

HCV ADVOCATE WEEKLY NEWS REVIEW

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

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Sep 27, 2008

Kate Hughes: Why hep C sufferers need a fair deal

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

If people with HIV/Aids were faced with ignorant and inconsistent treatment by the protection industry, there would be uproar. The word "discrimination" would be hurled about – and fair enough. Thankfully, the way HIV-positive life assurance customers are treated has improved greatly over the past few years, with much more effective guidelines and regulations enforced among protection providers.

But a report seen exclusively by The Independent indicates that sufferers from the disease hepatitis C – about 500,000 in the UK, far more than the 70,000 or so living with HIV/Aids – face ill-informed companies who add huge amounts to premiums.

Hepatitis C is an infection that causes inflammation of the liver. Most people don't realise they have it, complaining only of fatigue and vague pain around their liver. Many GPs fail to diagnose it. It is passed on through infected blood, so carriers have often had blood transfusions or intravenous medical treatment, or are drug users who shared needles or had sex with an infected person. Infection rates are about 1 per cent in Europe, 2 per cent in the USA, and as much as 10 per cent in some communities in Egypt, South Asia and Eastern Europe.

Just as the Department of Health is set to launch a hepatitis C awareness campaign, research by the independent financial advice firm Compass has found that there is no consistent approach on hepatitis C sufferers' premiums. Some providers add 50 per cent, some 200 per cent. And 90 per cent of life assurance providers were unable to give any clear information on the disease, the report found.

Hep C can permanently damage your liver and seriously affect life expectancy. But sufferers can and do recover, life expectancy can return to near-normal levels, and life can carry on as usual, although ex-sufferers will always carry signs of the disease in their bloodstream. Unfortunately, life assurance companies don't see it like that, and will treat all hep C-positive cases the same.

Chris Morgan of Compass says: "The fact there are no guidelines for the way hep C is treated, and that each company has different ideas about how to treat clients, is remarkable."

Charles Gore of the Hepatitis C Trust agrees. "Hepatitis C is a disease that disproportionately affects the underprivileged and vulnerable. Having the insurance industry compound that is unacceptable," he says, adding that protection providers have failed to keep up with advances in hepatitis C treatment. "We must have some clear, standardised guidelines."

In a statement, the Association of British Insurers argued that they were on top of the issue, while seeming to miss the point. "Insurers are acutely aware and sensitive to the issues around sexually transmitted diseases like hepatitis C, and treat customers sensitively and respectfully. The ABI Statement of Best Practice for HIV and Insurance sets out best practice for ABI members, when dealing with applications where HIV may be an issue. This includes ensuring that each application is considered individually, based solely on best available evidence. If you have a test for hepatitis C with a negative result, then you do not need to tell your insurance company and it will not be taken into account."

Husband's fatal illness ended plans to fix house

<http://www.lansingstatejournal.com>

Jeremy W. Steele

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Wife lost her job before holidays; spouse died in Jan.

HOLT - Tim and Arlene Nickless bought their 1860s house knowing it was a fixer-upper.

Tim could handle it, they thought. He was handy and could build just about anything. He re-engineered model airplane engines and built a roll-top desk for one of their sons from scratch.

That changed when Tim was diagnosed with hepatitis C nearly eight years ago. The disease, which attacks the liver, sidelined him. He couldn't fix the sagging floors or the old windows or the wet basement.

"We had huge plans," said Arlene, 47. "As he got sicker, the house also got sicker."

Tim died on Jan. 19. A liver transplant meant to give him a second chance had failed.

But Tim's dream of a beautiful house for his family didn't fade with him.

On Friday, the ABC show "Extreme Makeover: Home Edition" rolled onto Eifert Road and into the Nickless' Holt neighborhood. With it, it brought Lansing-based Mayberry Homes and the promise that hundreds of volunteers would build a new house in one week.

Show officials said they were taken by the family's story.

Tim was a registered nurse at Ingham Regional Medical Center and contracted hepatitis C after he was pricked with a patient's needle.

"It's an amazing family," said Rib Hillis, a cast member of the show's team of designers. "This season is all about heroes, and (Tim) was a hero."

Crews will begin around-the-clock work on the house on Sunday, when the existing house will be demolished.

