

HCV ADVOCATE WEEKLY NEWS REVIEW

Review of HCV, HBV and HIV/HCV Coinfection Related News and Highlights

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February 2nd, 2007

Brattleboro native struggles with liver disease, hopes for transplant

<http://www.reformer.com>

By BOB AUDETTE, Reformer Staff

BRATTLEBORO -- When Stephen LeClair gets better, he plans to make the rounds of local schools to talk about the dangers of drugs and alcohol.

When you're young, it seems as if you're invincible, he said, but it all catches up to you sooner or later.

"Life is too short," he said, from his home in West Swanzey, N.H. "Drugs and alcohol seemed great at the time, but now it seems so stupid."

He's been close enough to death in the past few years to know what he's talking about. Diabetes, Hepatitis C and cirrhosis have all taken their toll on his kidneys and liver.

He was one step away from needing dialysis, he said, but a change of medications meant his kidneys are back to functioning normally. But his liver is another matter.

He's been on a donor list for more than three years, struggling each and every day to survive. On Thursday, Steve came home from a care facility for the first time -- except for Christmas Day -- since September.

LeClair, 52, was born and raised in Brattleboro. He went to Green Street school and graduated from high school in 1973. His wife, Pauline, was born and raised in Hinsdale, but spent much of her time in Brattleboro.

They met each other while working together at a Brattleboro business and were married in 1984. They have one son, 20-year-old Kyle, who lives at home and helps his mom take care of his father.

In 1987, Steve graduated from chef's school at Johnson & Wales in Rhode Island and was hired by Hyatt Hotels. In 10 years, the pair lived in Baltimore, Hilton Head, N.C., Washington, D.C., and Denver.

Upon returning to New England, Steve worked as a chef at the Brattleboro Retreat, the Keene Country Club and for the Marist Brothers in Peterborough, N.H.

He retired because his illness was taking too much of a toll on his health for him to keep working.

Pauline now works at David Ford, in Keene.

"I'm pretty excited," said Pauline, about having her husband back home. "At the same time, I'm a little afraid. He's very fragile."

Pauline has to keep on top of Steve's health, monitoring his energy level, making sure he's eating right and getting his medications and looking for signs that his health might be getting worse.

On Saturday night, at Moose Hall at 570 Park Ave. in Keene, a dinner and dance is being held to help defray some of his medical expenses. Money is also being raised to help pay expenses for his sister-in-law, Judy Thompson, who is traveling to Tufts Medical Center this month to be tested as a liver donor for Steve.

"When we found out we could do a live donor, we wrote an e-mail and everyone responded," said Steve. "It surprised me the response we got. It just blew me away."

"A lot of people have pitched in to help out anyway they can," said Pauline.

Though this type of surgery can be more dangerous for the donor than the recipient, "I'm trying to do what's right," said Thompson, 40.

"I love him," she said. "He's like my brother."

"Now she will go through further testing to see if she is compatible," said Pauline. "If she is, there are more rounds of testing. Hopefully the transplant will take place the end of March or the beginning of April."

As it does with so many families, illness has strengthened the bonds that keep them together. His siblings have been traveling from their homes in the Southeast, taking turns to help Pauline care for Steve.

"When I called my brother to thank him," said Steve, with emotion choking his voice, "he said don't worry it's no big deal. You're my big brother and I'll be there for you."

Even though Steve wants to attend the fundraiser, she said, he may not be able to make it depending on how he feels. To complicate matters, the venue for the fundraiser is not handicap accessible, making it hard for him to get up and down the stairs.

Local businesses have donated items for a raffle during the fundraiser, which are being stored in the LeClair home.

"It's like Christmas in our house," said Steve. "There are piles of gifts everywhere."

Community members in Brattleboro and Keene "all have been wonderful," said Pauline.

"My softball team, Benny's Auto Body, has been the driving force," said Pauline, with Kelly Brahman, Kathy Sevine and her sister Penny Ash spending lots of time helping out and setting up the fundraiser.

"She's been like a sister to me," said Tim Creamer, owner of Benny's Auto Body, where Pauline worked for 10 years. "She went the extra mile for me, so I certainly would go the extra mile for them."

The Keene Women's Softball Association, the Cheshire Quilt Guild, David Ford, Markem Corp. and the Monadnock Radio Group have also helped out, she said.

When someone is as sick as Steve is, said Pauline, every day is a new challenge. A man who used to work 60 hours a week now has days where he can't even get out of bed, she said.

"Every day you never know how he's going to be," she said. "You can never get away from that."

A hard part for them is that Steve's illness has limited their social interactions, she said.

"When someone gets sick, your world shrinks down to nothing," she said. "You get asked to go to things but you can't make it. After a while, you stop being asked. People get isolated."

Pauline said she wanted people to understand how important it is to be an organ donor. At the same time, she said, having a loved one on a donor list can cause conflicting emotions.

"If you're on the donor list, you're waiting for somebody to die," she said. "It's horrible. But you have to keep living."

The dinner at the Moose Hall runs from 5 to 7 p.m. Dancing runs from 8 p.m. to midnight. The cost for the event is \$10. For those unable to make the fundraiser, donations can be sent to Steve LeClair Transplant Fund, c/o Laverne Ells, Citizens Bank, 15 Main St., Keene, NH 03431.

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FDA Issues Public Health Advisory on Chantix

<http://www.fda.gov>

Agency requests that manufacturer add new safety warnings for smoking cessation drug

The U.S. Food and Drug Administration (FDA) today issued a Public Health Advisory to alert health care providers, patients, and caregivers to new safety warnings concerning **Chantix (varenicline)**, a prescription medication used to help patients stop smoking.

On Nov. 20, 2007, FDA issued an Early Communication to the public and health care providers that the agency was evaluating postmarketing adverse event reports on Chantix related to changes in behavior, agitation, depressed mood, suicidal ideation, and actual suicidal behavior.

As the agency's review of the adverse event reports proceeds, it appears increasingly likely that there may be an association between Chantix and serious neuropsychiatric symptoms. As a result, FDA has requested that Pfizer, the manufacturer of Chantix, elevate the prominence of this safety information to the warnings and precautions section of the Chantix prescribing information, or labeling. In addition, FDA is working with Pfizer to finalize a Medication Guide for patients. This is an example of FDA working with drug manufacturers throughout products' lifecycles to keep health care professionals and patients informed of new and emerging safety data.

"Chantix has proven to be effective in smokers motivated to quit, but patients and health care professionals need the latest safety information to make an informed decision regarding whether or not to use this product," said Bob Rappaport, M.D., director of the FDA's Division of Anesthesia, Analgesia and Rheumatology Products. "While Chantix has demonstrated clear evidence of efficacy, it is important to consider these safety concerns and alert the public about these risks. Patients should talk with their doctors about this new information and whether Chantix is the right drug for them, and health care professionals should closely monitor patients for behavior and mood changes if they are taking this drug."

Chantix was approved by FDA in May 2006 as a smoking cessation drug. Chantix acts at sites in the brain affected by nicotine and may help those who wish to stop smoking by providing some nicotine effects to ease the withdrawal symptoms and by blocking the effects of nicotine from cigarettes if users resume smoking.

In the Public Health Advisory and a Health Care Professional Sheet that was also issued today, FDA emphasized the following safety information for patients, caregivers, and health care professionals:

Patients should tell their health care provider about any history of psychiatric illness prior to starting Chantix. Chantix may cause worsening of current psychiatric illness even if it is currently under control. It may also cause an old psychiatric illness to reoccur. FDA notes that patients with these illnesses were not included in the studies conducted for the drug's approval.

Health care professionals, patients, patients' families, and caregivers should be alert to and monitor for changes in mood and behavior in patients treated with Chantix. Symptoms may include anxiety, nervousness, tension, depressed mood, unusual behaviors and thinking about or attempting suicide. In most cases, neuropsychiatric symptoms developed during Chantix treatment, but in others, symptoms developed following withdrawal of varenicline therapy.

Patients should immediately report changes in mood and behavior to their doctor.

Vivid, unusual, or strange dreams may occur while taking Chantix.

Patients taking Chantix may experience impairment of the ability to drive or operate heavy machinery.

FDA will continue to update health care professionals with new information from FDA's continuing review or if new information is received on Chantix and serious neuropsychiatric

symptoms. FDA may consider requesting further revisions to the labeling or taking other regulatory action as the agency's continuing reviews and conclusions warrant.

For more information:

<http://www.fda.gov/cder/drug/infopage/varenicline/default.htm>

February 4th, 2007

Grapefruit Compound May Help Combat Hepatitis C Infection

<http://www.sciencedaily.com>

ScienceDaily (Feb. 4, 2008) — A compound that naturally occurs in grapefruit and other citrus fruits may be able to block the secretion of hepatitis C virus (HCV) from infected cells, a process required to maintain chronic infection. A team of researchers from the Massachusetts General Hospital Center for Engineering in Medicine (MGH-CEM) report that HCV is bound to very low-density lipoprotein (vLDL, a so-called "bad" cholesterol) when it is secreted from liver cells and that the viral secretion required to pass infection to other cells may be blocked by the common flavonoid **naringenin**.

If the results of this study extend to human patients, a combination of naringenin and antiviral medication might allow patient to clear the virus from their livers.

