (Apert, Crouzon, Pfeiffer, Treacher Collin syndromes)
- Hypertelorism and orbital anomalies
- Facial clefts, frontonasal dysplasia, fibrous dysplasia
- Deformational plagiocephaly
- Hemifacial microsomia
- Vascular malformations and hemangiomas

For more information or to refer a patient to the
Craniofacial Surgery Program
at The Montreal Children's Hospital call:
514-412-4400, ext. 22517
Fax: 514-412-4340 / E-mail: maria.coirazza@muhc.mcgill.ca

Before and after surgery

CLINICAL NEWS

Feeding Program

Pediatric Feeding Program established

The Pediatric Feeding Program at The Montreal Children's Hospital is a newly-established program comprised of the Feeding Disorders Clinic, Swallowing Disorders Clinic, and Intensive Feeding Unit. The program provides an interdisciplinary approach to the assessment and treatment of feeding disorders, swallowing difficulties and poor growth. The uniqueness lies in its variety of services, some of which have been available for the past 20 years, and others which are in the process of being established.

Clinical evaluation includes a comprehensive feeding history and related medical and developmental issues, assessment of mealtime interactions and videofluroscopic studies as needed. Educational and nutritional guidance, as well as behavioural, sensorimotor and supportive therapy are part of the treatment approach.

Led by Dr. Maria Ramsay, the team includes experts from psychology, nutrition, occupational therapy, and pediatrics. The team's approach is family centered, working with the parents to develop specific goals to improve their child's feeding abilities and mealtime behaviours, which can be maintained by the caregivers in the home and in other environments.

The Pediatric Feeding Program provides services primarily to children, mostly in the age range from birth to six years, though services are available for older children. A continuum of clinical care is provided with inpatient consultations and outpatient services.

"Our goals are to reduce tube feedings, hospital visits and difficult mealtime behaviours, resulting in an enhanced quality of life for the children and their families," says Dr. Ramsay.

To find out more about the
Pediatric Feeding Program
please call: 514-412-4400, ext. 22334
Fax: 514-412-4280
You can also read about a child who was successfully treated by visiting: www.thechildren.com/en/patients/stories.aspx?id=100

RESEARCH NEWS

Cancer Research

Innovative method to starve tumours

The team of Dr. Janusz Rak of the Research Institute of the McGill University Health Centre (MUHC) at the Montreal Children's Hospital, including Dr. Khalid Al-Nedawi and Brian Meehan, recently discovered a new mechanism that tumours use to stimulate the growth of the blood vessels that feed them. The researchers also proposed a new way to control this process, which may translate into future therapies.

According to the researchers, tumour cells can release "bubbles" called microvesicles, which allow the tumours to communicate with the endothelial cells of blood vessels and stimulate changes in their behaviour. The microvesicles are armed with specific cancer proteins as they leave the tumour. When they are taken up by endothelial cells, the specific cancer proteins that they carry can trigger mechanisms that promote the abnormal formation of new blood vessels. The vessels then grow towards the tumour and supply it with the nutrients it requires to grow.

"We had already demonstrated the existence of these vesicles as well as their importance in the communication process between cancer cells and their environment. But this new discovery is much more targeted and represents a new direction in terms of therapy," says Dr. Rak. In fact, a family of molecules derived from annexin V seems to effectively fight this process and ultimately may help "starve" the tumour. "The molecule we used is effective both in vitro and in vivo. It prevents the formation of new blood vessels in mice with cancer and therefore strongly inhibits tumour growth," explains Dr. Rak.

Called Diannexin, this molecule acts to block the in vitro fusion of vesicles and endothelial cells. In mice with cancer, Diannexin works to slow blood vessel growth towards the tumour, resulting in anti-cancer effects. This finding is particularly important considering the treatment was applied in isolation without additional chemotherapy. If combined with other agents, this new way of treating cancer may be even more potent.

RESEARCH NEWS

Genetic Research

Identifying the most common genetic cause of Leber Congenital Amaurosis

Dr. Robert Koenekoop, Director of the McGill Ocular Genetics Laboratory-MUHC, and Division Head of Pediatric Ophthalmology Montreal Children`s Hospital-MUHC, actively collaborates with the University of Nijmegen in the Netherlands, and using a novel technology (homozygosity mapping by SNP arrays) recently discovered three new genes responsible for Leber Congenital Amaurosis (LCA)—the most common cause of congenital blindness in infants and children—and two new genes for Retinitis Pigmentosa (RP)—the most common cause of hereditary blindness in adults.