Arlene and sons Aaron, 11, Noah, 9, and Andrew, 7, will spend the next week in Disney World, paid for by the show. They'll get to see their new house for the first time Friday.

"This is going to be a spectacular house, with all the bells and whistles," said Bob Schroeder, owner of Mayberry Homes.

Without the help, Arlene said she doesn't know where her family would have ended up. She owes nearly \$142,000 on the house's variable rate mortgage.

The interest rate has toggled between about 10.25 percent and 11.25 percent.

Mayberry and others are trying to raise money to pay off that mortgage and other expenses.

"Unfortunately, I lost my job just before Christmas," she said. "If we hadn't had life insurance, we would have lost everything when we lost him."

Neighbors welcomed the show, despite the convoy of production equipment and construction materials that will be running along Eifert Road for the next week.

They had been warned by letter in the last few weeks as to what could happen next door. "We called and said this lady really needs it," neighbor Mary Calkins said.

The help is welcome relief from the stress the family has endured, said Aulbrey Sponseller, 28, one of the couple's five grown children.

"It's just amazing what they're going to do," she said. "All I'm hoping is the show will give them a chance for some happiness in their lives."

Friends and family said Tim had been the centerpiece of the Nickless home.

Sponseller, who helped the family pack some belongings earlier this week, said Tim held onto the children's baby teeth and hair from their first haircuts. They came across those things while emptying drawers this week.

And even when he was feeling sick, family members said Tim continued to be active with his young sons. He didn't want to look sick to them. When he got home from his transplant, Bob Strobel said Tim was out flying model airplanes with his friends.

Tim had been president of the Lansing Area Flying Aces, which builds and flies model planes. "It was almost like, 'I'm not sick,'" said Strobel, who helped found the club.

Tim could build a model airplane faster than most club members. It's a talent that spilled over into house repairs, Strobel said.

"To suddenly not have him here to do that - (Arlene) has no experience," he said. "Tim was a master at being able to do things and come up with ideas."

Sep 28, 2008

Mitsubishi Tanabe, hepatitis C victims settle

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

OSAKA (Kyodo) Mitsubishi Tanabe Pharma Corp. President Natsuki Hayama signed an agreement Sunday ending a court battle with people who developed hepatitis C through tainted blood products sold by one of the firm's predecessors.

In the agreement, Mitsubishi Tanabe, the successor of the now-defunct Green Cross Corp., and its subsidiary Benesis Corp. admitted its responsibility for the outbreak of hepatitis C and offered an apology.

The defendants also promised to make every effort to prevent a recurrence of medicine-induced health calamities, to continue talks with the plaintiffs and their lawyers, and to take such measures as developing a new hepatitis C drug.

"We sincerely apologize for (causing) this problem and regret it," Hayama told some of the plaintiffs in Osaka. "All employees of my company once again recognize the importance of every life."

"We hope you will be reborn from today," Michiko Yamaguchi, a representative of hepatitis C plaintiffs, said. "We will continue to watch if (your company) really regrets (what happened)."

With Mitsubishi Tanabe and Benesis concluding the basic agreement to end the six-year-old suit, Nippon Pharmaceutical Co. is now the only remaining defendant in a series of lawsuits filed by people with hepatitis C against the government and the three drug makers.

The government reached a compromise agreement with the plaintiffs early this year.

Green Cross was a maker of the tainted fibrinogen and christmassin blood products through which a number of people were infected with hepatitis C, a liver illness mainly transmitted by blood.

Although the symptoms of hepatitis C are relatively mild compared with other types of hepatitis, the condition tends to become chronic and can develop into cirrhosis of the liver and liver cancer.

Many of the victims contracted the disease from around 1970 to the early 1990s through tainted blood products during operations or when giving birth.

More than 1.5 million people are believed to have contracted the virus, according to the health ministry.

Some 1,400 people filed damages suits with courts across Japan against the government as well as Mitsubishi Tanabe, Benesis and Nippon Pharmaceutical starting in 2002.

After the government reached its agreement with the plaintiffs, the Diet enacted a law in January offering blanket relief to people who contracted hepatitis C, paying ¥12 million to ¥40 million per patient. The money comes from the government and the three firms.

The plaintiffs will drop their damages claims against Mitsubishi Tanabe and Benesis.