"By finding that HCV is secreted from infected cells by latching onto vLDL, we have identified a key pathway in the viral lifecycle," says Yaakov Nahmias, PhD, of the MGH-CEM, the paper's lead author.* "These results suggest that lipid-lowering drugs, as well as supplements, such as naringenin, may be combined with traditional antiviral therapies to reduce or even eliminate HCV from infected patients."

HCV is the leading cause of chronic viral liver disease in the United States and infects about 3 percent of the world population. Current antiviral medications are effective in only half of infected patients, 70 percent of whom develop chronic infection that can lead to cirrhosis or liver cancer. Since the virus does not integrate its genetic material into the DNA of infected cells the way HIV does, totally clearing the virus could be possible if new cells were not being infected by secreted virus.

"Identifying the route by which HCV is released from cells introduces a new therapeutic target," says Martin Yarmush, MD, PhD, director of the MGH-CEM and the paper's senior author. "That pathway's dependence on cholesterol metabolism could allow us to interfere with viral propagation to other cells and tissues, using tools already developed for atherosclerosis treatment." Yarmush is the Helen Andrus Benedict Professor of Surgery and Bioengineering at Harvard Medical School (HMS).

Grapefruit's bitter taste is caused the presence of the flavonoid naringin, which is metabolized into naringenin, an antioxidant previously reported to help lower cholesterol levels. Considerable research has suggested that HCV infects liver cells by, in essence, "hitching a ride" onto the natural lipoprotein-cholesterol metabolic pathway. Since earlier evidence has shown that naringenin can reduce secretion of vLDL from liver cells, the researchers examined whether the

compound might also lower HCV secretion from infected cells. Their experiments confirmed that naringenin does reduce the secretion of HCV from infected cell lines and showed that the compound inhibits the mechanism for secreting a specific lipoprotein that binds HCV.

"This work presents the possibility that non-toxic levels of a dietary supplement, such as naringenin, could effectively block HCV secretion," says Raymond Chung, MD, MGH director of Hepatology and one of the study authors, "This approach might eventually be used to treat patients who do not respond to or cannot take traditional interferon-based treatment or be used in combination with other agents to boost success rates."

*The report will appear in an upcoming issue of the journal *Hepatology* and has been released online. Chung is an associate professor of Medicine at HMS, and Nahmias is an instructor in Surgery and Bioengineering. Additional co-authors of the Hepatology paper are Jonathan Goldwasser, Monica Casali, PhD, Daan van Poll, MD, MGH-CEM; and Takaji Wakita, MD, Tokyo Metropolitan Institute. The work was supported by grants from the National Institutes of Health and Shriners Hospitals for Children.

Adapted from materials provided by Massachusetts General Hospital, via EurekAlert!, a service of AAAS.

Hepatitis C victims settle lawsuits filed against state

<http://www.japantimes.co.jp/>

OSAKA (Kyodo) Twenty-nine hepatitis C sufferers settled damages suits filed against the government in Osaka and Fukuoka on Monday the first in a series of similar lawsuits filed by about 240 people nationwide since October 2002.

However, suits against drugmakers are still pending.

The settlement came after the plaintiffs and the government signed a basic accord in January under a newly enacted law on blanket relief measures to settle the suits out of court and end the legal battle.

The sufferers contracted the liver illness through contaminated blood products such as fibrinogen, which were administered to stop bleeding.

Now that they have settled with the state, the plaintiffs will shift the focus of negotiations to Osaka-based Mitsubishi Tanabe Pharma Corp. and other drugmakers.

Meanwhile, the government needs to develop ways to implement support measures for hepatitis B and C patients who are not covered by the law enacted Jan. 15 to provide blanket relief to sufferers.

Under the law, victims will receive compensation ranging from ¥12 million to ¥40 million each depending on the severity of their condition.

Monday's settlements involved 13 people at the Osaka High Court, 15 at the Fukuoka High Court and one at the Fukuoka Summary Court.

Preceding the settlement at the Osaka High Court, plaintiff Satoko Kuwata, 48, said in a hearing that he was determined to effect change.

"Today's settlement is not a complete solution," Kuwata said. "I'd like to see permanent measures developed through research and new treatments as soon as possible so that no more lives of hepatitis patients are taken."

In addition to talking with the plaintiffs, the drugmakers are said to have been holding negotiations with the state about the amount of compensation to pay.

Invisible addiction

<http://www.thediplomat.ro/>

Michael Bird

With one per cent of Bucharest's population addicted to heroin, 'The Diplomat' reports on a drug attacking poor communities and children as young as nine years old.

"I've just been to the head doctor!" says a thin late teen in a baseball cap and anorak, talking to his friend in the reception area of a methadone treatment centre in Stefan Cel Mare, Bucharest.

"Was she pretty?" asks his friend, a 20 year-old in a hooded jacket.

He pauses.

"Yeah," he adds, unconvinced.

The first boy is showing his friend the centre in the 'Matei Bals' Institute for Infectious Diseases, where around 200 of Bucharest's 25,000 heroin addicts come to help themselves off the drugs with a course of opiate substitute, methadone.

The first boy shows his friend a table piled up with a giant pyramid of condoms.

"Look," he says, "they're all free! You can take as many as you like."

"But," says the second boy. "I'm not infected."

In the clinical two-room building, former and mildly active drug users drop in, walk up to a water cooler, pull out a cup and pour it full. They sign in with a chemist, and then pop their methadone pills.

The institute used to allow users to take away the medication. But this encouraged some to pocket the pills and sell them on the street – where their value can be worth up to 20 times the wholesale cost.

Now, if most users want to take home the pills, the chemist crushes them with a pestle and mortar and then puts the remains in a plastic bag.

“Dealers can’t sell a mashed-up pill,” says Dr Adrian Abagiu, a specialist doctor running the centre. “But,” he adds, sadly, “the users can still shoot it up.”

Methadone cuts out the bad symptoms, but it does not give the user a high. Some ex-addicts still have the urge to use a syringe. They need the ritual. So they will take the methadone while injecting themselves with water. The cost for the treatment is around 100 Euro a month. But this is free for the pregnant or those who are HIV positive.

Abagiu admits that in the early days of the centre there were some addicts who came for treatment as a holiday from the needle. “They were regular vascular users, but did not have any veins left,” he says. Instead they took methadone for one month, to give time to build up their veins.

“I had to go on methadone because the next step was stealing from the street,” says Andrei, 28, who used heroin for four years.

He now works in retail and takes 15 methadone pills daily from his local hospital.

“When I took them for the first two weeks, it was much like heroin,” he says. “But I didn’t feel sick, my bones didn’t hurt and my stomach didn’t ache.”

The switch also transformed his lifestyle.

“I didn’t worry about money for drugs,” he adds. “I didn’t have to wake up in the morning wondering where I could get some cash. I wouldn’t have to wait on a pavement in the rain or snow waiting for a dealer who could be three hours late.”

Now he wants to decrease his dosage and come clean by the Summer.

“After coming off heroin,” says Andrei. “I felt like I had been trapped in a box for four years of my life.”

Youth target

The oldest patient undergoing treatment at the Matei Bals-based clinic is 54 years old, but Dr Abagiu sees the biggest problem among the young. “The main problem in Romania compared to other countries is the number of children using drugs,” he says.

While the average age of a user is 20, children as young as nine are using heroin in Romania. Abagiu has also played host to a 16 year-old user with a five-year history of taking the drug. He wanted methadone replacement, but could only do so with parental consent. The kid did not understand. He said he could pay hundreds of Euro, if that was what it would take. He could find the money. The law does not allow anyone under 16 to gain methadone treatment. Nor does the law allow the medical services to distribute free needles to children, or to test them for infections.

“A lot of children under 16 are heavy users,” says Abagiu. “They come to us, but we can’t really help them, because it’s not legal.”

Some of these are homeless street-kids moving to Bucharest to make money. The lack of education, community and communication in these sectors does not help.

“Some don’t even know the word heroin,” adds Valentin Simionov, director of the Romanian Harm Reduction Network, an NGO group coordinating treatment and prevention of drug use. “They don’t know what it’s called. It’s just known as ‘marfa’ – the stuff.”

Drug history

In 1989 there were no heroin addicts in Romania, now one per cent of Bucharest is shooting up the narcotic. The city has become Romania’s drug capital because of its money, development, nightlife and urban anonymity which encourages a spirit of experimentation.

“The main problem [with drugs] is the growth of heroin users in Bucharest,” says Pavel Abraham, director of the National Anti-Drugs Agency.

It is present in all sectors of society, including students, office workers, Governmental officials and diplomats. It is also popular among the homeless who have graduated onto heroin after inhaling metal paint aurolac. “We have clients that use both drugs,” says Cristina Fierbinteanu, project manager at a needle exchange unit for the Romanian Association Against AIDS (ARAS). “When they cannot get heroin, they use aurolac.”

Except for some cannabis use in Constanta and university towns in the 1970s, Romania was drug-free during Communism. Then, during the 1990s, Romania became an attractive zone for traffickers due to the difficulty of transporting drugs through Yugoslavia, owing to its civil war.

In the mid 1990s, heroin was popular in universities. Children and students from wealthy and reputable families ended up in rehab abroad. Then it hit the street and also became the drug of the poor.

Now heroin comes to Romania from Afghanistan, through Iran, Turkey and Bulgaria. Romania’s ports, including Constanta, are transit points for drugs, where they are often hidden in containers of canned fruit.

