

LiverLink

The Newsletter of the Alagille Syndrome Alliance



This issue of LiverLink is the second in a three-part series on itching. Articles were provided by our Scientific Advisory Board and their staff. The Alliance Board of Directors thanks all those who responded!!

More on Itching..... by Julie Chesterton, RN

Pruritis, or the severe itching experienced by children with Alagille Syndrome (AGS), is often resistant to treatment.

That's the bad news. The good news is that for many children the itching subsides as they grow older. By the time many children with AGS reach adolescence, the constant and severe pruritis is gone or greatly improved.

But how in the world do you get your child through the years of maddening, persistent, and severe itchiness that precedes relief rendered solely by age? For many children there is no truly effective treatment for the pruritis caused by chole-

tatic liver diseases such as AGS, but there are things that can and should be tried.

◆ **Ursodeoxycholic acid (Actigall)** is a medication that all children with AGS should be taking. It is not clear why Actigall helps to reduce itching in patients with cholestasis. It is thought to improve bile flow out of the liver and possibly to change the composition of the bile to one that causes less itching. Actigall may cause diarrhea. If your child experi-

ences abdominal pain or diarrhea, the dose can be cut in half and increased as tolerated. You should always discuss any medication changes with your nurse or doctor before making changes.

◆ Dose 10-20mg/kg/day, given orally usually divided into two daily doses

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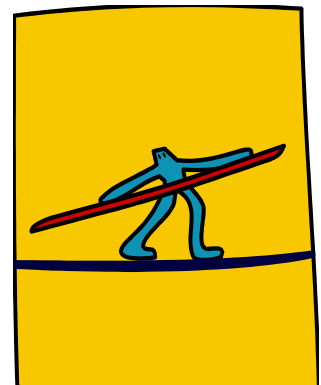
LiverLink On-Line

Yes, Liverlink is now online!! Issues can be accessed, down-loaded and shared with family and friends! Go to www.alagille.org/liverlink.html. Enjoy!

Also....Erik Luxhoj, the Alliance Webmaster, is adding an awesome bibliography of AGS articles

for your reference. He is working on the bulletin board for the site so families can "talk" to each other! And he's posted the Preliminary Agenda for Symposium 2002.

Keep up the good work, Erik!



ON LINE

President's Page

Summer is just breezing away! Alaina (my AGS princess) went to Stanley Stamm Children's Hospital Camp by Mt. Rainier, Washington, earlier this month. It's a yearly event that Alaina has enjoyed since she was 5 years old, for which she packs days in advance. She had a terrific time and, I must say, so did my twins and I, enjoying a break from big sister ... I love Alaina dearly, but it's great to have a week of quieter days and fewer refrains of "I'm bored!" and "Can't we go to a movie?" You get the idea!

Speaking of August, my thoughts turn to 2002 and the 2nd International Symposium on AGS. In the last LiverLink (January-June, 2001) we announced that the Symposium would be at Spring Mountain Camp in Schwenksville, PA, during June 2002. After visiting the camp in July, while Joe Anderson and I were in PA for the Gehman's AGS Picnic, we had a change of heart and plans. Spring Mountain recently underwent a change in ownership and, consequently, is not as ideal a location for the Symposium as we had anticipated. We've since been in contact with Eastern College, located in St. David's, PA, just outside Philadelphia, about holding the Symposium

there during August 2002. We are in the process of negotiating a contract with Eastern, which should be finalized in the next month or so.

New, firm dates for Symposium 2002 are: Thursday-Sunday, August 8-11, 2002, at Eastern College. Mark your calendar!

I encourage you to check out Eastern's facilities and services by logging on to their conference Web site at www.eastern.edu/center/conferences. We'll provide Symposium 2002 updates on the Alliance Web site at www.alagille.org and, of course, through LiverLink in coming months.