Green Cross was absorbed by Yoshitomi Pharmaceuticals Industries Ltd. in 1998, which then merged with Mitsubishi Tokyo Pharmaceuticals Inc. to create Mitsubishi Pharma Corp. Mitsubishi Pharma and Tanabe Seiyaku Co. merged in 2007 to establish Mitsubishi Tanabe Pharma.

Prevalence of hepatitis C infection and risk factors in hospitalized diabetic patients: results of a cross-sectional study

www.newsrx.com

Fresh data on hepatitis C virus are presented in the report 'Prevalence of hepatitis C infection and risk factors in hospitalized diabetic patients: results of a cross-sectional study.' "Although there may exist a nosocomial risk of hepatitis C virus (HCV) infection in patients with type 1 or type 2 diabetes, this risk has not been fully investigated thus far and its magnitude is unknown. The aim of this multicenter cross-sectional study was to evaluate the prevalence of, and risk factors for, hepatitis C infection in consecutive hospitalized patients with diabetes and to assess the nosocomial risk and magnitude of HCV infection in these patients," scientists in Creil, France report.

"Consecutive hospitalized patients with diabetes seen in 11 French hepatogastroenterology and diabetology departments were studied. The prevalence of anti-HCV antibodies was compared with that observed in healthy blood donors and individuals seen during routine medical checkup. Diabetic patients with anti-HCV antibodies were compared with patients without anti-HCV antibodies for assessment of risk factors. In total 1561 patients were studied. Independent risk factors for HCV infection were assessed through multivariate analysis. Thirty-three patients (2.11%) had anti-HCV antibodies and 21 (63.70%) had HCV identified risk factors. The prevalence of HCV infection was higher in patients with diabetes than in blood donors (0.08%) or healthy controls (0.20%) ($p < 0.001$). Multivariate analysis identified four independent risk factors for HCV infection: blood transfusion before 1991 [odds ratio (OR)=2.88, $p=0.033$], intravenous drug use (OR=21.37, $p=0.012$), treatment in a hepatogastroenterology center (OR=4.17, $p=0.002$) and a high number (>2) of previous admissions since the onset of diabetes (OR=2.52, $p=0.039$). A nosocomial source of HCV infection in hospitalized diabetic patients is suggested by the increased risk of HCV infection associated with the number of hospitalizations," wrote J.F. Cadranel and colleagues.

The researchers concluded: "This may account for at least 36% of cases of HCV infection."

Cadranel and colleagues published their study in *European Journal of Gastroenterology and Hepatology* (Prevalence of hepatitis C infection and risk factors in hospitalized diabetic patients: results of a cross-sectional study. *European Journal of Gastroenterology and Hepatology*, 2008;20(9):829-36).

Elective Cesarean Delivery Lowers Risk of Vertical Hepatitis B Transmission

www.medscape.com

By Will Boggs, MD

NEW YORK (Reuters Health) Sept 26 - Elective cesarean section is associated with a lower rate of mother-to-child transmission of hepatitis B virus (HBV) than is vaginal delivery, according to a report in the August 28th issue of *Virology Journal* published by BioMed Central.

"Based on our study, we encourage physicians to perform elective cesarean section for preventing mother-to-child transmission of HBV if the pregnant women are patients with high viral loads," Dr. Lian-san Zhao from West China Hospital of Sichuan University in Chengdu, China, told Reuters Health.

Dr. Zhao and colleagues assessed the evidence from randomized controlled trials for any effect on the risk of vertical transmission of HBV when elective cesarean section is offered to HBV-infected mothers.

The systematic review identified four studies conducted in China involving 789 women. Pooled results showed the rate of mother-to-child transmission of HBV to be significantly lower after elective cesarean section (10.5%) than after vaginal delivery (28.0%), the investigators report.

"If HBV DNA is less than 1000 copies/mL, we suggest performing vaginal delivery," Dr. Zhao added. "If HBV DNA is more than 1000 copies/mL, we recommend carrying out elective cesarean section."

There was no postpartum morbidity associated with elective cesarean section, the researchers note. "We conclude that elective cesarean section is relatively effective and safe for preventing mother-to-child transmission of HBV," Dr. Zhao said.

Viol J 2008;5.

Existing anti-obesity drugs may be effective against flu, hepatitis and HIV

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

Viruses dramatically increase cellular metabolism, and existing anti-obesity drugs may represent a new way to block these metabolic changes and inhibit viral infection, according to a study published today in the journal *Nature Biotechnology*.

