September 2006

LysoStories™

A Publication from your Healthcare Advocates

Center News

Emory Lysosomal Storage Disease Center

Emory LSDC News

We are happy to introduce Heather Clark, MS, CGC, genetic counselor and clinical coordinator, who joined our LSD team in July. Heather (pictured below) will be the point person for our patients and families with MPS, mucolipidosis, Niemann Pick disease, Tay Sachs disease and metachromatic leukodystrophy. She will replace Sara Cooper who recently left Emory to start a new career in teaching. Heather may be reached at (404) 778-8536.

Emory LSDC upcoming meetings

Sunday August 27, 2006 1-3 pm
"Fabulous Fabry Female" meeting
Maggiano's Little Italy-Buckhead
3368 Peachtree Road
Atlanta, GA
RSVP to Dawn (404)778-8518

Gaucher Supper Club
Thursday September 7, 2006 6:45 pm
Blue Ridge Grill
1261 W. Paces Ferry Rd.
Atlanta, GA 30327
RSVP to Karen (404) 778-8516

You may also reach us at our main numbers: (404) 778-8565 or 1-800-200-1524.

Heather Clark, MS, CGC joined the Emory LSDC team this summer.

Welcome

We hope that your enjoy reading this third issue of LysoStories, a newsletter designed by Health Care Advocates for patients and families with lysosomal storage disease (LSDs). If you have a suggestion for an article or would like to tell your story, please contact a member of the Publications Committee.

September is National Gaucher month
Check the NGF website (www.gaucherdisease.org) and with your local Health Care Advocate for information about meetings & special events

- Karen Grinzaid, MS, CGC
  Emory University School of Medicine
  (404) 778-8516
  kgrinzaid@genetics.emory.edu
- Erin O'Rourke, MS, CGC
  Genzyme Liaison
  (412) 734-1534
  erin.orourke@genzyme.com
- Lisa Sniderman King, M.Sc, CGC
  University of Washington
  (206) 616-1840
  lcsk@u.washington.edu
- Nadene Henderson, MS, GCG
  University of Pittsburgh
  (800) 334-7980
  nadene.henderson@hgen.pitt.edu
- Nita Patel, RNC, BSN
  Saint Peter's University Hospital
  (732) 745-6681
  npatel@saintpetersuh.com

Patient Story

Denise's Story

Attractive, articulate and with stylish good looks that wouldn't be out of place on the cover of a beauty magazine, 41-year-old Denise appears to be one of those lucky people that has everything in life working in her favour. But, things are not quite what they seem. Despite her strong air of self confidence and outward appearance of good health, Denise's life has been progressively and severely compromised by a rare and disabling genetic disorder known as Scheie Syndrome or Mucopolysaccharidosis type I (MPS I)

Early years

As a young child, there were few visible signs that Denise had MPS I. She was extremely active and loved to horseback ride. "The only problem I remember having was slightly stiff joints," Denise explains. "I couldn't bend very well and I was the only one in my group who couldn't get on a horse without help. I'd always have to stand on something or get someone to lift me to the saddle. My older brother Scott had similar bone and joint problems but you only had to look at him to know that there was obviously something seriously wrong. He had a strange walking gait and also had eyesight problems. Over the years, we'd been to see several doctors but everyone seemed puzzled by our symptoms. We were finally diagnosed with MPS I when I was 10 years old. At the time, the diagnosis didn't mean a great deal to me. MPS hadn't really stopped me from doing anything and I didn't understand what MPS I meant. I was a child and I had this 'thing' that involved going to see doctors – but it really wasn't a big deal to me."

When Denise and her brother were children, there was no effective treatment that could halt or slow the progression of MPS I. As they grew older, they continued to have a variety of medical checks to monitor their condition. "Scott was more severely affected and doctors were particularly interested in seeing him on a regular basis," Denise explains. "I continued to go to the hospital with Scott up to the point when he was killed in a car accident. Going to the clinic without my brother was very upsetting for me and, by then, I was 16 years old. As far as I was concerned, I was fine and didn't need more tests."

(cont.)

(L-R) C. Ronald Scott, MD, Denise Dengel and Lisa Sniderman King, M.Sc, CGC

Dawning realization

Denise continued to have a very active and carefree adolescence. Physical activity, which included daily three-hour sessions at the gym, regular horseback riding, biking and hiking, was a focus of Denise's social and vacation life well into her 20s. Her slight stiffness, known as 'Denise's little joint problem', was treated as a minor inconvenience and became a joke amongst her friends.

