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Canada's Hepatitis C News Bulletin

www.hepcbc.ca

DDW 2003

Editor's note: These are my favorite abstracts from the DDW (Digestive Disease Week) Conference in Orlando May 17-22, 2003

NEW TEST

Responding to a need for a safe, reliable and convenient test indicating severity of disease, these researchers were able to confirm that the oral 13C-CBT, a caffeine breath test, corresponds to the amount of liver dysfunction. They believe that this test will help study other liver diseases, assess therapies, predict drug toxicity, see the effects of ageing, and study the connections with cancer.

Abstract S902 Gordon J.-H. Park et al, The 13C-Caffeine Breath Test: A Non-invasive, Quantitative Test of Liver Function

LOW IRON DIET

Since too much iron in the liver leads to worsening disease in hemochromatosis, the authors of this study investigated the results of a low iron diet in Hep C patients. They found that ALT levels decreased with a low-iron diet, as did serum ferritin (iron levels in the blood), and the diet did not seem to make patients anemic.

Abstract 1618 Tomoko Katoh,et al, Effect of a Low Iron Diet in Chronic Hepatitis C

PEG/IFN/RBV

As if the pegylated-interferon-once-a-week-plus-ribavirin combo weren't enough, these researchers added on "regular" IFN (the 3 shots a week.) They say that pegylation decreases the effect of IFN by 35%, so they suggested that the two drugs should be combined for maximum antiviral effect, as well as a sustained attack on the virus. 35 patients are enrolled so far (10 non-responders and 25 naive genotype 1 patients). 86% have responded, including 80% of non-responders. The PEG/IFN/RBV combo seems to be safe and response rates are better than for PEG/RBV, however sustained

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SYDNEY SYMPOSIUM TIDBITS

May 7, 2003

Dear Friends at HepCBC,

First, apologies: Sorry! I didn't mean to let my subscription lapse. As it got closer to Departure Time, I found myself scrambling to try to get things done to get ready to go, to keep things intact while left behind…and found my energy level wasn't really up to scrambling.

And THANK YOU, THANK YOU. One thank you is for keeping on sending my newsletter when you didn't get a check from me—I appreciate that a lot.

The other thank you is for letting me know, well in advance, about the 11th International Symposium on Viral Hepatitis in Sydney. When I saw the notice in *hepc.bull* last year, I thought, "Sydney. Hummm. I'd really like to go to that Symposium." And I got there? I had nearly enough frequent flier miles (having saved them for well over a decade, waiting for just such a special use to put them to.) I got a "tuition" grant which covered 2/3 of the registration fee. I got there!

I wish I could say I brought back lots of good news. As you probably already know, there just isn't. There's no vaccine for HCV anywhere on the horizon. No bells and whis-

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INSIDE THIS ISSUE:

RESEARCH

by Will Lawson

GENE-SILENCING STRATEGY

For the first time, scientists have prevented disease in animals by harnessing a "gene-silencing" technique, known as "RNAi" (RNA interference). In this case, it prevented liver injury and death in mice that were prone to developing hepatitis.

RNAi is a strategy that plants and other simpler species have used for millions of years to fight off viruses. The researchers, at Harvard Medical School, used it to inactivate the gene FAS, which is involved in many types of liver disease. The researchers speculate that this could help prevent or treat liver disease.

In one experiment, mice that did not receive the RNAi therapy died within three days, but 82 per cent of mice that did receive it were still alive 10 days later. The preliminary research in mice also suggests that RNAi may keep the immune system from rejecting a transplanted liver.

This research is seen as the first proof that the technology can be used to prevent or treat disease in animals. The chances are now improved for developing RNAi as a therapy.

Before doing clinical trials, scientists need to figure out the best way to deliver RNAi to a variety of types of targets in cells. They will also have to learn whether the methods that worked in mice will work in larger animals.

Source:Nature Medicine 2003;10.1038/nm828
http://story.news.yahoo.com/news?tmpl=story&u=/nm/20030206/hl_nm/liver_treat ments_dc_1

POTENTIAL THERAPY FOR LIVER DAMAGE

A study released February 6 could lay the groundwork for new treatments for a number of serious liver diseases, including dam-

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REPRINTS

Past articles are available at a low cost in hard copy and on CD ROM. For a list of articles and prices, write to HepCBC.

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Peppermint Patti's FAQ Version 5.6 is now available in English and Spanish. The English version includes updated Canadian Links and both include the latest TREATMENT INFORMATION. Place your orders now. Over 100 pages of information for only $5 each, plus S&H—but if you can afford more, we'll take it. Contact HepCBC: (250) 595-3892, info@hepcbc.ca

HepCBC Resource CD: The CD contains back issues of the *hepc.bull* from 1997-2002; the FAQ V5.6; the Advocate's Guide; the slide presentations developed by Alan Franciscus; and all of HepCBC's pamphlets. The Resource CD costs $10, including shipping and handling. Please send cheque or money order to the address on the subscription form on this page.

THANKS!!

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Special thanks to Roche Canada for an unrestricted grant to help publish this newsletter!

CUPID'S CORNER

This column is a response to requests for a personal classified section in our news bulletin. Here is how it works:

To place an ad: Write it up! Max. 50 words. Deadline is the 15th of each month and the ad will run for two months. We'd like a $10 donation, if you can afford it. Send cheques payable to **HepCBC,** and mail to **HepCBC, Attn. Joan, #5-915 Glen Vale Rd, Victoria BC V9A 6N1, (250) 595-3892.**

Give us your name, tel. no., and address.

To respond to an ad: Place your written response in a separate, sealed envelope with nothing on it but the number from the top left corner of the ad to which you are responding. Put that envelope inside a second one, along with your cheque for a donation of $2, if you can afford it. Mail to the address above.

Disclaimer: The hepc.bull and/or HepCBC cannot be held responsible for any interaction between parties brought about by this column.