Metabolism refers to all the reactions by which living things break down nutrients to produce energy, along with those by which they rebuild broken-down nutrients into complex molecules (e.g. DNA).

A significant example is the breakdown of blood sugar (e.g. glucose) and its conversion via chain reactions into adenosine triphosphate, the energy-storing currency of cellular life. As an important offshoot of that process, glucose can also be converted into fatty acids, the lipid building blocks of human hormones and cell membranes. Many viruses, including influenza, HIV and hepatitis, use those same fatty acids to build instead their viral envelopes, outer coatings that help them penetrate human cells. Going into the study, little was known about the mechanisms through which viruses hijack metabolic building blocks from their cellular hosts, with older techniques providing a limited picture.

In the current study, a team of researchers from the University of Rochester Medical Center and Princeton University created a new technique to clarify these mechanisms, and found that the technique could identify anti-viral therapeutic targets. Researchers combined drug discovery technologies to capture for the first time the exact concentrations and turnover, in other words, the fluxes, of interchangeable molecules within the metabolic chain reactions that convert sugars into fatty acids. The fields of metabolomics and fluxomics have emerged to measure these patterns, and to provide insight into diseases with a metabolic component, from diabetes to infectious diseases to cancer.

"Using new fluxomic techniques, our study reveals that viral infection takes control of cellular metabolism and drives, among other things, marked increases in fatty acid synthesis," said Joshua Munger, Ph.D., assistant professor of Biochemistry and Biophysics at the University of Rochester Medical Center, and a study author. "We also found that if you target these increases in fatty acid metabolism using existing anti-obesity and anti-metabolism drugs, you inhibit viral replication."

A Thousand-fold Reduction in Viral Replication

In their experiments, Munger and colleagues developed a technique to measure changes in metabolic flux in human cells as they become infected by human cytomegalovirus (HCMV), an enveloped virus of the b-herpes family that infects most human adults and that causes severe disease in those with weakened immune systems. Researchers chose cytomegalovirus for experiments because it serves as an excellent model for processes at play in many enveloped viral infections and in cancers. HCMV replicates in a variety of human cell types, including fibroblasts, the cell type used in the study.

To study metabolic flux, Munger and his team created a stable, isotope-labeled version of glucose, which when "fed" to cells, was metabolized in a similar fashion as unlabeled glucose. Liquid chromatography and mass spectrometry were then employed to track the isotope label as it spread, or permeated, through the metabolic network. The impact of viral infection on cellular metabolism could be measured by the speed at which the labeled version spread, and then compared to uninfected cells. Given the complexity of interconnections within the metabolic network, the team also developed a novel computer model of metabolic function to analyze the data and guide further experimentation.

Many metabolic processes are essential to the survival of human cells, and so are not candidates for research efforts that would shut them down in the attempt to stop viral replication. For that reason, Munger and colleagues chose to look at whether interfering with glucose-to-fatty acid metabolism could stop viral replication, because fatty acid biosynthesis is not essential in adult

humans. It does appear, however, to be essential to the ability of viruses to build their envelopes, reproduce and spread.

Thus, the team next used drugs known to inhibit enzymes that build fatty acids, acetyl-CoA carboxylase (ACC) and fatty acid synthase (FAS), used in the treatment of obesity and high cholesterol, to determine whether HCMV-induced fatty acid production was necessary for enveloped viruses to make copies of themselves. Indeed, treatment (10 mg ml⁻¹) with 5-tetradecyloxy-2-furoic acid (TOFA), an ACC inhibitor, resulted in a more than thousand-fold reduction in HCMV replication. C75 (trans-4-carboxy-5-octyl-3-methylene-butyrolactone), an inhibitor of FAS, resulted in a more than 100-fold effect at the same dose.

To investigate whether this requirement extended to other enveloped viruses, the team measured influenza A replication in the presence of the same TOFA and FAS inhibitors, and found similar reductions in replication. Influenza A has little in common with HCMV except for its lipid envelope.

Extensive clinical testing would be needed to draw conclusions about the safety of TOFA and C75, or similar compounds, as antiviral treatment. That said, the team took an early look at toxicity, exposing uninfected fibroblasts to C75 or TOFA for 96 hours. They found that the drugs blocked HCMV replication without causing cell toxicity or self-destruction (apoptosis).