On another note, the Gehman's AGS Picnic was, as

promised, an absolute blast—a supersoaker blast! About a dozen families attended, including one all the way from Norway, and Drs. David Piccoli and Kathleen Loomes, Susan Peck, and Alisha Rovner were there from CHOP to update us on AGS research. Once we finished a fantastic BBQ, the kids started loading supersoakers for a cold, wet, soaking battle of kids vs anyone older than 18 with a supersoaker in hand—especially David, Kathleen, Sue, Alisha, Joe and me!! We got absolutely drenched, laughing all the time.

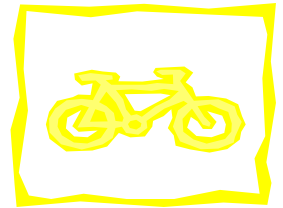
That's about it for this issue. Be sure to log on to the Alliance Web site to check out the AGS Bibliography we are building. It's packed with articles about our favorite subject, with more to

come. We also plan to add a Bulletin Board shortly, so click frequently on www.alagille.org when you're surfing—we don't want you to miss these exciting new features!

Enjoy the rest of your summer and stay cool!

Until next time, keep smiling and be well,

Cindy L. Hahn, President



"The Gehman's AGS Picnic was, as promised, an absolute blast—a supersoaker blast! About a dozen families attended, including one all the way from Norway"

LiverLink is published six times per year for members of the Alagille Syndrome Alliance, a national support network for people with Alagille Syndrome (AGS), a rare inherited liver disorder. The primary purpose of LiverLink is to provide general information. LiverLink does not provide medical advice, nor does it promote, endorse, or recommend any product, therapy, or institution. Its contents should not be used for diagnosing or treating health disorders. Readers are advised to seek advice from licensed health professionals regarding AGS or other disorders. Statements and opinions expressed in articles are not necessarily those of the Alliance.

Contributions to LiverLink should be sent to: Cindy Hahn, President, Alagille Syndrome Alliance, 10630 S.W. Garden Park Place, Tigard, OR 97223. 503-639-6217. No faxes please. Copyright©2001 Alagille Syndrome Alliance. All rights reserved.

Pruritus Secondary to Alagille Syndrome by Karan McBride Emerick, MD

Pruritus or severe itching is one of the most significant symptoms of AGS. The intensity and unremitting nature of the itching in AGS interferes in the quality of life of the affected child and their family. Most AGS families will state that itching causes daily disruption of their child's sleep, concentration and general comfort.

The cause of the itching in AGS, as in other cholestatic diseases, is attributed to extremely high levels of circulating bile acids in the blood. In AGS the excess of bile acids may be related to the "paucity of bile ducts" associated with the syndrome. It is felt that in certain regions of the AGS liver there are insufficient numbers of bile ducts to drain the bile produced. The undrained bile products, such as bile acids and cholesterol, then build up inside the liver cell and reflux back in to the blood. Therefore, the limited bile flow in AGS causes the levels of bile acids and cholesterol in the blood to become extraordinarily elevated.

The various therapies used to treat the severe pruritus include: Ursodeoxycholic acid, Phenobarbitol, Rifampin and sometimes Naltrexone. All of these medications have been discussed by other contributors in this and the previous issue of LiverLink. Each of these therapies seems to have some effect, some lasting, others short-lived. Rotation of medications is usually necessary to maintain an effect.

One therapy for pruritus, used infrequently but successfully, in AGS is a procedure called the Partial External Biliary Diversion (PEBD). In this procedure the gallbladder is connected to the skin by a small ostomy, which drains through a hole made in the skin of the abdomen, during an elective surgery. A portion of the bile from the gallbladder then drains into a small bag placed over the ostomy opening (stoma) and is disposed of. The rest of the patient's bile drains normally into the intestine.

The principle of this procedure is that by draining the bile out of the body it does

not get reabsorbed and continue to contribute to build-up in the circulation. As the bile is drained there is a net loss of bile acids and cholesterol from the system resulting in fewer xanthomas and less pruritus.

The biliary diversion has been performed successfully on 7 AGS patients at Children's Memorial Hospital in Chicago, IL. All patients report significant improvement in pruritus, xanthomas and quality of life. The amount of change/relief appears to relate to the severity of the patient's condition prior to the procedure. All of these patients had such severe pruritus that they would have considered transplantation as a means for relief. All of these patients report having significant improvement in their ability to sleep and concentrate after the procedure.