AD 24: SWM Hep C+ Never married. No kids, 40's, living in Pt. Alberni: Seeking pen pal (female). Maybe leading toward friendship and good company. Previously incarcerated and wish to leave that kind of lifestyle behind. Good looking, 6 ft. 2 inches, 220 lbs. I enjoy music, mountain biking, conversation, walks. Private school educated.

URGENT: Would the gentleman mentioned in the above ad please contact Joan with his name and address. He has received a reply, and his info was lost in a recent computer crash. Sorry! Responder: Please be patient.

AD 25: SF, Indo-Cdn., 35 years old. 5'7", heavy-set. Hep C+, but I still enjoy life, and try to stay active. I love movies, pets, music, traveling, and reading. I occasionally take self-improvement courses. Searching for SM who is confident, caring, would benefit from my company, and can keep me happy. Richmond.

Ad 26: SWF 33, HepC+, nonsymptomatic. College student, gardener. Interests: camping, country/rock music, concerts, nutrition, tattoos, reading, herbs,. Clean & sober, pretty, sensitive, caring. Looking for guy to correspond with; prefer big guy, strong--possibly relationship later--any age. I'm in the Lower Mainland. Must be drug/alcohol free.

Got Hep C? Single? Visit:

http://nationalhepatitis-c.org/singles/list.htm
http://clubs.yahoo.com/clubs/ontariohepcsingles
http://groups.yahoo.com/group/hepsingles-1/
http://forums.delphiforums.com/HepCingles/start
http://clubs.yahoo.com/clubs/hepcingles
http://groups.yahoo.com/group/PS-Hep/

NIAGARA NEWS

Educational in Niagara for Physicans. "2003 Treatments for Hepatitis C in Niagara Region."

Like many other communities Niagara has no hepatologist, therefore HeCSC Niagara Region decided to educate Dr. Craig Kuhn who is willing and qualified to treat hepatitis C patients. He employs a nurse to follow up on patients. Furthermore, a S.P roaming nurse is available for questions while on treatment 24/7.

Wednesday June 11 2003

The White Oaks Convention Resort and Spa will host the dinner meeting from 6 pm to 10 pm. Since only Medical professionals will be attending the meeting, I'm holding a second meeting with the same people: Dr, Craig Kuhn: Treatment and Hepatitis C, Nurse introduction. John Leombruno from S.P Reimbursements will be available to qualified patients. Thursday June 26 2003 7-9p.m. at Regional Municipal Headquarters, 2201 St. David's Road Thorold. Contact Rhonda Kavanaugh-Kehl if you have any questions. There is no charge to anyone for either meeting.

LETTERS TO THE EDITOR:

The *hepc.bull* welcomes and encourages letters to the editor. When writing to us, please let us know if you do not want your letter and/or name to appear in the bulletin.

DIAL-A-DIETITIAN

732-9191 (Vancouver Area)
1-800-667-3438 (Toll-free elsewhere in BC)

MY NAME IS BRAD

Hi. My name is Brad. I became ill in 1993 with a strange illness that defied diagnoses. I went to a great number of doctors, none could find anything, yet I was in constant pain. I had some who told me to buck up and quit faking! In 1998 my wife came home one day to announce she had fallen for someone else and was having an affair. It was over for us. I was in shock when I went to see my doctor. I told her what had happened and asked to be tested for all communicable diseases as you just never know.

On September 30, 1998, a day I will long remember, my doctor came in, her eyes wet with tears. I still recall thinking< "What cad could have hurt this wonderful caring person?" Then I heard her words, "Brad, you have tested positive for non-A/non-B hepatitis. I'm sorry. I had the tests run twice." I mumbled something about being just fine and ran off. I had told the doctors for the last 2 years that my spouse had been diagnosed with non-A/non-B hepatitis, and they all said it was not possible for her to give it to me, even though I had acted as her nurse after her last 2 surgeries, and even though I had given her injections as part of IVF treatment. As I was living in Alberta at the time and could find no local experts, see above, I turned to the internet. What was a small town, nice boy, no drugs, condoms for sex, doing with this disease? Here could be found all the missing bits: Hep C, they called it; needles were a high-risk area; an accidental prick is easy to do; toothbrushes and razors, also. There were also doctors who were doing research and medical trials in Vancouver.

So it was I came to Vancouver and to Dr. Anderson's office in April 1999. My ALT

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(SYDNEY—Continued from page 1)

tles for new treatment possibilities, either. No replacement for the "chemo" component of the combo treatment, IFN, is coming down the pipeline. The drug you described in the May issue, NM283, is only a "nuke." I haven't seen the Idenix site description (I will go look as soon as my neighbor, whose computer I use, is feeling well again), but I heard it described in the Symposium closing talk on HCV: if it does well in human clinical trials (so far, folks don't sound REAL excited about it), it would be tried as a replacement for Ribavirin in the combo treatment. It may be that Idenix has higher hopes for its drug than other researchers, or it may just be different views/opinions within the HCV research community. But I didn't hear anyone describe it as a possible replacement for IFN at the Symposium. The hopeful note I heard was that it would probably be more easitly tolerated than Ribavirin, and possibly more effective.

In the end, I felt more than ever dedicated to my own mission to further the education which stops transmission. In Australia, the rate of new HCV infections is goingup among young IDU's. Some people were puzzled. I wasn't—I'm sure the same is true in San Francisco, for the same reasons the rate of new HIV infections is going up amoung young gay men. (I haven't even heard of anyone looking at the rates of new HIV and/or HCV infections among young IDU's here, yet.) My generation, the mature generation, has watched enough friends and loved ones sicken and die with HIV and HCV to be scared and careful. People in their teens and early 20's haven't had the same experience. And they're NOT being adequately educated about the risks, trasmission, what life is like with one or both these viruses.

Again, very much thanks.