Along with Munger, Jessica McArdle of the Department of Biochemistry and Biophysics contributed to the work. Bryson Bennett also worked on the project from the Lewis-Sigler Institute for Integrative Genomics in the Carl Icahn Laboratory at Princeton University. Leading the effort from the Princeton side was the corresponding author, Joshua Rabinowitz, who worked with Anuraag Parikh, Thomas Shenk in the Department of Molecular Biology, and Xiao-Jiang Feng and Herschel Rabitz at the Frick Laboratory. The work was supported by the National Institutes of Health (NIH) Metabolomics Roadmap initiative, the National Science Foundation, the Beckman Foundation, the American Heart Association, the National Science Foundation and the American Cancer Society.

"Recent studies have shown that fatty acid biosynthesis is important for the replication of diverse enveloped viruses," Munger said. "The replication of both hepatitis C and HIV, for example, has been linked recently with lipid synthesis, reinforcing our approach and its importance. Lastly, viral infection also clearly upregulates glycolysis, a marker for tumor growth, which is just the latest in the longstanding connection between viruses and cancer. Hopefully, our work will at some point provide insight into the metabolic manipulations seen in cancer as well."

<http://urmc.rochester.edu>

Study finds association between hepatitis B and pancreatic cancer

<http://www.eurekalert.org>

Study Summary: Hepatitis B could be a risk factor for pancreatic cancer

A new study has shown that evidence of past hepatitis B infection was twice as common in people with pancreatic cancer than in healthy controls. This study is the first to report an

association between past exposure to the hepatitis B virus and pancreatic cancer, but researchers cautioned that more studies are necessary to evaluate the nature of the link.

"While our findings indicate that past exposure to hepatitis B is associated with the development of pancreatic cancer, more research is needed to determine whether this relationship is one of cause and effect," said lead author Manal M. Hassan, MD, PhD, assistant professor at The University of Texas M. D. Anderson Cancer Center. "If these findings can be confirmed by other studies, hepatitis B could be another risk factor for pancreatic cancer that is readily modifiable with treatment, and even preventable with a vaccine."

In this study, Dr. Hassan and her colleagues compared evidence of hepatitis B and C infection (as determined by blood tests assessing antibodies to these viruses) between 476 patients with pancreatic cancer and 879 matched healthy individuals. Evidence of past exposure to hepatitis B was found in 7.6 percent of patients with pancreatic cancer versus 3.2 percent of controls. The association between hepatitis B exposure and pancreatic cancer remained statistically significant even after controlling for other risk factors, such as smoking. People with both diabetes (an established risk factor for pancreatic cancer) and hepatitis B exposure had a 7-fold increase in pancreatic cancer risk, compared to controls. No association was observed between hepatitis C exposure and pancreatic cancer.

The authors noted that past studies have reported the presence of hepatitis B antigens in pancreatic fluids; others have identified impaired pancreatic function in people with chronic hepatitis B infection. These findings suggest that the hepatitis B virus may cause inflammation or DNA damage in the pancreas, which could increase cancer risk.

The researchers also indicated that there may be an increased risk of liver failure after chemotherapy treatment among patients with pancreatic cancer who have a history of hepatitis B infection. Dr. Hassan noted that if their findings are confirmed, oncologists may want to consider checking the hepatitis B status of their patients with pancreatic cancer before beginning chemotherapy.

About Pancreatic Cancer and Hepatitis B

Pancreatic cancer is estimated to strike 37,680 people in the U.S. in 2008, taking 34,290 lives. Because it is usually advanced by the time patients experience symptoms, it is very difficult to cure. Smoking and diabetes raise the risk of pancreatic cancer, but the disease also develops in people without these risk factors.

Two million people in the U.S. are currently living with chronic hepatitis B infection. While most new cases in previously healthy adults are cleared by the immune system within a few months, many people – especially those infected as newborns and children – develop chronic, lifelong infections.

ASCO Perspective

Patrick J. Loehrer, Sr., MD, Deputy Director and Medical Director, Indiana University Cancer Center

"Pancreatic cancer is an aggressive disease that is very difficult to treat successfully. In large part, it is a result of the inability to prevent and diagnose early as treatment for advanced disease is palliative at best. If these data are confirmed by larger studies, they would highlight a new risk factor for this lethal cancer, a virus for which both treatment and a vaccine already exist. Whether this could then lead to an impact in the incidence of this disease requires further study."