Meanwhile cocaine comes from South America to Africa and then to Constanta. Some Romanians living abroad, in Spain and Italy, bring cocaine and Moroccan cannabis back home. They are affiliated to international crime networks, which are testing the Romanian market.

“Cocaine and cannabis have been coming from Spain and Africa in the last three years,” says Abraham. “This will increase. We have to understand the realities after EU integration.”

Public enemy

Drug users in Romania distrust society. This includes hospitals and pharmacies, many of which still refuse to sell needles to addicts. This encourages the exchange of syringes, which can lead to Hepatitis C or HIV spreading.

The six methadone treatment centres are now reaching up to ten per cent of the addicts in the Capital. But there is an invisible majority of users who do not interface with treatment or prevention. “Even if we have more centres, we would have problems attracting users – they are scared of us and society,” argues Dr Eugen Hriscu, psychiatrist, National Centre for Medical Health.

The police also have a history of beating up users or asking for bribes.

One example is Ade, a 29 year-old Bucharest cannabis user, who was picked up by a policeman late at night outside a block.

“He asked to search through our bags,” says Ade. “Inside he found a small packet of weed. He asked what this was. I said it was some tea that I bought for a bad throat. He took me in a car to the station, parked outside and said: ‘Are you going to come clean or do I have to take you inside?’

“I said: ‘Okay it’s dope.’ He added: ‘I know, but do you want to go to the station or not?’ I asked him whether one hundred dollars was okay. He said that was fine. I called my girlfriend, who brought the money. She handed it to the cop and he let me go.”

Another story is from ex-heroin user Andrei, 28, who was visiting his dealer in a block, while his friend stayed outside in a car. When Andrei returned, with the heroin hidden in a secret pocket, he saw there were two men in the back of the car. They came out of the vehicle and started to threaten him, then punched him in the stomach.

Both were policeman. They searched him and found no drugs. But they did discover some silver foil which he had used to smoke heroin.

They kept him in jail for eight hours.

“They know that after this amount of time you will really need some heroin,” says Andrei.

The police interrogated him, and told him that if he did not cooperate, he could see up to three years in prison. Then a police officer picked on another person locked up in an overnight cell, asking the prisoner to hand over some money, worth around ten Euro. The officer wrote down the serial number on the cash-note, gave it to Andrei and told him to go back to the dealer the next morning. He agreed. Then the police arrested the dealer with the marked money as proof the exchange had taken place.

Possession paradox

In Romania, possession of drugs is a crime, but consumption is not illegal. If a user is carrying one gram of heroin, he risks conviction. But if he is injecting this into his vein, he is a victim of his own abuse. Many doctors and social workers see this as paradoxical and impractical.

“Whenever the police pick up a user, he may swallow his entire load even if he doesn’t want to, just to avoid prosecution,” says Hriscu. “The more the police come down on users, the further they drive use underground.”

In many western countries there is a difference between possession for personal use and dealing, based on the quantity of the drug. Carrying more than six grams could show a propensity to dealing, while possession of anything less could carry only a fine.

“We haven’t specified in law the quantity [that denotes possession],” says Abraham. “We have a working group with the Ministry of Justice and want to come up with some improvements in the law.”

In individual cases, prosecutors and judges debate whether the amount is for personal use and make their decision based on that information. “The sentence depends on the court,” says Hriscu. “How good is the user’s lawyer and his luck with a judge.”

Shake the disease

The rate of Hepatitis C among intravenous heroin users in Bucharest is out of control. Carriers of the disease, which causes liver cancer, number around 90 per cent of the country’s heroin users, twice the EU average.

Only one per cent of the same users are HIV positive. Compared to many east European countries, Romania has a low rate, 11,000, of HIV sufferers in general. Only seven cases of HIV were recorded among intravenous drug users in the first six months of 2007. Most users believe there are more HIV carriers than recorded, but there is no proof.

“The low HIV numbers are a strong point of our system,” says Abraham, “but the biggest problem is Hepatitis C.”

Because Hepatitis C spreads due to the culture of sharing needles in groups, many experts believe the number of HIV sufferers among drug addicts is set to increase. This is also due to the growing link between sex workers and drug users. The more these two groups overlap, the bigger the problem.

“It’s not a matter of if, but a matter of when,” says Hriscu. “All conditions are available for an HIV epidemic to start. HIV spreads like wildfire.”

Prevention strategy

There are three non-governmental organisations running needle exchange programmes in Romania, the Alliance for the Struggle against Alcoholism and Drug Addiction (ALIAT), the Romanian Association Against AIDS (ARAS) and a local branch of the French NGO, Samu Social, which runs mobile units for the homeless. Volunteers freely give users a kit including a swab, needle, water and condom, take used needles and destroy them. ARAS has four outreach programmes in Bucharest, which move about the city and provide needles to addicts in their neighbourhoods. ARAS also has a presence in Constanta, Timisoara and Iasi, funded by the Global Fund to Fight AIDS. The needle exchange programmes reach about eight per cent of addicts or 3,000 people.

Evil weed

Cannabis usage in Romania is, officially, not as high as heroin use. The official attitude to the drug is a little different from the view on heroin. There are no plans to decriminalise or to

classify cannabis as a 'softer' drug than heroin. The National Anti-Drugs Agency (ANA) does not believe in the concept of soft drugs.

"Cannabis is a drug more perverse than heroin, so perverse that it does not give painful signs," says ANA director Pavel Abraham. "The risk in cannabis is disguised and postponed. Cannabis is as dangerous as heroin."

But this attitude may have a counter-productive effect on the prevention of heroin use.

"The authorities put all drugs in one basket," says psychiatrist Dr Eugen Hriscu. "There is no difference in the police's attitude to possession of cannabis or heroin." Potential users might as well take heroin as there is no incentive to take a substitute, he argues. "This is why there is a massive heroin problem, but not one with cannabis," says the doctor.

But as the amount of disposable income increases, and a middle class emerges with western European influence, the popularity of this drug, along with party drugs such as amphetamines, is rising. "I don't believe we will succeed to maintain the low level of cannabis consumption," says Abraham.

"You know you do bad things to people who love you - but you can't stop it"

Dan, aged 30, from Bucharest, on a history of heroin abuse

"1999 was when heroin came and found everyone. In every block in the Dristor neighbourhood in east Bucharest you could find someone who sold heroin. It was cheap – around 15 Euro a dose. The biggest importers were from Pakistan and Turkey, coming to Romania to sell to rich Roma, who then sold to the poor Roma, who were mostly users.

I was 21 and had been fighting with my girlfriend. I was working but staying with students in university halls. One night we wanted to smoke some weed, but it was finished, we couldn't find someone to buy anymore. Then a friend turned up with some heroin. After three puffs I stopped feeling depressed.

Then I spent almost three years in one room with some friends. I went to work and then back to halls, smoked some heroin and a few joints, listened to music and talked about philosophy.

After 9/11, heroin was difficult to find. It forced me to quit and I was sick for a few months. Then I started injecting. The effect was instantaneous. Your body feels good from every point of view. On heroin you can go to work. You can focus. You can have sex for three hours without any problem. It makes you believe that all is going to be good and all problems will be solved.

However sometimes you suddenly fall asleep. I dozed off once while holding a cigarette in my fingers. The ash burnt down and I felt nothing, until I suddenly woke up and saw my hand was on fire.

The heroin was mixed with sleeping pills and anaesthetics. In the early 2000s it was 30 to 40 per cent pure, now it is only around ten per cent heroin.

Money was no problem. Somehow you find it. That's the mystery no junkie can answer. You lie to your family. You take money from your friends and parents. Then you start to sell your stuff. I sold everything except my clothes.

I used the same vein in my left arm. I used to take about five doses a day – at a cost of about 40 Euro. I needed a dose to get out of bed in the morning. I was living with my parents but they never found out.

My dealer was a 40 year-old ex-boxer and taxi driver. He was a fat man who used to deal to a nurse. In return, she would lay him down, inspect his skin and find free veins to inject him.

It makes you lose your self-respect. You do not think you can do anything else. It makes you believe you don't deserve to be with normal people. You know it's bad and that you do bad things to people who love you – but you can't stop it.

Once my heart stopped. My friend called the emergency services, saying I had an overdose. The woman on the other end of the telephone replied: 'Why did you give him drugs?' Then she hung up.

I had no job, no belongings, was weighing only 55 kg with a height of 1.85 metres, plus had 2,000 Euro in debt to moneylenders. I'd broken up with my girlfriend. All of my friends were junkies. I looked at myself in the mirror naked. It was as though I had just walked out of Auschwitz. I was so skinny. I could see my heart pumping between my ribs. I thought that if I did not stop now, I would die soon.

I told my parents. My mother had known something was wrong. I left Bucharest to stay with my grandmother. I was there for seven months and cut off all connections with my background in Bucharest. In the first three weeks, I took pills to cure the sickness. Then I got drunk on homemade wine and tuica and watched TV.

In the first month, you only experience physical pain. Then the heavy depression kicks in. You think you can't do anything with your life.

It's always present in my mind – like a voice telling me things. The first days after I stopped it became louder. I know it's wrong. But it's so convincing.

I'm 60 per cent sure I will not go back. Every birthday I make an exception and shoot up one dose. It's like a present to my past."