The diversion is a low risk procedure which can be employed in AGS patients who have a functioning, non-cirrhotic liver and whose pruritus or xanthomas are impairing their ability to function.

Dr. Karan McBride Emerick, MD, is a Pediatric Gastroenterologist in the Division of GI/Hepatology at the Children's Memorial Hospital in Chicago, IL. Recently, Dr. Emerick conducted a study on the use of growth hormones in children with AGS and will be presenting a paper on Partial External Biliary Diversion at the annual meeting of the North American Society for Pediatric Gastroenterology and Nutrition in Orlando, FL, this October. The Alliance would like to thank Karan for this very helpful information on itching.

Corporate Contributions

Did you know that many corporations and small businesses will match donations to non-profit organizations? Some will even allow employees to donate time to a non-profit organization and then match that time with dollars sent to the non-profit organization.

Others choose to do it through the United Way. Every employer and state agency handles this differently, and we encourage you to talk to your human resources department to discover ways in which they can help the Alliance.



Remember...

the Alliance on special occasions for loved ones with AGS – birthdays, graduations, transplant anniversaries, or just because... With your help, the Alliance will continue to grow!

More on Itching..... (continued)

- ◆ **Cholestyramine** or **colestpol** (Questran) are bile acid-binding resins that can be used for long-term management, meaning they do not provide quick relief from itching but may do so over the long run. These medications bind bile acids and cholesterol in the intestine and increase their excretion via the stool.
 - ◆ Dose 0.25-0.5 g/kg/day, given orally mixed with juice or water before or after breakfast when bile flow is at its peak
 - ◆ Do not take these medications within two hours of other medications, to reduce the risk of binding and reduced absorption of these drugs or vitamins
- ◆ **Rifampin** has been found to be effective in reducing pruritis in children with chronic cholestatic liver disease (such as Alagille's). The exact mechanism by which rifampin does this is not known. It is believed that by inhibiting the uptake of bile acids into the liver cells, rifampin facilitates metabolism and urinary excretion of some bile acids.
 - ◆ Dose 10 mg/kg/day
 - ◆ Adverse effects can include hepatitis, kidney failure, anemia
 - ◆ Interacts with other medications
 - ◆ Causes body secretions, such as tears, urine, and saliva, to turn red
- ◆ **Phenobarbital** has been used to decrease bilirubin in the blood and decrease circulating bile acids. It may also be effective in reducing substances in the blood which may cause pruritis.
 - ◆ Dose 3-10 mg/kg/day, for a serum phenobarbital level of 10-20 µg/ml
 - ◆ Relief from itching may not occur for 1-2 weeks after starting medication
 - ◆ Can cause sedation and alter the metabolism of many drugs, including vitamin D.
 - ◆ Can cause depression, mood swings – for these reasons and because other effective drugs are available, phenobarbital is less frequently used
- ◆ **Non-medicine related tips:**
 - ◆ Keep the skin well moisturized (Eucerin creme, petroleum jelly), use mild unscented soaps on skin
 - ◆ Keep your home humidified
 - ◆ Keep your home cool, especially at night
 - ◆ Keep fingernails trimmed

A **partial biliary diversion** is a surgical procedure that has been effective in relieving pruritis when medical therapy has not been. (See discussion of this procedure in Dr. Karan McBride Emerick's article on Page 3 of this issue). How the partial biliary diversion relieves itching is not fully understood. Two possibilities are that some toxin is dis-

carded along with the bile, or that diverting some of the bile out of the body alters bile acid metabolism within the liver. Because a major surgery is required for a biliary diversion, the procedure is best saved for use only when medications have failed.

There are a number of options and combinations of options that you and your child can try when attempting to solve the problem of pruritis. The important thing is to give treatments a chance to work, to make treatment decisions in consultation with your nurse or physician, and to get in touch with parents who have similar problems and can share their experience, strength and hope.

Good luck to all of you!