Cheri Collins, San Francisco, CA

FUNDING

In 1998, Allan Rock, then Minister of Health, initiated a Hepatitis C program for Canada, which is about to end in April 2004. Anne McLellan, present Minister of Health, has not commented as to the future of this program. Although around 275,000 Canadians are infected, the Canadian government has invested less than 10 million dollars a year for hepatitis C. The major cause behind the majority of liver transplants is hepatitis C, and the need for liver transplants is expected to increase 526% in the next 20 years. McLellan has responded to correspondence from several hepatitis C organizations by saying, "In order to meet the challenge effectively and with minimal duplication the Program has built upon existing networks, including community-based programs, namely the AIDS Community Action Program." As a result, the AIDS Community Action Program receives $840.00 per HIV-infected people, and $40.00 per HCV-infected people a year.

The Minister explains that HIV and HCV share common means of infection, i.e., IV drug use, and the common problems of addiction and co-infection, even though the rate of co-infection is less than 5%. The author of this article believes that this decision on the part of the Minister has added to the growing stigmatization of Hep C sufferers in Canada. Many organizations across Canada did not receive funding for the last year of the program.

Source: http://www.asr.ito.ca/home.aspx?D=384 Hepatitis C Program Renewal Questionable, by Scott Hemming

WARNINGS

AFLATOXINS

Aflatoxins are produced by moulds often found on nuts and grains stored in humid conditions. They can cause cancer, and the liver is the organ usually affected. Even if you can't see or taste the mould, there could be enough to affect your health, especially if it's in a peanut sauce or a pack of mixed nuts. We with Hep C should avoid these toxins. How? We can avoid nuts. We can choose high quality products, and avoid those from countries with poor food storage and inspection. Pick nuts that look, smell, and taste good, and don't have mould on the shell. Don't buy packages with nuts of strange color, shape or size. That's a sign of poor quality control. Nuts are best stored in the fridge once you get them home.

Source: The Hep C Review, Ed40, March 2003, Nuts and aflatoxins, by Helen Taylor

MULTIDOSE SALINE VIALS

There was an outbreak of acute Hep C in 3 patients in a Florida hospital in 1998. Of the patients hospitalized at the same time, 24 were tested, and those with HCV were genotyped and sequenced. Genotype 1b infections were found in 5 patients. "Three of 4 patients who received saline flushes from a multidose saline vial on November 16 had acute HCV infection, whereas none of the 9 patients who did not receive saline flushes had HCV infection. No other significant exposures were identified." The investigators concluded that the transmission occurred by using a multidose saline vial on a patient with Hep C, and then on the other patients. They suggest that single-dose vials or pre-filled saline syringes could reduce this kind of transmission.

Source: Infection Control and Hospital Epitemiology, 24 (2): 122-127 FEB 2003, Krause, G et al; Nosocomial transmission of hepatitis C virus associated with the use of multidose saline vials

POT

A malady of the lungs, called "vanishing lung syndrome," usually blamed on tobacco, is being found more and more among non-smokers…at least those who don't smoke tobacco. Apparently those who smoke pot are especially at risk because they inhale and hold the smoke in their lungs longer, and usually don't use filters. Beware, those of you who are using MJ to control side effects of HCV treatment! Brownies may be better.

Source: http://www.independent.co.uk/, 27 Feb 2003Cannabis Can Cause 'Vanishing Lung Syndrome', Say Doctors, by Paul Kelbie

HCV and the LUNGS

Idiopathic pulmonary fibrosis (ILF), a type of lung scarring, seems to be a possible result of Hep C infection.

In this study, eight HCV-positive patients were affected by ILF and some rheumatic disorders about 4 years after being diagnosed with Hep C. In one case, HCV was found in lung biopsy specimens. The authors suggest that chronic HCV infection could be a trigger factor for ILF and various rheumatic disorders.

In another study, researchers found that bronchoalveolar lavage fluid from Hep C patients contained more neutrophils (white blood cells which indicate infection) than that of healthy patients. They believe that "HCV may have the potential to induce an alveolitis leading to fibrotic changes in the lung over a period of years or decades that could potentially lead to idiopathic pulmonary fibrosis."

Sources: Ferri C, et al, Br J Rheumatol 1997 Mar;36(3):360-365, Interstitial lung fibrosis and rheumatic disorders in patients with hepatitis C virus infection
Reuters Health, Jan 02, 2003 Polymorphonuclear Neutrophils Are Elevated in the Lungs of Hepatitis C Patients (J Med Virol 2002;66:34-39.)

WATCH OUT FOR OTHER INFECTIONS

This article says that we Hep C patients are at risk for other infections, such as TB, HIV, Hep B, cytomegalovirus, toxoplasmosis and cryptococcosis, gonococcal infection, chlamydia, syphilis, and genital herpes. They were also at more of a risk for bacterial infections such as peritonitis, endocarditis, sepsis, cellulitis, and carbuncles. The study included of 34,204 HCV-infected patients and 136,816 non-HCV patients, all hospitalized at a Veterans Affairs' medical center between 1992 and 1999. When the researchers excluded patients with possible immunodeficiencies, they found that CMV infection, cryptococcus, tuberculosis, and STDs were still significantly associated with HCV infection.

Most medical providers know that Hep C patients are at risk for peritonitis and sepsis, but aren't always aware of the association between HCV and STDs, TB, and several immunodeficiency-related infections.

Source: Reuters Health, Feb 24, 2003, HCV Infection Identified as Risk Factor for Other Infections (Am J Gastroenterol 2003;98:167-174.)
www.medscape.com/viewarticle/449838

MINISTER'S MESSAGE - HEPATITIS AWARENESS MONTH

May is Hepatitis Awareness Month in Canada. As Minister of Health, I encourage Canadians to take this opportunity to learn more about this significant health issue.

Hepatitis is an infectious virus that causes inflammation of the liver and has many strains, including A, B, C, D, E. It is important that we work towards reducing the incidence and impact of all forms of liver disease, and support research and education into the causes of hepatitis.