February 5th, 2007

Families' legal win over Hepatitis C deaths

<http://www.eveningtimes.co.uk>

by John McCann

THE families of two people killed by the Hepatitis C virus after they had blood transfusions have won a legal challenge against a decision not to hold a full public inquiry.

Top Scots judge Lord Mackay of Drumadoon has quashed the decision by former Lord Advocate Colin Boyd after the families of two victims won a judicial review of the decision.

The legal official was slammed for making an "error in law" and ministers were also criticised for failing to order a proper investigation into the deaths, under European laws on the right to life.

Eileen O'Hara, 72, from Whiteinch in Glasgow, died in May 2003 after receiving a number of blood transfusions for an earlier illness.

That October, Rev David Charles Black, from Stirling, who received contaminated blood products when treated for haemophilia, also died and a post-mortem exam found his liver damaged by Hepatitis C.

They were among an estimated 4000 Scots infected by contaminated blood after 1980.

But calls from the families of both victims for a Fatal Accident Inquiry were rejected by the Lord Advocate and then Health Minister Andy Kerr.

Mrs O'Hara's daughter, Rosaleen, and Mr Black's wife, Jean, took a petition to the Court of Session.

And in his findings published today, Lord Mackay said: "I have held that the actions of the respondents to date have not been compatible with the obligations of the United Kingdom under Article 2."

Lawyer Frank Maguire, of Thompsons solicitors in Glasgow, said: "Lord Mackay has found the decision amounted was an error in law and a breach of the European Convention of Human Rights. There must now be a full public inquiry led by a senior judge."

Lord Mackay held off ordering an FAI after the Scottish Government promised some form of inquiry, although details of that are not yet known.

First New Drug Therapy in 30 Years Offers Hope to Liver Cancer Patients

<http://www.newswire.ca>

NEXAVAR the Only Drug Therapy Proven to Significantly Improve Overall Survival

TORONTO, Feb. 4 /CNW/ - Bayer Inc. announced today that Health Canada has approved a new indication for NEXAVAR(R) (sorafenib tablets) for the treatment of patients with unresectable hepatocellular carcinoma (HCC), or liver cancer. NEXAVAR, an oral anti-cancer treatment, is the first approved drug therapy for liver cancer, and the only one shown to significantly improve overall survival in HCC patients who previously were without adequate treatment options.

"The approval of NEXAVAR in Canada for the treatment of HCC represents a major advance for this patient population," said Dr. Morris Sherman, a clinical hepatologist in Toronto and Associate Professor of Medicine. "Liver cancer is a disease that traditionally has poor patient outcomes and until now, there were no approved drug therapies for these patients, making their prognosis extremely grim. NEXAVAR is a simple, non-invasive and effective treatment for HCC, offering patients a greater chance of significantly extending their overall survival."

Health Canada's decision to approve NEXAVAR was based on positive data from the international Phase 3 placebo-controlled Sorafenib HCC Assessment Randomized Protocol (SHARP) trial, which demonstrated that NEXAVAR extended overall survival by 44 per cent in patients with HCC (HR=0.69; p=0.0006) versus placebo. In the study, median overall survival was 10.7 months in NEXAVAR-treated patients compared to 7.9 months in those taking placebo. No indication of imbalances was observed in serious adverse events between the NEXAVAR and placebo-treated groups, with the most commonly observed adverse events in patients receiving NEXAVAR being diarrhea and hand-foot skin reaction.

"When I was told I had liver cancer and that it had progressed to a stage where chemotherapy was no longer an option, I was devastated," said Wally Wasylyk of Craven, Saskatchewan. "After 16 months of taking NEXAVAR in a clinical study, my cancer is in remission and I now have a second chance at life."

About Liver Cancer

Hepatocellular carcinoma is the most common form of liver cancer and is responsible for approximately 90 per cent of the primary malignant liver tumours in adults(1)(2). It is the fifth most common cancer in the world(3) and the third leading cause of cancer-related deaths globally(4). Incidence of and mortality rates for liver cancer in Canada are on the rise, and for 2007, it is estimated that there will be approximately 1,350 newly diagnosed cases of liver cancer, an estimated half of which will be fatal(5)(6). Liver cancer is more prevalent in men than women, with 1,040 new diagnoses in men, compared to 310 in women(7).

"During the 30 years that HCC has been recognized as a form of cancer, there has never been an approved drug treatment that improves survival for patients suffering from this devastating disease," said Dr. Shurjeel Choudhri, senior vice president, head of Medical and Scientific Affairs, Bayer HealthCare Pharmaceuticals. "This indication for NEXAVAR in Canada, within two years of the drug's original approval for kidney cancer, demonstrates Bayer's commitment to expediting the clinical development of innovative therapies."

About NEXAVAR

NEXAVAR targets both the tumour cell and tumour vasculature and is the only oral multi-kinase inhibitor that does not require liver cancer patients to interrupt their treatment schedule. In preclinical studies, NEXAVAR has been shown to target members of two classes of kinases known to be involved in both cell proliferation (growth) and angiogenesis (growth of new blood vessels) - two important processes that enable cancer growth. NEXAVAR works by slowing tumour growth and by cutting off the blood supply to the tumour (angiogenesis). NEXAVAR acts on proteins called kinases which include RAF kinase, VEGFR-2, VEGFR-3, PDGFR-ss, KIT, FLT-3 and RET.

NEXAVAR is also currently approved in more than 60 countries, including Canada, the United States and in the European Union, for the treatment of patients with advanced kidney cancer. In 2006, Therapeutic Products Directorate of Health Canada (TPD) granted a Notice of Compliance with Conditions (NOC/c) for NEXAVAR for treatment of patients with locally advanced / metastatic renal cell (clear cell) carcinoma, who have failed prior cytokine therapy or considered unsuitable for such therapy. This authorization reflects the promising nature of the clinical evidence which will require additional confirmatory data. Products approved under Health Canada's NOC/c policy have demonstrated promising benefit, are of high quality and possess an acceptable safety profile based on a benefit/risk assessment for the approved use.

Currently, NEXAVAR is funded for primary liver cancer in British Columbia and Quebec on a patient by patient basis. In Ontario, NEXAVAR has been denied rapid review. It is now under review by the Joint Oncology Drug Review (JODR) managed by Ontario. Bayer has also submitted applications to all other provincial government authorities through the JODR Process.

Important Safety Considerations for Canadian Patients Taking NEXAVAR

Based on the currently approved product monograph for the treatment of patients with HCC and locally advanced/metastatic kidney cancer (renal cell carcinoma or RCC), hypertension may occur early in the course of therapy and blood pressure should be monitored weekly during the first six weeks of therapy and treated as needed. In the pivotal liver cancer study, incidence of bleeding regardless of causality was reported in 18 per cent of NEXAVAR treated patients and 20 per cent of placebo patients. Incidence of cardiac ischemia/infarction was 2.7 per cent for NEXAVAR and 1.3 per cent for placebo. CTCAE Grade 3 adverse events were reported in 39 per cent of patients receiving NEXAVAR compared to 24% of patients receiving placebo. CTCAE Grade 4 adverse events were reported in 6 per cent of patients receiving NEXAVAR compared to 8 per cent of patients receiving placebo. Overall, the most common adverse events ((greater than or equal to)20 per cent) which were considered to be related to NEXAVAR in patients with HCC or RCC are fatigue, weight loss, rash/desquamation, hand-foot skin reaction, alopecia, diarrhea, anorexia, nausea, and abdominal pain.

In the kidney cancer studies, incidence of bleeding regardless of causality was 15 per cent for NEXAVAR versus 8 per cent for placebo and the incidence of treatment-emergent cardiac ischemia/infarction was 2.9 per cent for NEXAVAR versus 0.4 per cent for placebo. Most common treatment-emergent adverse events with NEXAVAR were diarrhea, rash/desquamation, fatigue, hand-foot skin reaction, alopecia, and nausea. Grade 3/4 adverse events were 38 per cent for NEXAVAR versus 28 per cent for placebo. Women of child-bearing potential should be advised to avoid becoming pregnant and women with infants should be advised against breast-feeding. In cases of any severe or persistent side effects, temporary treatment interruption, dose modification or permanent discontinuation should be considered.

NEXAVAR has not been studied in patients who have severe kidney problems (in addition to kidney cancer) or severe liver problems. Of note, possible serious side-effects with NEXAVAR include high blood pressure, bleeding, heart attack and gastrointestinal (bowel) perforation. For Canadian NEXAVAR prescribing information, visit www.bayerhealth.com or call 1-800-265-7382.

About Bayer Inc.

Bayer Inc. (Bayer) is a Canadian subsidiary of Bayer AG, an international research-based group with core businesses in health care, crop science, and innovative materials. Headquartered in Toronto, Ontario, Bayer Inc. operates the Bayer Group's HealthCare and MaterialScience businesses in Canada. Bayer CropScience Inc., headquartered in Calgary, Alberta operates as a separate legal entity in Canada. Together, the companies play a vital role in improving the quality of life for Canadians - producing products that fight diseases, protecting crops and animals, and developing high-performance materials for applications in numerous areas of daily life. Canadian Bayer facilities include the Toronto headquarters and offices in Ottawa and Calgary. Bayer Inc. has approximately 1,000 employees across Canada and had sales of over \$910 million CDN in 2006. Globally, the Bayer Group had sales of over 28 billion Euro in 2006. Bayer Inc. invested approximately \$47 million CDN in research and development in 2006. Worldwide, the Bayer Group spends the equivalent of over 2 billion Euro in 2006 in R&D.