When Denise was around 25, the 'little joint problem' was about to develop into something more serious. She started to experience numbness in her right hand and recognized, from her brother's experiences, that it was time to get treatment for carpal tunnel syndrome. When she returned to hospital for surgery Denise was shocked to learn that she had also developed a heart problem. "I started having yearly echocardiograms – a new and scary experience for me. I was just 25, and echocardiograms seemed a little premature.

"Some time later, I was making plans to hike the Grand Canyon and I happened to mention this to my cardiologist. She was horrified. 'No way', she said and explained that I simply couldn't handle anything so extreme anymore. That's when things started to shift significantly and I had some forewarning as to what was going to happen to me.

"I was still going to the gym regularly, but despite working-out I was becoming steadily weaker. I was working full-time as a social worker with street children and doctors thought I might be working too hard. I agreed this was possible but it didn't explain the weakness. I also started to get severe cramps in my arm, which reduced me to tears. My doctor said it was common for patients with MPS to develop a mass on their spinal cord and that this could potentially be my problem. This was confirmed following an MRI scan. I had two options: I could have surgery to remove the mass, which involved a risk of paralysis or even death; or I could opt not to have surgery, in which case I was definitely going to be paralysed and die.

Harsh reality

After surgery to reduce the mass and four months convalescence, Denise returned to full-time work. Her limbs felt stronger but she continued to feel constantly unwell. Denise spoke to her doctors about it, but they were blunt. "Denise," they said. "We hate to break it to you, but you have MPS I". "I finally had to give up work and rely on disability support – a really harsh blow for me. My whole life had turned upside down within a space of two years and I just couldn't believe it."

Denise's health continued to deteriorate and her life changed radically. She had two open-heart surgeries, had symptoms of hydrocephalus (extreme headaches and dizziness), and had transient ischemic attacks (mini-strokes).

Enzyme replacement therapy

Denise first heard about enzyme replacement therapy at about the same time as she had surgery for her spinal mass. She wasn't well enough to be considered for clinical trials at the time and had to wait for FDA approval of the therapy in May 2003. When it became available there was yet another frustrating delay for Denise, this time with her insurance. "I was at high risk and it would have been another three months before I could get treatment – a timescale that could have had an enormous impact on my health. Thankfully, Genzyme provided me with enzyme on compassionate grounds so that I could start treatment almost immediately."

Life with treatment

Denise has now been on enzyme therapy for 3 years. "When people ask me whether I feel better, I almost feel I have failed by saying that I generally feel the same and that my test results are the same. In reality, this is an incredible achievement as my disease has stabilized. Since starting treatment, my joints have also become more flexible. It's easier for me to exercise and do everyday things like getting in and out of cars. Unfortunately, my neurological symptoms have worsened. These are unlikely to improve as enzyme therapy does not target neurological disease.

"When I recall how rapidly I deteriorated in the last six or seven years before starting treatment, I can only imagine how much worse I could have become without it," Denise comments. "If I had been able to start enzyme replacement therapy within that time frame, who knows what difference it might have made. I try to be realistic about treatment and what it can achieve, but I admit that a small part of me still hopes that, one day, I will be able to hike the Grand Canyon, go back to work, and recover the life I left behind."

Family and friends

When Denise started to have more severe problems, she called members of her family to let them know what was happening. Denise recognised that they could be carriers of the MPS I gene and they needed to know about MPS I in order to make informed choices in family planning. "I have always wanted to be married and have children myself but my life has been swallowed by MPS. I've had to concentrate on staying alive. When I was in my 20s, I wasn't aware that my biological clock was running out. I am not married but I date. Because there are now so few times when I am able to do things, I tend to seize life to make the most of my time. It's hard to meet people who want to 'grasp the moment' in quite the same way".

"My friends have been amazing. Some have been with me since the age of seven and have gone through the stages of MPS I with me. They look out for me. I have also lost friends, however, and that is understandable: it's not easy to have a friend like me. When I meet new people, I take each person as they come. I don't feel the need to immediately expose details of my life but tell people about MPS when I need to, for example, if and when there are safety issues. MPS is not something that I hide, but it is also not the most important thing about me."