Hepatitis C is a particular public health concern as an estimated 240,000 Canadians are infected - many unaware of their infection. They are often only diagnosed after their liver has been damaged. In September 1998, Health Canada initiated measures to prevent the spread of this virus and help those who had already been infected. We took measures to ensure the safety of Canada's blood supply. We also aunched a hepatitis C public awareness campaign to inform Canadians. For more information on hepatitis C, I encourage you become familiar with our web site at www.healthcanada.ca/hepc

I would like to take this opportunity to acknowledge all of those who are working tirelessly to defeat this disease.

A. Anne McLellan, Minister of Health, May 2003
http://www.hc-sc.gc.ca/english/media/minister/message_hepc.html

Order Your "Hepper Bear" Now!

$20 CDN each, including postage. This is a GREAT Fundraiser for Support Groups! Call (250) 595-3892 or email info@hepcbc.ca to place your order

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rates are not yet available, and more patients need to be tested.

Abstract 12603, Scott M. Gioe, Combining INF alfa 2b with PEG-INF alfa-2b and Ribavirin in the treatment of Non-responders to previous therapy and Naive Genotype 1 patients with Chronic Active Hepatitis C.

PEG COMBO IN NON-RESPONDERS/RELAPSERS

In this study, patients were A) non-resonders to IFN, B) non-responders to the Combo, or C) Combo relapsers. Patients received either:
(1) Peginterferon alfa-2b 1.0 /kg plus RBV 1000-1200 mg/d (Group 1), or
(2) Peginterferon alfa-2b 1.5 /kg plus RBV 800 mg/d (Group 2).

Three hundred twenty one patients were treated for 48 weeks unless they tested HCV + at 24 weeks.

Patients with genotype 1 had lower sustained response (SR) rates than non-genotype 1 patients (5-9% vs. 13-25%). Patients with normal ALT responded better than those who had an elevated ALT when therapy started. (21% vs. 14%). Patients with fibrosis stage 3-4 responded better with a higher dose of PEG IFN.

Combo relapsers had a response rate of 32-47%, while Genotype 1 Combo nonresponders responded at a rate of 5-9%. African Americans responded poorly compared to other groups. 93% of Combo NR were genotype 1.

Abstract 504 Ira M. Jacobson ,et al, Pegylated interferon alfa-2b plus ribavirin in patients with chronic hepatitis C: A trial in prior nonresponders to interferon monotherapy or combination therapy and in combination therapy relapsers: Final Results.

AMANTADINE: YES OR NO

This recent study once again looks at the use of amantadine. The researchers enrolled 400 patients, and treated them with IFN-alfa 2a induction therapy plus ribavirin plus either amantadine or a placebo. The group taking amantadine experienced fewer side effects. The amantadine group had a 52% SVR (sustained viral response), compared to 43% of the placebo group.

Abstract 1258 Ashraf R. Abulfutuh, et al, The Role of Triple Therapy with Amantadine Sulphate Plus Ribavirin and Interferon-Alpha2a on Chronic Hepatitis C Patients

METH + PEGASYS

Sulkowski did a 4-week study to see how methadone and Pegasys interacted. He found that methadone did not have an impact on the drug levels or effectiveness of Pegasys, so doses don't need to be changed. It was thought previously that methadone might suppress interferon. Patients received stable daily methadone doses of 30 to 150 mg.

Abstract 231, Mark Sulkowski, Methadone & Pegasys Interactions, Safety and Tolerability, reported by Jules Levin NATAP - www.natap.org

FATTY LIVER PREDICTS RESULTS?

Hepatic steatosis, or fatty liver, has been found in 31-72% of biopsies in people with HCV. These researchers wanted to see if it could predict or influence treatment results. To do this, they studied the biopsy results of patients at the San Juan VA Medical Center from 1998-2002. Biopsy slides were graded for steatosis as mild, moderate, severe, or absent. Amount of steatosis was compared to body mass index (BMI), genotype and treatment response. The study showed that steatosis seems unrelated to genotype or BMI. Therapy response is hindered by steatosis.

Abstract 1269 Ivan Antunez, et al, Steatosis as a Predictive Factor for Treatment Response in Patients with Chronic Hepatitis C

TREATMENT DECISIONS

As information grows about Hep C, most reports now list sustained virological response rates (SVR) to HCV medications grouped by genotype (family), not only by viral load (amount of virus in the blood). Both of these factors affect treatment response rates.

"Standard" treatment is now pegylated IFN plus ribavirin. There are 2 types of PEG IFN combos available: PEG Intron + Rebetrol (Schering) and Pegasys + Copegus (Roche).

"Patients with genotype 1 and a high viral load (1/2 of the U.S. population with hepatitis C), will not get any increased efficacy or effectiveness over Rebetron with Peg Intron plus Rebetol combination therapy in the doses studied. "

"The data for Pegasys plus Copegus shows a marked improvement over standard interferon plus ribavirin combination in all patient types regardless of genotype or viral load. "

Source: Considering HCV Treatment?—Know Your Genotype and Viral Load, by Alan Franciscus, HCV Advocate, http://www.hcvadvocate.org/

(BRAD—Continued from page 3)
(48) and AST (33) numbers were very low, however as I was so ill, a biopsy was done to rule it out, if nothing else. When the biopsy results came back they showed why I felt so poorly: increase in fibrous tissue with feathery extension to the liver lobule and portal to portal bridging, moderate chronic inflammation with mild piecemeal necrosis--these are features of chronic hepatitis, portal grade II, lobular grade I stage II … ouch! Sounds bad, feels worse. Still I did not qualify for treatment as my ALT and AST numbers were too low. Dr. Anderson's office did not forget about me though, my family Dr. continued to monitor my enzymes, and in April 2000, with my enzymes at ALT (139), AST (80), I was accepted for treatment.

May 31, 2000 was the date set for the needle clinic as well as my first shot. As I was quite nervous, I was happy to have the liver nurses there to give advice and encouragement, as well as answer any questions I had. The treatment was to be Rebetron: alpha-2b-interferon delivered by injection 3 times a week with ribavirin capsules 2 times daily. I really had no idea what I was getting into. All I knew for certain is I was sick and wanted more than anything to be well, and these doctors were prepared to help me, and I would do all they asked and would trust them completely. Not at all like me, but then, I was desperate.