Forward-Looking Statements

This news release contains forward-looking statements based on current assumptions and forecasts made by Bayer Group management. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in our annual and interim reports filed with the Frankfurt Stock Exchange. The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

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CROI: Recurrent hepatitis C in HIV-positive gay men: relapse or reinfection?

www.aidsmap.com

Liz Highleyman & Edwin J. Bernard

Genetic analysis suggests that HIV-positive gay men in London are being re-infected with sexually transmitted hepatitis C virus rather than experiencing relapse after treatment, according to a presentation at the Fifteenth Conference on Retroviruses and Opportunistic Infections in Boston on Monday.

There have been several outbreaks of apparently sexually transmitted hepatitis C infection amongst mostly HIV-positive men who have sex with men reported since the early 2000s. The largest epidemic is centred in the south of England (London and Brighton), but smaller clusters have also been seen in other major northern European cities, including Amsterdam, Paris, and several cities in Germany, as well as in Australia.

It is thought that men who have already been diagnosed as HIV-positive and have frequent, unprotected or 'hard' sex with other HIV-positive men (often in groups, and often under the influence of recreational drugs such as ketamine or GHB) are most at risk of acquiring hepatitis C via sex.

However, data from Brighton presented at last year's Retrovirus conference showed that a small number of HIV-negative gay men are being diagnosed with hepatitis C as well; this report suggested that most of these men also become HIV-positive within a short time. Further, at the 2006 conference, researchers reported a few cases of apparent sexual transmission of hepatitis C to HIV-positive heterosexual women.

In a Monday afternoon session on HIV and hepatitis C coinfection, Rachael Jones from London's Chelsea and Westminster Hospital presented a late-breaker study that examined the incidence of subsequent acute hepatitis C infection amongst HIV-positive gay men who had previously been infected with hepatitis C and who had achieved sustained response following treatment of their first acute hepatitis C infection.

The study combined data from the two largest HIV treatment centres in London – Chelsea and Westminster Hospital and the Royal Free Hospital. Of 211 HIV/hepatitis C coinfecting individuals, 16 were identified as having two or more episodes of hepatitis C infection. Unlike some diseases, hepatitis C infection does not produce a lasting immune response that can protect against subsequent reinfection.

All were HIV positive gay or bisexual men with no known history of injecting drug use. The men had been diagnosed with HIV for an average of four years (range 1 – 17 years). The average age at first H hepatitis C infection was 38 years (range 26 – 51 years) and the average CD4 cell count at that time was 476 cells/mm³, indicating well preserved immune function.

All the men had previously undergone hepatitis C treatment with pegylated interferon plus ribavirin during their first acute infection, and had achieved sustained virological response, defined as undetectable HCV viral load on at least two measurements. While sustained virological response—more typically defined as continued undetectable hepatitis C RNA six months after completion of treatment—does not indicate complete hepatitis C eradication, it is usually considered a “cure,” and relapse more than six months after finishing interferon-based therapy is uncommon.

Subsequent hepatitis C infection in these men was detected following an increase in liver enzymes (ALT) during regular HIV clinic follow-up. Eleven of the 16 men were on antiretroviral therapy for HIV therapy at the time, and the average CD4 count was 499 cells/mm³. The average duration of sustained response before subsequent detection of hepatitis C viraemia was 28 months (range 6 – 55 months).

The investigators were able to obtain amplifiable, paired hepatitis C samples (from the first and subsequent HCV episodes) from eight of the men (all hepatitis C genotype 1). They performed a phylogenetic analysis to determine the likelihood that the two samples were related and to provide information about clusters of infection.

In two of the eight men, the samples were very closely related, suggesting either late relapse or subsequent re-infection from a common source. The other six men were found to have divergent paired sequences, suggesting that they were re-infected with a second hepatitis C strain of the same genotype.

In addition, the analysis found a clustering of most of the analysed hepatitis C strains which, the researchers suggested, may mean that a small “closed population” of gay HIV-positive men are re-infecting each other after treatment.

Importantly, the investigators found that all but two of the men with suspected hepatitis C reinfection had a concurrent sexually transmitted infection—usually syphilis (ten episodes), but also gonorrhoea (six cases) and new or recurrent herpes (three cases). This finding adds weight to their assertion that the men were continuing to practice sex that put them at a high risk of acquiring HCV.

Last year, Dr Mark Nelson, of the Chelsea & Westminster told the August/September issue of AIDS Treatment Update that he had observed syphilis and lymphogranuloma venereum (LGV) in many of his patients who had acquired hepatitis C via sex, both of which, he said, “make HIV and hepatitis C transmission even more likely.”

He added that the continued sexual transmission of hepatitis C amongst HIV-positive men “underlines the importance of safer sex messages for HIV-positive men. Some men are having condomless sex because they perceive that they won’t pass on HIV to someone who already has HIV, or if they have an ‘undetectable’ viral load for HIV, they can’t pass on HIV to anyone. But it does seem they’re passing on—and getting—hepatitis C.”

Along these lines, Dr Jones suggested that healthcare providers are “failing our patients,” since they are becoming infected with hepatitis C not once, but multiple times.

Indeed, she added, after the current presentation had been prepared, the researchers learned that two of the men who had been treated for a second episode of acute hepatitis C had become reinfected (or relapsed) yet a third time.

“We need a much stronger public health information and screening program” for hepatitis C, she said.

Reference

Jones R et al. Hepatitis C viremia following sustained virological response to pegylated interferon and ribavirin in HIV+ men who have sex with men –re-infection or late relapse? Fifteenth Conference on Retroviruses and Opportunistic Infections, Boston. Abstract 61LB, 2008.

J&K Police registers case for overcharging Hepatitis-B vaccine

<http://www.outlookindia.com>

The Jammu and Kashmir Police has registered a case in connection with the alleged overcharging of people for Hepatitis-B vaccines a few years ago.

The case was registered after an enquiry revealed that Hepatitis-B vaccine was provided by Wockhardt through Cecil Pharmaceuticals, Jammu for vaccination programme in Kashmir Valley during the year 2000-2001 on exorbitant prices, a spokesman of the state police's crime branch said.

While Rs 1,000 was charged for 10 ml vial of the vaccine, the same vial was supplied by the same company during the same period to SKIMS Soura and director health services, Jammu for Rs 690 and Rs 480 respectively, the spokesman added.

February 6th, 2007

Fed: Anti-fungal Tablets Linked to Liver Deaths

<http://www.therapeuticsdaily.com>

AAP News

SYDNEY, Feb 4 AAP - Three people have died and several others have suffered serious liver reactions after taking a popular tablet to treat fungal infections, the drug regulator says. The Therapeutic Goods Administration (TGA) has issued a warning about serious adverse side effects reported with oral Lamisil, a pill formulation for ringworm and nail fungal problems. The medication is commonly prescribed to people who do not respond to topical fungal creams, but the regulator's Adverse Drug Reactions Advisory Committee (ADRAC) warns it can cause liver failure. The committee has received 722 adverse event reports related to **Lamisil**, known generically as **terbinafine**, including 70 liver reactions, 61 implicating the tablet form as the sole suspected drug.

Those affected ranged from 20 to 85 years old, with half suffering their liver reaction within the first month of taking the pills. "Most of the reports document minor abnormalities of liver

function but three describe fatal liver failure, 10 describe hepatitis, and 12 describe jaundice," the committee's latest drug reactions bulletin states. "Full recovery was noted in 27 reports but 34 cases had not recovered and the outcome remained unknown in nine."

One case described in the bulletin involved an 81-year-old woman with previously normal liver function. "(She) developed cholestatic hepatitis some three weeks after commencing oral terbinafine treatment 250mg daily for a fungal infection of the big toe," according to the bulletin. "The patient subsequently died in hepatorenal (liver) failure." This is the first ADRAC report linking Lamisil to liver dysfunction, but three others dating as back as far as 1996 have implicated the drug in the blood condition dyscrasia. The committee warned prescribers that the oral formulation should only be prescribed short-term and as a last resort. "Doctors prescribing oral terbinafine should be confident there is a clear indication for its use," the bulletin states. "Oral terbinafine should be prescribed only after topical therapy has failed and for the shortest time possible, in accordance with the current product information."

A spokesman for the drug's manufacturer, Novartis, said that serious and life-threatening liver reactions were rare and well documented side-effects of oral anti-fungal medications. The company said it agreed with the advice issued by ADRAC. Meanwhile, the committee also received 12 reports of reactions in patients taking both the blood-thinning drug warfarin and anti-arthritis supplement glucosamine. It appeared some complementary medications could increase the activity of warfarin, the bulletin stated. The committee recommended that patients on warfarin have their blood tested within a few days of starting or changing the dose of a complementary medicine. AAP tam/wf/bwl

Liver Fat Increased in Type 2 Diabetes

www.medscape.com

NEW YORK (Reuters Health) Jan 25 - Patients with type 2 diabetes have substantially more fat in their livers than nondiabetics of the same weight, investigators in Finland report. However, liver enzyme levels underestimate liver fat content in diabetics.