Sep 30, 2008

ZymoGenetics "Sleeper" for Hepatitis C Aims to Wipe Out Side Effects of Anti-Viral Therapy

<http://www.xconomy.com>

Luke Timmerman

Lots of people on Wall Street are hyped up about new treatments for hepatitis C from Vertex Pharmaceuticals and Schering-Plough. But a little-known drug in development from Seattle-based ZymoGenetics (NASDAQ: ZGEN) could steal a bit of thunder, and possibly ride the wave of enthusiasm those companies are creating among doctors and patients.

Hepatitis C, a deadly liver infection, has made headlines in the past year, as Vertex (NASDAQ: VRTX) and Schering-Plough (NYSE: SGP) have both shown that protease inhibitors in development can roughly double the cure rate over the standard of care. An estimated 6 million people in the U.S. and Europe have chronic hepatitis C infections, so the opportunity is huge, possibly worth \$2.6 billion for Vertex alone by 2013, says Rachel McMinn, an analyst with Cowen & Co. in San Francisco.

One catch here is that both the Vertex and Schering-Plough drugs must be taken in tandem with the standard of care—a regimen that consists of pegylated interferon alpha and ribavirin. That backbone of therapy causes flu-like symptoms, depression, and anemia, and it must be taken for almost a year. That means most patients opt against getting treatment at all, says ZymoGenetics president Doug Williams. Instead of developing another protease inhibitor to be taken in addition to the standard of care, ZymoGenetics has developed an alternative that has the viral killing power of interferon alpha, without causing the side effects. It calls its version of the standard of care "**pegylated interferon lambda,**" or **IL-29**.

"Interferon based regimens are the backbone of therapy and they will continue to be for the foreseeable future, and we have one with a better tolerability profile," says Williams, an Xconomist.

This wasn't immediately obvious from the start at ZymoGenetics, which has bet much of its research and development budget in recent years on ataccept for autoimmune diseases and IL-21 for cancer. Earlier this month, it handed over its partial stake in ataccept to its partner, Merck KGaA to save cash, while its lone marketed product struggles to find a footing in the marketplace. ZymoGenetics hasn't talked much about the peg-interferon lambda program in the past, so it was striking to hear Williams say it wants to pour more of its resources into this program. Besides some promising clinical trial data that's rolling in, there are a couple of strategic business reasons to do this. For one, ZymoGenetics stills owns a 100 percent stake in the product, so it has some bargaining leverage to work with. And two, it believes it is the only company with an improved interferon in clinical trials.

“The sleeper here is starting to wake up,” Williams says.

Results from a 20-patient clinical trial, presented at the European Association for the Study of the Liver in April, showed that the ZymoGenetics drug candidate didn’t cause the widespread immune-system activation that causes the side effects with the standard drugs. That study was in healthy volunteers, and the company needs to confirm that finding in patients with hepatitis C.

More results from the ZymoGenetics drug, and its ability to kill viruses, will be available in November at the American Association for the Study of Liver Disease meeting in San Francisco, Williams says. An early peek of data from the first six patients, who got one of the lowest doses in testing, shows antiviral activity in four of them, according to an abstract of the data that company spokeswoman Susan Specht sent me in an email. Data from three cohorts of patients will be presented at the liver meeting, she says.

The company is clearly setting some high expectations heading into that meeting. ZymoGenetics CEO Bruce Carter said that the company’s most important strategic move of the past year was to hold on to pegylated interferon lambda, rather than sell it off, according to an August interview with Biotech Stock Research, an independent equity research firm in Seattle. “Now we see it as an important investment,” Carter said.

ZymoGenetics has said it plans to find a partner to help with the final stages of development of this drug, and if the data presented in San Francisco back up what it’s been saying, then the price will surely be going up. Just don’t count on it making much of a splash in the news, as ZymoGenetics will surely be overshadowed by the folks at Vertex and Schering-Plough.

Kidney disease risk increased for patients with HIV and hepatitis C

www.aidsmap.com

Adam Legge, Monday

People who are both HIV and hepatitis C infected are at significantly higher risk of kidney disease compared to those with HIV only, say US researchers in a study published in the September 12th edition of *AIDS*.