As I was genotype II, I was set for 48 weeks of treatment. "If there is a hell, this is it," I thought many times during the long weeks. Side effects were all over the place: mental fog among the worst, as it clouds all sensory data and makes even simple decisions tough, night sweats, indigestion, body aches, weakness, mood swings…a veritable cornucopia of misery. How did I get through it? One day at a time, one foot in front of the other, and one day it was the last shot. Then followed the 6 months of waiting for end-of-treatment tests, and then the worst happened. I had relapsed. On November 9, 2001, I was given the news, I was also given an appointment to come in to see about a new treatment option. Thank goodness I was not left alone with nowhere to turn.

On November 21, 2001, I went for blood work and to discuss new treatment. I left feeling better than I had for a while. The new treatment was a once a week shot: alpha-2a-peginterferon with ribavirin in pill form now, twice daily. I never thought I'd go again, but when you're sick, you get desperate. On December 7, 2001 I started treatment once again. The second 48 weeks—"The Sequel." What have I gotten into?! But good news

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(RESEARCH—Continued from page 1)
age done by alcohol and other toxins.

Researchers at San Francisco-based Genentech found that a growth factor naturally produced in the body appears to set off a chain of events that protects the liver from damage. The substance, called "VEGF-A" (vascular endothelial growth factor A), is produced by cells that line the blood vessels, and is best known for its role in new blood-vessel growth.

VEGF-A is able to stimulate the release of certain other growth factors from a network of vessels that feed the liver. These growth factors trigger a proliferation of liver cells. Similarly, activation of one of the cell receptors for VEGF-A – called VEGFR-1 – also appeared capable of protecting liver cells and initiating liver regeneration.

All of this suggests that a drug that would activate VEGFR-1 could help prevent liver damage caused by alcohol abuse, certain medications, or viral hepatitis.

VEGFR-1 activation apparently does not promote new abnormal blood-vessel formation, which is believed to encourage cancer growth by giving small tumours the blood supply they need to thrive.

Source: Science 2003;299:890-893,893-896

GENETIC "SMART BOMB"

According to new research released in April, human liver cells harbouring the hepatitis C virus can be selectively targeted and destroyed by a new gene therapy approach,. The key is a genetically-engineered "suicide" gene, delivered aboard a harmless virus, which is triggered only when it enters a hepatitis-infected cell.

The new gene therapy approach could one day "offer the potential of a total cure" for many people, said Ontario Cancer Institute virologist Christopher Richardson. It might also help tackle other viruses, such as HIV.

The therapy successfully cleared low- and medium-level hepatitis C infections in mice with implanted infected human liver cells. In mice with high levels of infection, the gene therapy slashed the viral load by a factor of 1000.

Importantly, the virus did not "rebound" after the gene therapy, as it can do with existing treatments. This is true for at least 28 days after gene therapy; the team is now doing further work to see whether this effect lasts longer.

A noted British researcher wonders what the body's response might be to a massive cascade of cells dying in the liver. Richardson concurred, advising that an intermediate approach be used before testing the therapy in humans.

Relatively healthy liver cells could be extracted from patients with an advanced infection, cultured, and then exposed to the gene therapy. This would kill any infected cells. Healthy cells could be transplanted back and restore some of the liver's function.

Source: Nature Biotechnology, 20 April 03 (DOI:10.1038/nbt817)
http://www.newscientist.com/news/news.jsp?id=ns99993642

OUT-OF-BODY OPERATION BANISHES TUMOURS

For the first time, cancer has been treated by removing an organ from the body, giving it radiotherapy, and then re-implanting it. The out-of-body operation allows doctors to administer high doses of radiation to widespread tumours without affecting other organs.

Doctors in Italy used the technique to treat a 48-year-old man with multiple tumours in his liver. One year later, the man's liver is functioning normally and there are no signs of tumours.

He had had a colon tumour removed, but the cancer spread to his liver, where numerous diffuse tumours were found.

These are very difficult to treat conventionally: They resisted chemotherapy, and conventional radiotherapy had the potential of destroying the liver. "Explanting" the organ would enable the surgeons to give a high and uniform dose to all the liver.

Therefore, they chose to remove the entire liver, which they placed in a Teflon bag and irradiated at a nearby research reactor. Then they re-implanted it, just as in a normal liver transplant operation. The technique has been dubbed TAORMINA.

With only one person treated so far, it is too early to judge how safe and effective TAORMINA is. The team is now waiting for approval to treat another six patients who have multiple liver tumours.

Even if the method proves effective against liver and other cancers, such a drastic operation would be reserved for patients with the worst outlook, and where the spreading cancer is restricted to one organ. Also, the operation could only be carried out while they were still strong enough to survive the long operation.

Another problem is that there are few reactors capable of producing suitable neutron beams.

But the work could help improve normal radiotherapy by improving our knowledge of what doses are safe and effective. And the technique could one day be used to tackle hard-to-treat cancers in other organs that can be transplanted, such as the lungs or pancreas.

Source:New Scientist Magazine, 18 Dec 2002 http://www.newscientist.com/news/news.jsp?id=ns99993193

HIV APPROACH VS. HEPATITIS C

Hepatitis C has infected about four million Americans and 170 million people worldwide, about four times as many as HIV. The number of deaths from hepatitis C, now 8,000 to 10,000 annually in the US, could triple by 2010.

But while there are now well over a dozen drugs that directly interfere with HIV enzymes, there are none that work that way for hepatitis C. The latest combination treatment for hepatitis C cures half the treated patients, at most, and has side effects ranging from unpleasant to severe.

Now drug companies are beginning to test the first similar drugs for the hepatitis C virus.

Unlike interferon and ribavarin, but similarly to AIDS drugs, the new hepatitis C drugs entering clinical trials are designed to interfere with enzymes that the hepatitis C virus needs to replicate.