Julie Chesterton, RN, is a registered nurse in the Division of GI/Hepatology at the Children's Memorial Hospital in Chicago, IL. She works with Dr. Peter Whittington, a member of the Alliance Scientific Advisory Board, and is integrally involved in care of children with AGS and other liver disorders. The Alliance would like to thank Julie for this helpful information on itching remedies.



Tell Us Your Story

Taylor Maria Soule, from Franklin, WI

Taylor was born on October 23, 1999, weighing 5 lb 5 oz and measuring 18” long, following “a perfect pregnancy,” according to her mother Nancy. Taylor appeared to be okay at first, then a cardiologist detected a murmur and an echocardiogram showed a ventral-septal defect (VSD) and pulmonary stenosis. Taylor’s liver numbers started to climb and she spent a week in the hospital for tests. Nancy and Chuck, Taylor’s father, tried all kinds of medications and formulas to help Taylor grow in her first year, but she was still only 9 lbs at 1 year of age. Her parents realized it was likely that Taylor would need a liver transplant, as well as open-heart surgery to repair her VSD.

Taylor was sent to Children’s Memorial Hospital in Chicago for evaluation, where she was determined to be too frail for a transplant. Dr. Peter Whittington said Taylor was one of the worst cases he’d ever seen of AGS (top 10%)—she has a complete deletion of chromosome 20 and neither Nancy nor Chuck are carriers. They were devastated, but decided to go ahead with open-heart surgery, since a liver transplant was out of the question without her heart being repaired first. In October 2000, Taylor underwent open-heart surgery at Children’s Hospital in Milwaukee, WI, where she stayed for 10 days. She came through beautifully.

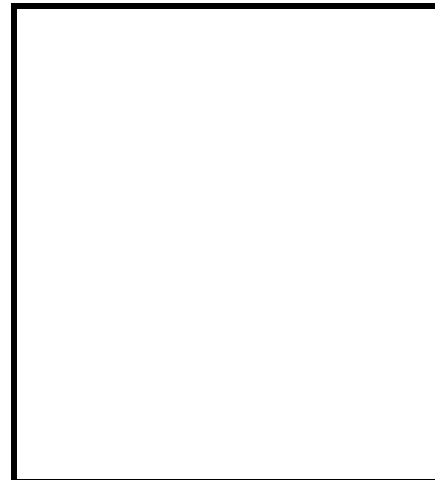
Taylor was listed for a liver transplant in November 2000, but was not thought “sick enough to receive a new liver,” according to Nancy. At this point, Taylor could not crawl or walk, and could barely sit up by herself because she was so tiny and had no muscle mass or fat. She didn’t do any of the “fun baby things” and generally was crabby or in pain. Taylor’s cholesterol was 2,400 and her bilirubin had been as high as 30. She never slept through the night.

Both Nancy and Chuck were evaluated to be living-related liver donors, and Nancy was found to be a match. She was prepared to donate the left lobe of her liver to Taylor. Then, at 3:00 am on March 22, 2001, the call came that a liver had become available. They took Taylor to Children’s Hospital in Milwaukee where she was headed into surgery by 10:00 am that same day.

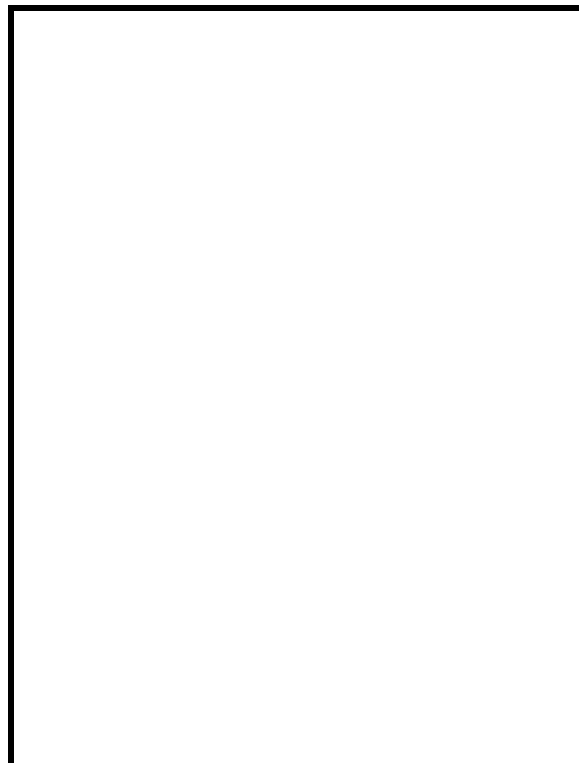
When her parents saw her in the PICU around 5:00 pm that evening, Taylor had come through the surgery beautifully. Her main complications continued to be with her heart and lungs. Taylor had trouble breathing because her sternum didn’t fuse following surgery in October 2000, and she was on and off a ventilator. As a result, she underwent a second open-heart surgery to repair the problem and drain some fluid from around her heart. Following this surgery Taylor was fine until fluid reaccumulated, causing her to go into respiratory arrest. A third open-heart surgery was needed and Taylor spent a total of 9 weeks in the hospital before she was able to come home.