"It is important to develop tools to diagnose a fatty liver in type 2 diabetic patients because nonalcoholic steatohepatitis is more common in type 2 diabetic patients than in nondiabetic subjects and can progress to cirrhosis and liver failure," Dr. Anna Kotronen and colleagues write in the January issue of *Diabetes Care*.

Knowledge of a patient's liver fat content is also an important parameter to consider when making treatment choices, they add.

Dr. Kotronen at the University of Helsinki and colleagues studied 70 patients with type 2 diabetes and 70 nondiabetic subjects matched for body mass index, age, and sex. Liver fat content was measured using proton magnetic resonance spectroscopy and body composition was measured using magnetic resonance imaging.

Liver fat content was about 80% higher in the diabetics (mean 13% vs 7.3%, $p = .005$), with the discrepancy between groups widening with increasing obesity, irrespective of antihyperglycemic

therapy.

"An intriguing observation in the present study was that the type 2 diabetic patients had 40-200% more liver fat at the same serum alanine aminotransferase and serum aspartate aminotransferase concentrations than the nondiabetic subjects."

"Thus," say the authors, "there is a need to develop new serum markers of steatosis."

Diabetes Care 2008;31:165-169.

Getting under the skin of HIV, hep C

<http://www.news-medical.net>

Medical Research News

The University of New South Wales (UNSW) is working towards a new approach to treat people with HIV/AIDS, with a drug which has already shown promise in the laboratory.

UNSW has been awarded the largest Australian grant in its history, receiving \$17.7 million in funding to advance understanding of both HIV and hepatitis C.

The funding, from the National Health and Medical Research Council (NH&MRC), was one of only four program grants announced by the Minister for Health and Ageing, Nicola Roxon, this week.

Professor David Cooper from UNSW's National Centre in HIV Epidemiology and Clinical Research (NCHECR) will lead a nine person team combining researchers with skills in virology and immunology with those who have expertise in translating findings in the laboratory into human clinical trials.

"One component of the grant will examine novel immune-based therapeutic approaches to treat those with HIV/AIDS," said Associate Professor Greg Dore, who is head of Viral Hepatitis Clinical Research Program at NCHECR.

"This departs from the current approach, which involves anti-viral drugs.

"Proof of principle has already been carried out in animals and while it is early days yet, it is promising for those with the disease," he said.

<http://www.unsw.edu.au>

CROI: Sustained response to hepatitis C treatment lowers liver complications and death in HIV/HCV coinfecting people

www.aidsmap.com

Liz Highleyman & Michael Carter

HIV/HCV coinfecting people who achieve sustained response to hepatitis C treatment have a decreased long-term risk of liver-related complications and death, researchers reported Monday at the Fifteenth Conference on Retroviruses and Opportunistic Infections in Boston.

HIV positive people with chronic hepatitis C tend to experience more rapid liver disease progression than individuals infected with only hepatitis C virus (HCV). Amongst hepatitis C mono-infected patients, it has been shown that achievement of sustained virological response (SVR), or continued undetectable HCV viral load six months after completing hepatitis C treatment, reduces liver disease progression. But little is known about the long-term benefits of treatment response in coinfecting individuals.

Investigators with the GESIDA 3603 Study Group conducted a long-term analysis of 711 HIV-positive patients at eleven clinical centres in Spain who were treated for chronic hepatitis C between January 2000 and December 2005. Most study participants (72%) were men, the median age was 41 years, 80% had a history of injecting drug use, and 2% were triply infected with hepatitis B.

Just under one-third (63%) had HCV genotypes 1 or 4 and 39% had advanced liver fibrosis (Metavir stage F3-F4) pre-treatment. The participants in general had well controlled HIV. Most (80%) were on combination antiretroviral therapy, the CD4 cell count was 544 cells/mm³, and 52% had HIV viral load under 50 copies/ml; about one-fifth, however, had AIDS.

Most participants had been treated with pegylated interferon (44% with alfa-2a or Pegasys, 38% with alfa-2b or PegIntron) plus ribavirin, though 18% had received conventional (non-pegylated) interferon plus ribavirin.

Overall, 31% of patients achieved sustained virological response to interferon-based therapy, but rates differed by type of HCV: 14% for genotypes 1 and 4 vs. 46% for genotypes 2 and 3. Factors associated with SVR were presence of genotypes 2 or 3, higher nadir (lowest-ever) CD4 cell count, and lower HCV viral load. Both patients who did not respond initially and those who relapsed during or after completion of treatment were classified as non-responders.

Sustained responders and non-responders were followed every six months after completion of treatment, for a median duration of about 20 months, so that the investigators could determine the effect of SVR on outcomes including liver disease, HIV disease progression, liver-related death, and death due to all causes.

After adjusting for various factors associated with an increased risk of death, including AIDS and baseline liver cirrhosis, the investigators found that patients who achieved sustained virological response were significantly less likely than non-responders to develop liver cancer, to progress to decompensated liver disease (abdominal fluid accumulation, upper gastrointestinal bleeding, or hepatic encephalopathy), or to require a liver transplant. None of the sustained responders developed liver cancer or needed a transplant. Looking at all liver-related events together, the non-responders had nearly a nine-fold higher risk compared with sustained responders (hazard ratio 8.92).

Unsurprisingly, patients who achieved a sustained treatment response also had a significantly

lower rate of liver-related death. Furthermore, successful anti-hepatitis C treatment was also associated with significantly lower mortality due to all causes. However, there was no difference in new AIDS-defining events between patients who achieved SVR and those who did not.

Event	Rate per 100 person-years		P value
	SVR group	Non-responders	
Death due to any cause	0.46	3.12	0.003
Liver-related death	0.23	1.65	0.028
Liver decompensation	0.23	4.33	<0.001
Liver cancer	0	0.83	0.099
Liver transplantation	0	1.02	0.034
New AIDS conditions	0.23	0.93	0.144

“Our results suggest that the achievement of a sustained virological response after interferon-ribavirin therapy in HIV/HCV-positive patients reduces liver-related complications and mortality”, the investigators concluded.

Reference

Berenguer J et al. Sustained virological response to interferon plus ribavirin reduces liver-related complications and mortality in HIV/HCV co-infected patients. Fifteenth Conference on Retroviruses and Opportunistic Infections, Boston, oral abstract 60, 2008.

Roche and Pharmasset To Present the R7128 Monotherapy Resistance Profile

<http://biz.yahoo.com>

-- Study concludes there was no evidence of the development of viral resistance to R7128 after 2 weeks of monotherapy in hepatitis C patients --

PRINCETON, N.J., Feb. 6 /PRNewswire-FirstCall/ -- Pharmasset (Nasdaq: VRUS - News) and Roche will present the **R7128** monotherapy resistance profile at the EASL-AASLD-APASL-ALEH-IASL Conference on Hepatitis B & C Virus Resistance to Antiviral Therapies being held in Paris, France from February 14-16, 2008. The scientific abstract for poster board no. 36, entitled "Lack of Viral Resistance after 14-day Monotherapy Treatment with R7128 in Treatment-experienced Patients Infected with HCV Genotype 1," is currently available on the conference website at <http://www.easl.ch/hepatitis-conference/program/session1.asp>. The poster presentation will be available for download in PDF format after it is presented on February 14, 2008 in the "Events & Presentations" section of Pharmasset's website at <http://investor.pharmasset.com/events.cfm>.

About R7128

R7128 is being developed for the treatment of chronic HCV infection through Pharmasset's collaboration with Roche. R7128 is a prodrug of PSI-6130, a nucleoside analog inhibitor of HCV RNA polymerase. A prodrug is a chemically modified form of a molecule designed to enhance the absorption, distribution and metabolic properties of that molecule.

In a Phase 1 clinical trial, R7128 demonstrated potent, dose-dependent antiviral activity across four patient cohorts (n=40) receiving 750mg or 1500mg administered either once-daily or twice-daily for 2 weeks as monotherapy. The greatest mean decrease in HCV RNA from baseline was observed in the patient cohort that received 1500mg twice-daily, the highest dose of R7128 administered in the study. These patients experienced a mean 2.7 log₁₀ IU/mL (>99%) decrease in HCV RNA. There was no evidence of the selection of PSI-6130 resistant virus in any dose cohort during the 2 weeks of dosing.

The preliminary results of a 4 week Phase 1 clinical trial to evaluate two oral dose levels of R7128 in combination with Pegasys® (pegylated interferon) plus Copegus® (ribavirin) in 50 treatment-naïve patients chronically infected with HCV genotype 1 demonstrated potent short-term antiviral activity. Eighty-five (85%) of patients receiving R7128 1500mg and Pegasys plus Copegus (n=20) achieved undetectable HCV RNA levels following 4 weeks of treatment, or rapid virologic response. The R7128 combination cohorts demonstrated safety and tolerability comparable to placebo with Pegasys plus Copegus.

About Pharmasset

Pharmasset is a clinical-stage pharmaceutical company committed to discovering, developing and commercializing novel drugs to treat viral infections. Pharmasset's primary focus is on the development of oral therapeutics for the treatment of hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV).

Pharmasset is currently developing three product candidates. Clevudine, for the treatment of chronic HBV infection, is enrolling Phase 3 clinical trials for registration in North, Central and South America and Europe. Clevudine is already approved for HBV in South Korea and marketed by Bukwang Pharmaceuticals in South Korea under the brand name Levovir. R7128, an oral treatment for chronic HCV infection, is in a 4-week Phase 1 clinical trial in combination with Pegasys plus Copegus through a strategic collaboration with Roche. Racivir, which is being developed for the treatment of HIV in combination with other approved HIV drugs, has completed a Phase 2 clinical trial.