It will take years to know whether the new drugs will work.

But a German drug company, Boehringer Ingelheim, reported in November that its experimental protease inhibitor reduced viral levels by a range of a hundred fold to more than a thousand fold in a small number of patients who took it for only two days.

Others companies working on similar drugs are: ViroPharma, a biotech company in Exton, Pa. (in partnership with Wyeth); Idenix Pharmaceuticals, a biotech company based in Cambridge, Mass.; Japan Tobacco; Isis Pharmaceuticals of Carlsbad, Calif.;

Vertex Pharmaceuticals, also of Cambridge; and Rigel Pharmaceuticals of South San Francisco.

Barriers to Drug Development

(1) There has been much more federal financing for HIV, which has been considered more of a crisis than hepatitis C and has patients who have fought hard for money for research and treatments. Also, many people with the hepatitis C virus never get sick or take decades to do so.

(2) Some say that the Chiron Corporation, the California biotech company that first identified the hepatitis C virus, has demanded too much money for licenses to its

(Continued on page 7)

(RESEARCH—Continued from page 6)

patents, discouraging companies from entering the field.

Chiron disagrees, of course, but there have been several lawsuits over the issue.

(3) Most scientists agree that the biggest obstacle to the development of drugs for hepatitis C has been the inability to grow the virus in the test tube, where it would be more easily studied and potential drugs could be tested.

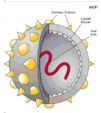
Now scientists have developed an artificial viral system known as a replicon. It does not produce complete new viruses, but it does reproduce itself. So drug companies can use the replicon to test whether their protease or polymerase inhibitors seem to interfere with replication of the replicon.

***

No one really knows what it's going to take for the antiviral effect to outrun the resistance effect. Both HIV and the hepatitis C virus mutate rapidly and are likely to develop resistance to drugs, so combinations of drugs will probably be needed.

But hepatitis C may ultimately be easier to treat than AIDS, because the nature of AIDS makes it harder to eliminate.

Dr. Amy Weiner, director of hepatitis C research at Chiron, is optimistic: "It does appear with the data we have to date that it is possible to cure people with HCV, which has never been shown with HIV," she said.



Source: March 11, 2003 NY Times, H.I.V. Lessons Used in Hepatitis C Treatment by Andrew Pollack

(BRAD—Continued from page 5)

here, folks. This treatment was much easier to tolerate—fewer severe side effects, fewer needles to take—for me, a much more pleasant (a stretch) and humane way. Again, the liver nurses at Dr. Anderson's clinic were a real pleasure to deal with, constantly gathering information from patients on what helped and passing it along to others, —wonderful people doing difficult work.

On November 1, 2002, I finished another 48 weeks of treatment and started the long wait for 6 month post-treatment testing. On April 28, 2003, I went for testing and was prepared for the worst. I don't think I was prepared for success when, on May13, 2003. the call came. "Congratulations, Brad. You tested clean." Sweet words! Words can not even begin to describe how I feel, but for any of you who feel now as I once did, may you also have this opportunity.

Brad

VOLUNTEER APPLICATION FORM

NAME: _____

ADDRESS:

_____

_____

CITY:_____

PC:_____**PROV:**_____

TEL: ( )_____

FAX: ( )_____

EMAIL:_____

ABILITIES OR AREA OF INTEREST:

Library Printing Copying Phoning Fundraising Counseling Research Refreshments Special Events Publications Computer Help Errands Grant Applications Board Member Other

Experience:

_____

_____

_____

_____

Time available:

_____

_____

SEX M F

Date of Birth: ____/____/_____

Mo Day Year

Contact: HepCBC

#5-915 Glen Vale Rd
Victoria BC V9A 6N1

Tel. 595-3892 or Email: info@hepcbc.ca

TIPS OF THE MONTH:

Did you know? If you send a donation to the United Way, ask them to give it to HepCBC Hepatitis C Education and Prevention Society. The donation will come entirely to us, and they may give us funding in the future.

Never share any body-piercing jewelry.

COMPENSATION

LEGAL ACTION

Hepatitis C Class Action Suit Line:
1-800-229-LEAD (5323)

1986-1990
Bruce Lemer/Grant Kovacs Norell
Vancouver, BC
Phone: 1-604-609-6699 Fax: 1-604-609-6688

Pre-86/Post-90
Hepatitis C Settlement Fund—KPMG Inc.
Claims Administrator
2000 McGill College Avenue, Suite 1900
Montreal (Quebec) H3A 3H8
1-888-840-5764 (1-888-840-kpmg)
HepatitisC@kpmg.ca
www.kpmg.ca/microsite/hepatitisc/english/forms.html

Klein Lyons
Vancouver, BC 1-604-874-7171,
1-800-468-4466, Fax 1-604-874-7180
www.kleinlyons.com/pages/class_actions/Hepatitis_C.htm

Mr. David Harvey/ Goodman & Carr
Toronto, Ontario
Phone: 1-416-595-2300, Fax: 1-416-595-0527

Ernst & Young Law Office (Ontario)
1-800-563-2387

Lauzon Belanger S.E.N.C. (Quebec)
www.lauzonbelanger.qc.ca.