Since her transplant and heart surgeries Taylor “has done fabulously” and “is a new baby,” according to Nancy. At 20 months old she weighs 13 lb and is 24 inches long. She claps her hands and does “so big.” She sits by herself, plays with toys, and is almost crawling. Taylor is “white as the snow” and her liver numbers are “perfect.” Nancy and Chuck are very pleased with Taylor’s progress and hope that she continues to do well. They are grateful to the doctors at Children’s Hospital in Milwaukee for all they did for Taylor, and hope to meet the donor family soon (Taylor’s liver came from an 8 year old girl who died in a house fire).

Nancy and Chuck would be glad to share their experiences with any AGS parents who may be facing a liver transplant for their child, or who are experiencing heart complications related to AGS. They can be reached at 414.423.8020 or cmsoule@execpc.com.



Taylor before her liver transplant, when she was 1 year old.



Taylor post-transplant, when she was 20 months old, with her big brother Charlie, who is 3 years old.

Letter Box

The **Everetts (Pat, Patti, Alex, and Ethan** from Alpharetta, GA), the **Lavallees (Laura, Tom, Megan, and Ryan** from San Diego, CA), **Joe Anderson** (from Upland, CA), and **Julie Kelin and Justine Sawaya** (from El Cajon, CA) all met for dinner in San Diego on July 1st. Laura writes that it was great seeing everyone again—they all met for the first time at the 1st International Symposium on AGS in July 1999. What a fantastic picture she took—just look at those smiles!



(left to right)

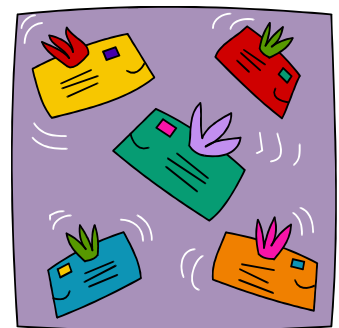
**Alex Everett (5.5 yrs),
Justine Sawaya (14
yrs), Megan Lavallee
(5.5 yrs), and Joe
Anderson (23 yrs)**
pose for a pic in San
Diego, CA.

Laura Lavallee also reports that Megan's permanent teeth are not coming in correctly. Her first permanent tooth is coming in front of her other teeth and is much larger than the space left by her baby tooth. She's wondering whether other AGS kids have experienced similar problems. You can contact Laura at 858.537.0773 or LALinSD@netzero.net.

Jill Rosendal (Mukilteo, WA) wrote a wonderful letter about her daughter **Carly**, who passed away in 1998. We thought we'd share Jill's letter—it's so well written and such a wonderful tribute to Carly:

"It's hard to believe it's been three years since our precious Carly made her transition. Not a day goes by that we don't think about her or talk about her. She is a piece of heaven we carry with us wherever we go.

"Carly has a baby sister now. Emma Katherine was born on April 21st weighing 9 lb 13 oz and 22 inches long! We like to think that Carly had something to do with sending Emma to us. Somehow we know that she is watching over us and smiling down on us for having the courage to keep going. It hasn't been easy to go on



without Carly. It is such a great loss for us. The pain doesn't go away. We have just learned to live with it.