Learning and lobbying

"I don't think classifying MPS I into mild, intermediate and severe forms is helpful. It makes it seem as though there are three different disorders when, in reality, they are variations of the same problem. I am classed on the milder side because I make more enzyme, but MPS is a progressive disease. Over time, I continue to regress and deteriorate, but at a slower rate than someone who has severe disease. The same problems occur. The difference is that I come in a fully cognitive, educated body – and because I can articulate clearly, then all of a sudden that makes me okay. I fit a stereotype of a person that is well, but my symptoms are the same as a four year old with severe MPS I. Doctors would often say to me, 'But you look fine, you look great …' I'd reply that if they looked at my MRI, they would see that I am not fine. How I look is not the issue. If no one looks beyond my appearance, then I may not be able to function much longer. It is important that doctors look at MPS I patients as individuals. It's not a matter of whether we will come to the symptoms – but when.

"The National MPS Society has been very helpful. I joined the Society in 1995 and was instantly made to feel welcome and was given a great deal of support. I met children there who looked just like my brother Scott, so that was very familiar and quite beautiful, as I haven't seen him in quite a while. I have learned so much from meeting other MPS patients and their families.

Conclusion

"If I had to give anyone advice about how to cope with MPS I, I would say it is important to meet your own personal goals, perhaps one thing everyday that is nothing to do with MPS. If you have a two-hour window in your week when you feel relatively well, get out and do something that makes you happy – that will help you through the potential next six days. I would also say it's important to appreciate your own life. I have fought hard for the kind of life that I want. Often, people see strength in people that won't give up – but sometimes it requires more strength to look at what you have and let it become a part of what you are. MPS I is part of me, but not the whole of what I am".

Mucopolysaccharoidosis Type I (MPS I)

Mucopolysaccharidosis Type I is a lysosomal storage disorder and has had many other historical names (Hurler syndrome, Hurler-Scheie syndrome and Scheie syndrome). Hurler syndrome takes its name from Gertrud Hurler, the doctor who described a boy and girl with the condition in 1919. In 1962, Dr. Scheie, an ophthalmologist, wrote about some of his patients who were more mildly affected than the originally described boy and girl. Individuals who seem not to fit clearly in either the severe or the mild end of the disease were said to have Hurler-Scheie syndrome. The syndrome names have been replaced with the designations attenuated (diminished severity) and severe because MPS I is a continum of severity based on the disease symptoms. There is a great deal of variability of symptoms among individuals with MPS I, often making the specific designation difficult. Although individuals with attenuated MPS I have normal intelligence, they may have a variety of symptoms that can range from mild to severe.

There is no cure for MPS diseases, but there are ways of managing and treating the problems they cause in a person's body.

What causes this disease?
Mucopolysaccharides are long chains of sugar molecule used in the building of connective tissues in the body:

- "saccharide" is a general term for a sugar molecule (think of saccharin)
- "poly" means many
- "muco" refers to the thick jelly-like consistency of the molecules.

There is a continuous process in the body of replacing used materials and breaking them down for disposal. Children and adults with MPS I are missing an enzyme called alpha-L-iduronidase which is essential in cutting up the mucopolysaccharides called dermatan and heparan sulfate. The incompletely broken down mucopolysaccharides remain stored in cells in the body causing progressive damage. Babies may show little sign of the disease, but as more and more cells become damaged, symptoms start to appear. MPS build-up can occur in the bones and joints, liver, spleen, heart, brain and other tissues.

How common are these diseases?
It has been estimated that in British Columbia, about 1 in 100,000 babies born would have MPS I. With the severe form being more common than the mild attenuated forms.

There is an estimate in the United States that 1 in 25,000 births will result in some form of MPS.

How is the disease inherited?
We all have genes inherited from our parents which control whether we are tall, short, fair, etc. Some genes we inherit are "recessive," that is to say we carry the gene, but it does not have any affect on our development. MPS I is caused by a recessive gene. If an adult carrying the abnormal gene has children with another carrier, there will be a one in four (25%) chance with every pregnancy that the child will inherit the defective gene from each parent and will be affected with the disease. There is a two in three (67%) chance that unaffected brothers and sisters of MPS I children will be carriers (see figure on next page). They can be reassured; however, that, as the disease is so rare, the chance of coming across another carrier is very slight provided they do not marry a cousin or other close family member.

Article reprinted and adapted with permission from the National MPS Society http://www.mpssociety.org

Genzyme Treatment Support

Kathleen Coolidge, LICSW
Associate Director, Patient and Product Service
Genzyme Corporation

"My son is going away to college in the fall, how will he get infused?"
"I am turning 65 soon; will Medicare pay for my treatments?"
"I am moving to Florida from New Jersey, how will I get my treatments?"
"My company just laid me off from my job, what can I do about insurance coverage?"

These are just some of the questions that are asked by patients with Gaucher, Fabry, MPS I, and Pompe Disease to their case managers at Genzyme Treatment Support.