Pegasys® and Copegus® are registered trademarks of Roche.

Forward-Looking Statements

Pharmasset "Safe Harbor" Statement under the Private Securities Litigation Reform Act of 1995: Statements in this press release regarding our business that are not historical facts are "forward-looking statements" that involve risks and uncertainties, including without limitation the risk that we will fail to present the monotherapy resistance profile of R7128, the risk that we will fail to release final safety and efficacy data from a Phase 1, Part 3 combination study of R7128 with Pegasys plus Copegus or that such final data will not corroborate our preliminary results, the risk that adverse events could cause the cessation of clinical studies and/or the development of any of our product candidates, the risk that our collaboration with Roche will not continue or will not be

successful and the risk that any one or more of our product candidates will not be successfully developed and commercialized. For a discussion of these risks and uncertainties, any of which could cause our actual results to differ from those contained in the forward-looking statements, see the section of our Annual Report on Form 10-K for the fiscal year ended September 30, 2007 filed with the Securities and Exchange Commission entitled "Risk Factors" and discussions of potential risks and uncertainties in our subsequent filings with the Securities and Exchange Commission.

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Source: Pharmasset, Inc.

February 7th, 2007

Intercell says Phase II of Hep C vaccine shows average 60 pct viral reduction

www.forbes.com

VIENNA (Thomson Financial) - Austrian pharma company Intercell AG said the analysis of Phase II data for its therapeutic Hepatitis C vaccine (**IC41**) has displayed a significant viral load reduction of an average of 60 pct.

'The new additional data obtained from our Phase II study have confirmed and consolidated the encouraging trend seen in our interim analysis and will accelerate our efforts towards obtaining an HCV therapeutic vaccine,' said chief scientific officer Alexander von Gabain in a statement.

The study is being conducted on 50 patients chronically infected with the Genotype 1 strain of the virus who have not received any other therapy, Intercell said.

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New bid for hepatitis C vaccine

<http://news.theage.com.au>

Adelaide scientists will lead a \$2 million research project to develop new vaccines to treat hepatitis C.

The program hopes to identify antiviral proteins that can be used to fight the disease.

With more than 170 million people around the world infected with hepatitis C, University of Adelaide virologist Michael Beard said an effective vaccine was one of the world's global health

priorities.

Current treatment is expensive and often causes severe side effects with a success rate of between 50 and 80 per cent.

"In Australia, more than 264,000 people have been infected with the hepatitis C virus and there are approximately 10,000 new infections per year," Dr Beard said.

"A proportion of these are intravenous drug users, with alcohol playing a significant role in disease progression."

Dr Beard said the new research program would bring together a team of researchers with skills in basic virology and immunology with experts to could translate laboratory findings into human clinical trials.

OctoPlus to begin Phase IIa study of hepatitis C drug Locteron in US **UPDATE**

www.forbes.com

AMSTERDAM (Thomson Financial) - Octoplus said it is to begin Phase IIa studies of its **Locteron** drug, used to treat chronic hepatitis C, in the US.

The Dutch biotech company said the study will expand on the 'favorable results' of its recently completed Phase IIa study in Europe.

The study will evaluate up to 56 patients with chronic hepatitis C, and look at safety, tolerability, pharmacokinetics and viral kinetics issues, the company said.

OctoPlus added that it plans to commence Phase IIb trial with partner Biolex Therapeutics in the fourth quarter of 2008.

The 12-week results of the Phase IIb trial will be used as the basis for dose selection for the commencement of the Phase III development program.

In response, Fortis (other-otc: FORSY.PK - news - people) analyst Kenn Daniel estimated that it will take OctoPlus up until 2014 at the latest before it can bring Locteron to the market, if its development proves successful.

He said the market could be 5-8 bln eur in size with five-six products by that time, but warned that if a vaccine is discovered first, the market for treatments could decline to zero.

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New Hep C move fails to tackle bureaucracy'

<http://www.irishmedicalnews.ie>

Representative groups say the entry of a new approved insurer for the Hepatitis C Insurance Scheme does nothing to address the problems its members have in accessing the scheme. The HSE has announced the participation of Bank of Ireland Life in the Hepatitis C Insurance Scheme as an "Approved Insurer".

It means the company will be able to offer its life insurance and mortgage protection insurance products to people infected with Hepatitis C and/or HIV through the administration within the State of contaminated blood or blood products. Bank of Ireland Life is the second company to become involved in the HSE's specialised insurance scheme, which has been available to eligible participants since Sep-tember.

While Transfusion Positive welcomes the presence of an additional insurer for providing competition in the market, it says it fails to tackle bureaucratic problems with the scheme.

"We still have a big problem with the bureaucracy people have to go through to access the scheme," said Ms Maura Long, Chairperson of Transfusion Positive. "It places unreasonable demands on our members, particularly the self-employed."

The group takes issue with the demands placed on claimants looking for a policy over €125,000.

Under the scheme, self-employed people must produce a copy of the tax return/balancing statement, annual audited accounts, where applicable, for the most recent income tax year, supported by a declaration from the claimant's accountant/ registered auditor setting out the expected level of earned income for the current tax year.

Transfusion Positive says the need for audited accounts is unreasonable and that a balancing statement should suffice.

PAYE workers must produce a P60 Income Tax Certificate, for the most recent full income tax year; a certificate of earnings along with a declaration as to whether the employment is temporary or permanent in nature, completed by the employer; and supported by copies of recent payslips.

So far almost 300 eligible applicants have been approved for participation in the scheme.

Ms Long does not believe this is a high figure given that there are over 16,000 State-infected patients with the disease in Ireland.

"We know of many people who want to use the scheme but can't because of the bureaucracy involved," she said. Ms Long claimed the HSE was unwilling to debate the issue.

In a previous statement to IMN, the HSE said the Department of Health and the Executive are

working with those involved to deal with the difficulties they have.

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California Bill Aims To Boost Culturally Appropriate Hepatitis B Prevention, Management, Expand Medicaid Coverage For Disease

<http://www.medicalnewstoday.com>

The California Assembly on Jan. 29 voted 46-16 to approve legislation (AB 158) that would require the state Department of Health Care Services to set up the Hepatitis B Prevention and Management Pilot Program Fund within the Office of Multicultural Health, *Asian Week* reports. The program would give grants to public and not-for-profit groups in Los Angeles and the Bay Area that have culturally and language-appropriate hepatitis B public awareness campaigns.

In addition, the bill would expand Medicaid coverage to people with chronic hepatitis B who are not yet disabled. According to *Asian Week*, people with chronic hepatitis currently are only eligible for Medicaid coverage if they are considered disabled by the disease (*Swing, Asian Week*, 2/6).

According to CDC, Asian-Americans die from hepatitis B-related illnesses, such as liver cancer and cirrhosis, at a rate seven times greater than whites. According to the Asian Liver Center at Stanford University, chronic hepatitis B affects 0.3% of the U.S. population, though more than 50%, or about 700,000 people, of those with hepatitis B are Asian (*Kaiser Health Disparities Report*, 5/17/07).

The bill is now under consideration in the Senate (*Asian Week*, 2/6).

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Clinical Experience With Peregrine's Anti-Cancer Agent Bavituximab Presented at Leading Symposium on Anti-Angiogenic Agents

<http://biz.yahoo.com>

- Researcher Participating in Bavituximab U.S. Cancer Trial Presents Data on Novel Anti-PS Monoclonal Antibody to Anti-Angiogenesis Experts -

TUSTIN, Calif., Feb. 8 /PRNewswire-FirstCall/ -- Peregrine Pharmaceuticals, Inc. (Nasdaq: PPHM - News), a clinical stage biopharmaceutical company developing monoclonal antibodies for the treatment of cancer and hepatitis C virus infection (HCV), today reported that clinical data on its anti-phosphatidylserine (anti-PS) monoclonal antibody **bavituximab** was discussed at the 10th Annual International Symposium on Anti-Angiogenic Agents (Angio 2008) in La Jolla, CA.

Bavituximab is a monoclonal antibody that binds to a phospholipid called phosphatidylserine that is usually located inside normal cells, but which becomes exposed on the outside of the cells that line the blood vessels of tumors, creating a specific target for anti-cancer treatments. Peregrine recently initiated its Phase II clinical cancer program for bavituximab.

Alison T. Stopeck, M.D., associate professor of medicine, Department of Medicine, Cancer Center Division at the University of Arizona College of Medicine in Tucson, and team leader of the Breast Cancer Team, Arizona Cancer Center, presented clinical data on bavituximab as part of an Angio 2008 Symposium panel. Dr. Stopeck is an investigator in an ongoing Phase I study that is assessing bavituximab as monotherapy in patients with advanced solid cancers. She also discussed data from a Phase Ib combination therapy cancer trial that was completed last year and from two Phase I clinical trials testing bavituximab in patients with chronic hepatitis C virus infections.

"Bavituximab has a unique anti-vascular mechanism of action and early trials of its use in more than 80 patients as a single agent and in combination therapy cancer studies, and as monotherapy in patients with HCV, have demonstrated a predictable and acceptable safety profile that is consistent with preclinical predictions," said Dr. Stopeck. "I look forward to helping to advance the clinical program for this novel approach to cancer therapy."