"Carly truly was an inspiration to us. We admired her strength, courage and her zest for life. She taught us how to open our hearts and to love fully and unconditionally. She also taught us how precious this gift of life is.

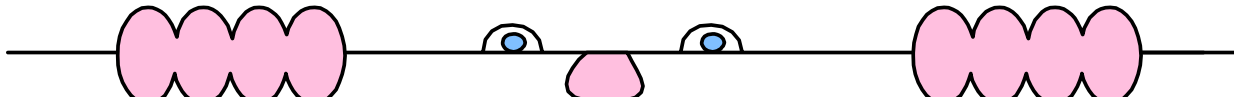
"We will always be grateful for the time we had with Carly. She truly was and will always be our precious pink princess.

"We want to thank you for remembering Carly in the last LiverLink newsletter. Our thoughts and prayers are with you and all the Alagille families."



Thank you Jill for sharing with all of us!

—Cindy Hahn, AGS Alliance President



J & J : AGS FROM A REAL-LIFE PERSPECTIVE

Hello Joe and Justine!

I suppose you have been inundated with questions since appearing on the last issue of LiverLink. Although, having grown up with AGS I suppose you are used to all the extra attention!

My daughter (who is 20 months) has Alagille and has all the 'usual' characteristics, but as for many, her main problem is itching.

I have many questions, I'm sure other parents have asked the same questions over and over, and am looking forward to reading your responses but I suppose the main area for concerns are:

1. At what age were you aware of the itching and are there any tips for easing the severity of it all?
2. How has AGS affected you through the years?

Thank you very much and hoping you are both well,
Lisa Paterson-Bird

Justine says.....

Hi. I was first aware of my itching at the age of 5. In regards to your second question my itching has affected me through the years because I was teased in school. In order to make this not happen, make sure that your child's teachers know about her disease and make sure that your child knows what AGS is so that she can explain what the disease is to other kids.

Hi J & J,

Alex is in need of some advice. He starts kindergarten next Monday and is looking for some ideas on what to tell his classmates when they ask about his yellow eyes and his bumps/spots. He needs a simple one sentence explanation that a five year old can understand.

"My liver doesn't work right"....is all I've been able to come up with, but he isn't too crazy about that one. Any ideas????

Thanks,
Patti and Alex Everett

Joe says....

I have never had a "cute" answer for this. I was just honest and said that these were symptoms of a liver disease I had. I wouldn't expect many of your classmates to understand, but try to answer their questions as best you can. If anyone else has any suggestions for Alex, we'd love to hear them! I can be reached at my brand new email address: Jand-Jonline@earthlink.net

Email J&J at: JandJonline@earthlink.net



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WE'RE ON THE WEB
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PSSST!...

Symposium 2002 Update

Due to a change in ownership at Spring Mountain Camp, it is not as feasible to host Symposium 2002 at that location—read all about it on the President's Page (Page 2 of this issue.

New, firm dates for Symposium 2002 are: Thursday-Sunday, August 8-11, 2002, at Eastern College, in St. David's, PA, just outside Philadelphia. Mark your calendar!

Some terrific news about air fare...

Mercy Medical Airlift/Angel Flight now can coordinate family discounts for attending conferences!!!!!!

For families that live within 1000 miles of the conference site, FREE air fare can be coordinated through Mercy Medical/Angel Flight with private pilots. Families have to demonstrate financial need, but this can be done with a short letter from the Alliance stating that most, if not all, families dealing with a rare disorder such as AGS are financially burdened with health care costs, no matter their income.

For families that live over 1000 miles from the conference site, discounts of 5% to 20%+ off the lowest published fares also can be coordinated

through Mercy Medical with commercial carriers. Financial need is not a criteria for these discounts.

Mercy Medical/Angel Flight is sending the Alliance information about the free flights, and will call us at the beginning of October to set up the group discount program for Symposium 2002!!!!!!

This is so exciting! We'll provide more information in the next issue of LiverLink!!!!

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