Goodman and Carr LLP
pre86hepc@goodmancarr.com
www.goodmancarr.com

Other:

William Dermody/Dempster, Dermody, Riley and Buntain
Hamilton, Ontario L8N 3Z1
1-905-572-6688

LOOKBACK/TRACEBACK

The Canadian Blood Services, Vancouver, BC
1-888-332-5663 (local 207)
Lookback Programs, Canada: 1-800-668-2866
Lookback Programs, BC: 1-888-770-4800
Canadian Blood Services Lookback/Traceback & Info Line: 1-888-462-4056
Hema-Quebec Lookback/Traceback & Info Line: 1-888-666-4362
Manitoba Traceback: 1-866-357-0196

RCMP Blood Probe Task Force TIPS Hotline
1-888-530-1111 or 1-905-953-7388
Mon-Fri 7 AM-10 PM EST
345 Harry Walker Parkway, South Newmarket, Ontario L3Y 8P6 Fax: 1-905-953-7747

CLASS ACTION/COMPENSATION

National Compensation Hotline: 1-888-726-2656
Health Canada Compensation Line: 1-888-780-1111
Red Cross Compensation pre-86/ post-90 Registration: 1-888-840-5764
Ontario Compensation: 1-877-222-4977
Toronto Compensation: 1-416-327-0539, 1-877-434-0944
Quebec Red Cross Compensation: 1-888-840-5764
1986-1990 Hepatitis C Class Actions Settlement 6/15/99 www.hepc8690.ca/

ADMINISTRATOR

To receive a compensation claims form package, please call the Administrator at 1-888-726-2656 or 1-877- 434-0944.
www.hepc8690.com info@hepc8690.com

MISCELLANEOUS

Excellent Website!!: HCV Tainted Blood, Canada: http://members.rogers.com/smking/tainted.htm

COMING UP IN BC/YUKON:

Armstrong HepCure Office and library, by appointment. Contact: Marjorie, 546-2953, amberose@sunwave.net, www.junction.net/hepcure

Campbell River Hep C Support Group Support and information, call 830-0787 or 1-877-650-8787 or email niac_hepc@hotmail.com

Castlegar Contact: Robin, 365-6137

Comox Valley: Contact North Island Hep C Community Support Project 1-877-650-8787,

Cowichan Valley Hepatitis C Support Contact: Leah, 748-3432.

Cranbrook HeCSC-EK: 1st & 3rd Tues. monthly, 1-3 PM, #39 13th Ave South, Lower Level. Next meetings June 3rd & 17th. Contact: 426-5277 or 1-866-619-6111 hepc@cmha-ek.org, www.hepceastkootenay.com

Creston/Golden/Invermere Educational presentation and appointments: Contact Katerina 426-5277

Grand Forks Hep C Support Centre—Closed due to lack of funding. Contact Ken, 1-800-421-2437

Kamloops (People in Motion) 1st and 3rd Tues monthly 12:30 PM, 6E-750 Cottonwood Ave, North Kamloops. Next meetings June 3rd & 17th Contact Pam: 851-7300, pamela.zulyniak@interiorhealth.ca.

Kelowna Hepkop: Last Sat. monthly, 1-3 PM, Rose Ave. Meeting Room, Kelowna General Hospital. Next Meeting: June 28th. Contact Elaine Risely (250) 768-3573, eriseley@shaw.ca or Lisa Mortell 766-5132 lmortell@silk.net or toll-free 1-866-766-5132.

Kimberley Support Group 2nd Tue. monthly, 7-9 PM. Next meeting June 10th Contact Katerina 426-5277

Kootenay Boundary 2nd Tues. monthly, 7 PM, Room 108, Selkirk College, Trail. Next meeting: June 10th . For individual support, info & materials, contact: Brian Reinhard, (250) 364-1112, reiny57@yahoo.ca

Mid Island Hepatitis C Society Friendship and support group, 2nd Thurs. monthly, 7 PM, Central Vancouver Island Health Centre 1665 Grant St. Nanaimo. Next meeting: June 12th. Contact Sue for info 245-7635. mihepc@shaw.ca

Mission Hepatitis C and Liver Disease Support Group 3rd Wed. monthly, 7 PM, Springs Restaurant, 7160 Oliver St. Next meeting June 18th. Contact Gina, 826-6582 or Patrick, 820-5576. missionsupport@eudoramail.com

Nakusp Support Group Meetings: 3rd Tues. monthly, 7 PM, Nakusp Hospital Boardroom. Next meeting: June 17th. Contact: Vivian, 265-0073 or Ken, 1-800-421-2437

Nelson Hepatitis C Support Group 1st Thurs. monthly. ANKORS Offices, 101 Baker St., Next meeting: June 6th. Contact: Ken Thomson, 1-800-421-2437, 505-5506, info@ankors.bc.ca

New Westminster Support Group 2nd Mon. monthly, 7-8:30 PM, First Nations' Urban Community Society, 623 Agnes Street, New Westminster. Next meeting: June 9th. Speaker: Dr. John D. Farley on Hepatitis. Contact: Dianne Morrissettie, (604)517-6120, dmorrissettie@excite.com

Parksville Support Group Contact Ria, 248-6072

Parksville/Qualicum 102a-156 Morison Avenue, PO Box 157, Parksville, BC V9P 2G4. Open daily 9 to 4, M-F. Contact: 248-5551, sasg@island.net

Penticton Hep C Family Support Group Contact: Leslie, 490-9054, bchepc@telus.net

Powell River Hep C Support Group Next meeting: Contact: Health Unit, 485-8850.

Prince George Hep C Support Group 2nd Tues. monthly, 7-9 PM, Health Unit Auditorium. Next meeting June 10th, Contact: Gina, 963-9756, gina1444@yanhoo.ca or Ilse, ikueper@northernhealth.ca

Princeton 2nd Sat. monthly, 2 PM, Health Unit, 47 Harold St. Next meeting June 14th. Contact: Brad, 295-6510. kane@nethop.net

Queen Charlotte Islands/Haida Gwaii: Phone support. Contact Wendy: 557-2487, e-mail: wmm@island.net, www.island.net/~wmm/

Quesnel HeCSC Last Mon. evening every other month. Contact Elaine Barry, 992-3640, ebarry@goldcity.net

Richmond: Lulu Island AIDS/Hepatitis Network: Meetings/drop-in dinner each Mon. 7-9 PM. Contact Phil or Joe, 276-9273.

Slocan Valley Support Group Contact: Ken, 355-2732, keen@netidea.com

Smithers: Positive Living North West 2nd Wed. monthly, 12 noon, **3862 Broadway (back door)** Next meeting: June 11th. Contact: Deb. 877-0042, 1-866-877-0042, or Doreen, 847-2132, plnw_hepc@bulkley.net for times.