Bavituximab is believed to help mobilize the body's immune system to destroy the blood vessels needed for tumor growth and spread. Preclinical studies have shown that bavituximab's PS target is upregulated by radiation and chemotherapy, suggesting that anti-PS agents are good candidates for use as part of combination therapy regimens. The approach has demonstrated encouraging anti-tumor activity as part of combination therapy regimens in a number of solid tumor models.

"We are delighted that Dr. Stopeck is presenting early clinical data on bavituximab at this important scientific meeting," said Steven W. King, president and CEO of Peregrine. "As we move to assess bavituximab in Phase II efficacy trials, we are eager to share with the broader scientific and medical communities the growing body of data supporting the positive safety profile and signs of anti-tumor and anti-viral effects demonstrated by this exciting new class of drugs in both single agent and combination therapy studies."

In a Phase Ib pilot trial in advanced cancer patients, bavituximab plus chemotherapy appeared to have a safety profile consistent with chemotherapy alone and showed positive signs of clinical activity in a number of tumor types, achieving objective response or disease stabilization in 50% of the evaluable patients. Peregrine recently received regulatory approval to conduct three Phase II trials to study the anti-tumor effects of bavituximab in combination with chemotherapy. These include two breast cancer protocols and a non-small cell lung cancer (NSCLC) protocol. One of the breast cancer trials has begun enrolling patients and the two other trials are expected to begin soon. Bavituximab is also in clinical trials in the U.S. in patients co-infected with HCV and HIV.

Dr. Stopeck's presentation, "Phase I Clinical Studies of the Anti-Tumor Vasculature Antibody, Bavituximab," is part of the Angio 2008 session on Early Drug Development/Clinical Trial Results being held from 8:00 am to 12:00 pm PST at the 10th Annual International Symposium on Anti-Angiogenic Agents at the Hyatt Regency Hotel in La Jolla, CA.

About Peregrine Pharmaceuticals

Peregrine Pharmaceuticals, Inc. is a biopharmaceutical company with a portfolio of innovative product candidates in clinical trials for the treatment of cancer and hepatitis C virus (HCV) infection. The company is pursuing three separate clinical programs in cancer and HCV infection with its lead product candidates baviximab and Cotara®. Peregrine also has in-house manufacturing capabilities through its wholly owned subsidiary Avid Bioservices, Inc. (<http://www.avidbio.com>), which provides development and bio-manufacturing services for both Peregrine and outside customers. Additional information about Peregrine can be found at <http://www.peregrineinc.com>.

Source: Peregrine Pharmaceuticals, Inc.

InterMune Shares Dip on Study Data Plan

<http://biz.yahoo.com>

InterMune Shares Fall on Plans to Withhold Hepatitis C Study Data for an Additional Quarter

NEW YORK (AP) -- Shares of InterMune Inc. fell Friday after the biotechnology company said it will postpone releasing early-stage study results on its experimental hepatitis C drug. The stock fell 99 cents, or 6 percent, to \$15.39. Shares have traded between \$12.83 and \$35.35 over the past 52 weeks.

The company said it will wait until it has results from an additional group within the Phase 1b clinical trial of **ITMN-191** in order to release the full study results. The data is now scheduled for release in the second quarter instead of the first quarter.

"We urge investors not to read anything suspicious in this delay," Wachovia Capital Markets analyst George Farmer said in a note to investors.

He added that the company is already indicating that there are no safety issues and the trial seems to be achieving its main goal. He reaffirmed a "Outperform" rating with a \$26 to \$29 valuation range.

Analysts are taking varied stances on the company's pipeline outlook, which includes ITMN-191 and pirfenidone as a treatment for the lung-scarring condition pulmonary fibrosis. Jefferies & Co. analyst Eun Yang reaffirmed a "Hold" rating with a \$14 price target, saying the risks for the company currently outweigh possible rewards. She said competitive concerns could weigh down the stock and pirfenidone is a high-risk product.

Oppenheimer & Co. analyst Dr. Brian Abrahams reaffirmed a "Outperform" rating with a \$33 price target and said ITMN-191 has strong potential to become a twice-a-day treatment.

Meanwhile, the company reported a fourth-quarter loss of \$25.8 million, or 66 cents per share, compared with a loss of \$21.5 million, or 64 cents per share, during the same period a year prior. Revenue fell to \$9.6 million from \$19.8 million.

Analysts polled by Thomson Financial expected a loss of 73 cents per share.

The company said slower off-label use of Actimmune for the lung-scarring condition idiopathic pulmonary fibrosis accounted for the revenue slide. The drug is approved only to treat an immune system disorder and a severe form of the bone disease osteoporosis.

It would be a violation of Food and Drug Administration rules to promote a drug as a treatment for which it is not approved, and InterMune said hasn't been pushing the off-label use for pulmonary fibrosis. The company ended a late-stage study of Actimmune as a treatment for the lung-scarring condition in March.

For the full year, the company lost \$89.5 million, or \$2.52 per share, compared with a loss of \$107.2 million, or \$3.22 per share, in 2006. Revenue fell to \$66.7 million from \$90.8 million.

Scientists confirm new virus responsible for deaths of transplant recipients in Australia

<http://www.eurekalert.org>

Establishes high throughput genetic sequencing as powerful tool for pathogen discovery; technology enables improvements in screening for transplant safety

February 6, 2008 – In the first application of high throughput DNA sequencing technology to investigate an infectious disease outbreak, scientists from Columbia University Mailman School of Public Health, the Victorian Infectious Diseases Reference Laboratory (VIRDL) in Melbourne, Australia, the Centers for Disease Control and 454 Life Sciences link the discovery of a new arenavirus to the deaths of three transplant recipients who received organs from a single donor in Victoria, Australia in April 2007. The full findings are published in the March 2008 issue of the *New England Journal of Medicine* and are now online.

After failing to implicate an agent using other methods including culture, PCR and viral microarrays, RNA from the transplanted liver and kidneys was analyzed using rapid sequencing technology established by 454 Life Sciences and bioinformatics algorithms developed at Columbia. Examination of tens or thousands of sequences yielded 14 that resembled arenaviruses at the protein level. Thereafter, the team cultured the virus, characterized it by electron microscopy and developed specific molecular and antibody assays for infection. The presence of virus in multiple organs, IgM antibodies in the organ donor and increasing titer of antibody in a recipient were used to implicate the virus as the cause of disease. The arenavirus lymphocytic choriomeningitis virus (LCMV) has been implicated in a small number of cases of disease transmission by organ transplantation, however, the newly discovered virus, which may be a new strain of LCMV, is sufficiently different that it could not be detected using existing screening methods.

“High throughput sequencing and methods for cloning nucleic acids of microbial agents directly from clinical samples offer powerful tools for pathogen surveillance and discovery,” stated W. Ian Lipkin, MD, John Snow Professor of Epidemiology and Professor of Neurology and Pathology at Columbia University and director of the Center for Infection and Immunity at the

Mailman School of Public Health. He added, “As globalization of travel and trade brings new infectious agents into new contexts, speed and accuracy of pathogen identification are increasingly important when it can alter treatment, assist in containment of an outbreak, or, as in this case, enable improvements in screening that will enhance the safety of transplantation.”

Last spring, scientists from the Victorian Infectious Disease Reference Laboratory contacted Dr. Lipkin after their initial state-of-the-art investigation into the cause of the transplant patient deaths failed to turn up leads. Dr. Lipkin and his team built on their work, utilizing tools for pathogen surveillance and discovery developed at Columbia and 454 Life Sciences.

“The small pieces of viral genetic material recovered through this powerful high throughput sequencing method were used to design specific tests for detecting the virus in clinical samples and enabling detailed characterization.” said Gustavo Palacios, PhD, first author of the paper and assistant professor in the Center for Infection and Immunity at the Mailman School. Surveys at Columbia and the VIRDL revealed that viral RNA was present in a total of 22 out of 30 samples of tissue, blood, or cerebrospinal fluid from all three recipients, and the sequencing was identical in all samples, which is consistent with the introduction of a single virus into all transplant recipients. PCR surveys of other stored plasma specimens from solid organ transplant recipients in the same city and timeframe not linked to the cluster, revealed no evidence of infection with this pathogen. Sherif Zaki and colleagues at the CDC demonstrated the presence of the viral proteins in organs of recipients using antibodies to LCMV, and provided the first pictures of the virus by electron microscopy.

Dr. Lipkin and his team have demonstrated that this technology can be employed to address a wide variety of suspected infectious disease outbreaks. Examples of the successful application of molecular technologies in infectious diseases include the identification of Borna disease virus, Hepatitis C virus, West Nile virus, and SARS coronavirus, among others.

The National Institute of Allergy and Infectious Diseases and the National Heart Lung Blood Institute provided support for this work.

About the Mailman School of Public Health

The only accredited school of public health in New York City, and among the first in the nation, Columbia University's Mailman School of Public Health provides instruction and research opportunities to more than 1000 graduate students in pursuit of masters and doctoral degrees. Its students and more than 300 multi-disciplinary faculty engage in research and service in the city, nation, and around the world, concentrating on biostatistics, environmental health sciences, epidemiology, health policy and management, population and family health, and sociomedical sciences. www.mailman.hs.columbia.edu