Who is Genzyme Treatment Support (GTS)?
GTS is staffed with professional case managers who come from nursing, insurance and social work backgrounds who work with and advocate on behalf of Lysosomal Storage Disorders patients from around the country.

What does Genzyme Treatment Support (GTS) do?

- GTS assists patients with understanding their insurance benefits, limitations and guidelines
- GTS facilitates the prior authorization process with the patient's insurance company
- GTS identifies and explores alternative insurance options
- GTS coordinates the flow of information and act as liaison with insurance companies
- GTS provides individualized case management
- GTS maintains confidentiality

What can you do?
Call (800) 745-4447 and speak with the case manager responsible for your geographical area. He/she can help you if:

- Your doctor recommends treatment
- You have a job change
- You are relocating or taking an extended vacation
- You have a new insurance plan
- Your child is graduating from college
- Your child is losing dependent status
- You are retiring
- You qualify for disability or Medicare
- You have a change in marital status, or any other questions!

Editor's Note
Other companies providing therapies for LSDs have support service programs. Contact your Health Care Advocate for more information or if you need help.

Upcoming Patient Meetings

Pompe

- AMDA/IPA Patient Conference
  November 17-19, 2006
  San Antonio, TX
  www.amda-pompe.org

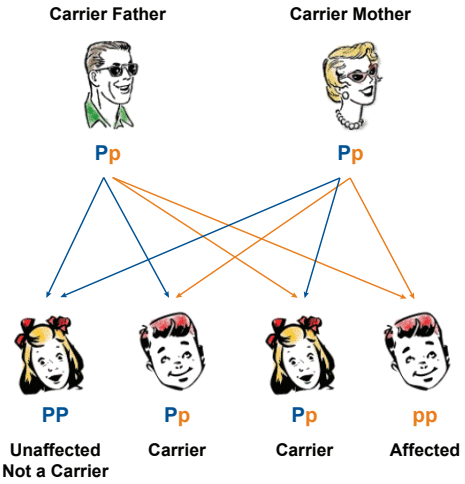
MPSI

- September 9, 2006
  MPS II Family and Patient Meeting
  The Marriot Teaneck at Glenpointe
  Teaneck, NJ
- September 9, 2006
  Iowa MPS Family Meeting
  Coralville Marriott Hotel and Conference Center
  Coralville, IA
- Sept 10, 2006
  Pacific Northwest MPS Family Meeting
  Westin Bellevue
  Bellevue, WA
  RSVP: Angie Fox (206) 616-7192
  acfox@u.washington.edu
- December 7-9, 2006
  WORLD Symposium 2006 Presented by Lysosomal Disease Network
  Contemporary Resort, Walt Disney World
  Orlando, Florida

Gaucher Disease

- September 7, 2006
  NGF Educational meeting
  Maggiano's Restaurant
  Richmond Heights, MO
  314-824-2410
  Speakers; Warren McCollum, Malick Shah, MD, Alison Whalen, MD
- September 12, 2006
  National Gaucher Disease Awareness Month Kick off program hosted by the NGF
  The Jewish Community Center
  76th Street New York, NY
  617-937-2584
  Speakers; Rhonda Buyers, Suzanne Krupskas, Andrea Trombino, Edwin Kolodny, MD, Pram Mistry, MD
- September 13, 2006
  Know Your Heritage – A Single Gene can make a Difference
  St Paul Jewish Community Center
  St. Paul, MN
  651-255-4764
  Speakers; Stacey Feuer, Chester Whitley, MD, Karen O'Neill, RN
- September 12, 2006
  NGF Educational Meeting
  Maggiano's restaurant
  Edina, MN
  952-285-4339
  Speakers; Stacey Feuer, Chester Whitley, MD
- September 17, 2006
  Our Heritage and Our Health
  Jewish Genealogical Society
  Temple Adat Elohim
  Thousand Oaks, CA
  Speaker; Gary Frohlich, CGC
- September 21, 2006
  NGF Educational Meeting
  Maggiano's Restaurant
  Skokie, IL
  847-933-9572
  Speakers; Jeffrey Manko, MD, Joel Charrow, MD
- September 28, 2006
  NGF Educational Meeting
  Maggiano's Troy
  Troy, MI
  248-205-1060
  Speakers; Greg Grabowski, MD, Leopold Eisenberg, MD

Autosomal Recessive Inheritance



When both parents are MPS I carriers (indicated with lower case "p") with each pregnancy there is a 1 in 4 chance that the child will inherit the MPS I gene from each parent and have MPS I.