Sunshine Coast—Sechelt: Contact: Kathy, 886-3211, kathy_rietze@uniserve.com—**Gibsons**: Contact Bill, pager 740-9042

VANDU Vancouver Area Network of Drug Users Each Mon., 2 PM, **412 East Cordova** Bus fare & snack. Contact: Cristy or Ann, 604-719-5313, or 604-216-2776 (ask for VANDU). Space limited—come early. vandu@vcn.bc.ca, www.vandu.org

Vernon HeCSC HEPLIFE 2nd & 4th Wed. monthly, 10 AM-1 PM, The People Place, 3402-27th Ave. Next meetings June 11th & 25th. Contact: Sharon, 542-3092, sggrant@telus.net

Victoria HeCSC Last Wed. monthly. Contact: 388-4311, hepcvic@coastnet.com

Victoria Support and Information Information about support groups and other services: Contact the Needle Exchange, 384-2366, hermione.jefferis@avi.org

Victoria HepCBC & INFO line —Contact: (250) 595-3892, info@hepcbc.ca, www.hepcbc.ca

YouthCO AIDS Society HepCATS Hep C advocacy, training and support for youth 15-29 living with Hep C or co-infected with HIV. #203-319 W Pender St., Vancouver. Contact Caitlin Padgett (604) 688-1441, (604) 808-7209, information@youthco.org, or www.youthco.org

Yukon Positive Lives 3rd Wed. monthly, Whitehorse. Next meeting June 18th. Contact Heather 660-4808, fromme@marshlake.polarcom.com, www.positivelives.yk.ca

OTHER PROVINCES

ATLANTIC PROVINCES:

HeCSC NB Meetings:

- **Fredericton, NB** Contact: Bob, 453-1340, bobc215@hotmail.com
- **Saint John & Area**: Telephone support line: Contact Allan Kerr 672-4372, kerrs@nbnet.nb.ca

Hepatitis C Moncton Inc. of N.B. Contact Debi, 858-8519, hepcmonc@rogers.com

The Hepatitis Outreach Society is under reconstruction. Please call for support group information for Bridgewater, Halifax, Kentville, New Glasgow, and Yarmouth. Contact (902)733-2214, Fax(902) 733-2043, 1-800-521-0572, http://www.ahcc.ca. Meetings:

- Truro: Last Tues. monthly, 7 PM, Colchester Regional Hospital, 25 Willow St, Conference Room

ONTARIO:

Barrie HepSEE Chapter 3rd Tues. monthly, 7-9 PM, AIDS Committee of Simcoe County, 80 Bradford St, Suite 336 Contact: Jeanie, 735-8153 hepseebarrie@rogers.com

Durham Region, GTA and Peterborough, ON support. Contact: Smilin' Sandi smking@rogers.com "Sandi's Crusade Against Hepatitis C" http://members.rogers.com/smking/

Kitchener Area Chapter 3rd Wed. monthly, 7:30 PM, Cape Breton Club, 124 Sydney St. S. **NO MEETINGS JULY OR AUGUST.** Kitchener. Contact: Carolyn, (519) 880-8596 lollipop@golden.net

Niagara Falls Hep C Support Group Last Thurs. monthly, 7 PM, Niagara Regional Municipal Environmental Bldg., 2201 St. David's Road, Thorold. Contact: Rhonda, (905) 295-4260, Joe (905) 682-6194 jcolangelo3@cogeco.ca or hepcnf@becon.org

Trenton ON support. Contact: Eileen Carlton 394-2924 carfam@quintenet.com

Hepatitis C Network of Windsor & Essex County 3rd Thurs. monthly, 7 PM, 1100 University Ave. W. and 1st Mon. monthly, 491 Victoria Ave, 11 AM. Contact Andrea 250-5399 or Michelle, 256-1878, hepcnet@cogeco.ca http://home.cogeco.ca/~hepcnet/

PRAIRIE PROVINCES:

HeCSC Edmonton: Contact Jackie Neufeld: 939-3379.

HepC Edmonton Support Group: Contact Fox, 473-7600, or cell 690-4076, fox@kihewcarvings.com

HepSEE WPG: Contact David: hepsee@shaw.ca or 1(204)897-9105 for updates on meeting schedules.

Winnipeg Hepatitis C Resource Centre 1st Tues. monthly 7-9 PM. # 204-825 Sherbrook St. (south entrance—parking at rear) Contact: 975-3279, hcrc@smd.mb.ca

QUEBEC:

Hepatitis C Foundation of Quebec, Contact Eileen, 769-9040 or fhcq@qc.aibn.com. **Meetings:**

- **Hull:** Each Tue. 7-8 PM, 57 Rue Charlevoix.
- **Sherbrooke** 2nd Mon. monthly, 7-9 PM, Les Grandes Coeurs D'Artichauts Au Centre Jean-Patrice Chiasson (2e etage) 1270 Galt Street West. Contact: 820-7432
- **Verdun:** 1st Tues. (French) & 3rd Tues (Eng) monthly, 7-9 PM. Verdun General Hospital, Room 3121.

HeCSC Quebec City Region, 1st Wed monthly, 7 PM, 876 rue D'Alençon, St. Nicolas, QC. Contact: Renée Daurio, 836-2467, reneedaurio@hotmail.com

SQUASH JULIENNE

1/2 C sliced green onions
2 sliced med zucchini
2 sliced med yellow squash
1 med red bell pepper, chopped fine
Salt & pepper to taste.

Sauté onion over medium-high heat until soft. Add zucchini & squash. Season. Cook about 5 min., until vegetables are tender. (Adapted from *Gourmet*)

Servings: 4
Calories: 50
Fat: 0.23g

THIS IS A COMBINED JUNE/JULY ISSUE. SORRY— NO BULLETIN UNTIL AUGUST. WE ARE ON OUR SUMMER VACATION. THANKS FOR YOUR SUPPORT!