In 2006, this international research team, which includes Dr. Irma Lopez, also from McGill, identified the gene CEP290, the most common genetic cause of LCA (*American Journal of Human Genetics*, September 2006). This gene is mutated in over 20 per cent of children and allows researchers to establish the genetic basis for hereditary blindness in up to 75 per cent of patients. By identifying CEP290, the team was able to identify two other new genes, namely LCA5 and then LCA3 (*Nature Genetics*, June 2007). "These discoveries have the potential to fast-track a cure for this disease," says Dr. Koenekoop, who is the lead investigator.

"Our main research goal is to identify all the genes responsible for congenital blindness in children and then study them so that we can then use gene therapy and gene replacement to rescue their vision." Leber Congenital Amaurosis is a complex form of retinitis pigmentosa found in children. The disorder affects about one in 30,000 newborns and about 200,000 children around the world.

McGILL RUIS NEWS

New Educational Tool

Early language development program to foster children's interest in reading and writing

We are pleased to announce that the educational kit "Let's play with Cornemuse and her friends" is ready to be distributed to institutions across Canada.

The kit is designed for children ages 3 to 6 and employees of HSSCs, daycare centres, school boards and community organizations. "Let's play with Cornemuse and her friends" aims to raise awareness among parents and people who work with children of the importance of developing early language skills by fostering children's interest in reading and writing.

The kit contains:

- A DVD featuring 25 language scenes from the Téléfiction show "Cornemuse." Each kit includes 10 DVDs on loan to the families. The scenes, selected by speech-language pathologists, are grouped into five sections:
  1) Syllable awareness
  2) Rhymes
  3) Phonemic awareness
  4) Lexical/semantic awareness
  5) Morphosyntactic awareness
- 40 practical activity sheets and 300 images
- A CD-ROM containing images in PDF format
- A series of letters for parents
- A user guide

The kit's effectiveness was scientifically proven during the pilot project. Experienced users may choose to use the kit without any instruction; however, a training session is strongly recommended in order to achieve optimal results.

For more information or to obtain a kit, contact the
CECOM, Hôpital Rivière des-Prairies
at 514-328-3503, or send an email to
cecom.hrdp@ssss.gouv.qc.ca
Julie Senécal, M.O.A., Speech-Language Pathologist,
Gatineau HSSC, Project Manager

Pediatric Medical Grand Rounds

Location: MCH and by videoconference

MCH ANNUAL PEDIATRIC ETHICS CONFERENCE
Reasonable Accommodation: What are the ethical issues for pediatrics? (presentation in English)
Date: Wednesday, December 2, 2009, 8:00 a.m. to 12:00 p.m.
Opening Speaker:
Daniel Weinstock, Ph.D.
Professor, Philosophy, Director, Centre de recherche en éthique de l'Université de Montréal
Canada Research Chair in Ethics and Political Philosophy, Université de Montréal

PRESTON ROBB LECTURE
Applications of Pet Scanning in Pediatric Neurology
(presentation in English)
Date: Wednesday, December 9, 2009, 8:00 to 9:00 a.m.
Speaker: Dr. Harry Chugani
Children's Hospital of Michigan / Wayne State University
Detroit, MI

Trauma Rounds

Location: MCH and by videoconference

BURN TRAUMA (presentation in English)
Date: November 23, 2009 from 8:00 to 9:00 a.m.
Speaker: Dr. Mirko Gilardino
Plastic Surgeon
The Montreal Children's Hospital, MUHC

Programs

Location: MCH and by videoconference

DOULEUR CHRONIQUE (presentation in French)
Date: Tuesday, December 8, 2009, 1:30 to 3:00 p.m.
Speaker: Christina Rosmus, Clinical Nurse Specialist,
Chronic Pain Service, MCH

LES COMPORTEMENTS AGRESSIFS CHEZ LES ADOLESCENTS (presentation in French)
Date: Tuesday, January 12, 2010, 1:30 to 3:00 p.m.
Speaker: Michèle Paquette, Clinical Nurse Specialist,
Psychiatry, MCH

For further information and to register for these or any other MCH continuing education events available by teleconference, visit www.reseaudesanteenfant.ca and select <Continuing Education>.

L'Hôpital de Montréal pour enfants
The Montreal Children's Hospital
Centre universitaire de santé McGill
McGill University Health Centre
2300 Tupper, Montreal, Quebec H3H 1P3
www.thechildren.com