Chronic kidney disease and its most serious form, end-stage renal disease, is more common in HIV infected individuals. Now researchers at the Mount Sinai School of Medicine have attempted to find out what effect HIV/hepatitis C coinfection had on the risk of developing chronic kidney disease.

They reviewed the data from any study which looked at chronic kidney disease and HIV infection but also recorded hepatitis C infection status. A total of 24 studies were included in their analysis.

They found that chronic kidney disease was 49% more likely in those with co-infection, compared to those with HIV infection alone (6.2% versus 4% , relative risk 1.49, 95% CI 1.08-2.06). (Wyatt 2008).

But the researchers also looked at two other parameters of kidney disease. The first was proteinuria, the presence of protein in the urine which is an early sign of kidney disease. The second is acute renal failure – a sign of very advanced disease.

They found that hepatitis coinfection was associated with a 15% rise in the risk of proteinuria and a 64% rise in the risk of acute renal failure. They also found an increased risk of kidney problem with the protease inhibitor indinavir.

HIV guidelines already stress that hepatitis C coinfection is a risk factor for kidney disease and recommend doctors check regularly for proteinuria and regularly monitor patients' estimated glomerular filtration rate (eGFR) – a test of kidney function.

The authors say their results reinforce the importance of these recommendations as early recognition of kidney disease can allow targeted treatment and hopefully delay progression to more serious kidney disease and end stage renal disease.

It is also essential to guide the selection of and dosing of antiretroviral therapy, although they add routine reporting of hepatitis C status has not been a part of most clinical trials.

The researchers also looked at the impact of race on chronic kidney disease in coinfecting patients and found that black patients were 25% more likely to have chronic kidney disease.

The results echo another study published earlier this year which suggested HIV-infected African-Americans who develop kidney disease are more likely to have a more aggressive form of the disease than white people (Lucas 2008).

Reference

Wyatt CM et al. The impact of hepatitis C virus coinfection on HIV-related kidney disease: a systematic review and meta-analysis. *AIDS* 22:1799-1807, 2008.

Lucas GM, Lau B et al. Chronic kidney disease incidence and progression to end-stage renal disease in HIV-infected individuals: a tale of two races. *Journal of Infectious Diseases* 197, 2008.

Witnesses quiet on Hepatitis C outbreak

<http://it.moldova.org>

Nevada prosecutors say it will likely be early next year before charges are filed against a medical center that allegedly exposed patients to hepatitis C.

Clark County District Attorney Scott Mitchell said witnesses have been reluctant to cooperate in the investigation of the Endoscopy Center of Southern Nevada for fear they will lose their medical licenses or possibly even face physical retribution, the *Las Vegas Review-Journal* reported Monday.

The newspaper said health officials have advised 60,000 patients of Dr. Dipak Desai's endoscopy clinics be tested for hepatitis and HIV. Authorities say they observed clinic nurses reusing syringes that contaminated vials of anesthetic, allegedly leading to infection of patients.

Oct 1, 2008

Steps to defeat liver cancer

<http://www.nydailynews.com/>

By KATIE CHARLES

New treatments, combined with prompt diagnosis, offer hope against a liver cancer, a powerful killer.

A liver surgeon for the past two decades, Dr. Myron Schwartz specializes in performing liver transplants and treating liver cancer by other means, both surgical and nonsurgical. He sees more than 400 new liver cancer patients every year.

The big story: With the 20th anniversary of the first liver transplant in New York State, a doctor from Mount Sinai - where it all started - offers insight into the latest advancements.

Who's at risk: Ninety percent of the time, liver cancer is the result of an underlying liver disease that causes cirrhosis. Cirrhosis is not a disease itself, explains Schwartz. "It is the final end point of anything that causes repeated damage to the liver over years, leaving the liver shrunken and scarred."

Several underlying liver diseases can lead to cirrhosis and eventually liver cancer. The most common is hepatitis C, which infects almost 4 million Americans, many of them without knowing it. The current epidemic is largely the result of contaminated blood transfusions done until 1991, when a new test for hepatitis C allowed health professionals to safeguard the blood supply system. Intravenous drug users, people with tattoos and health-care workers who are exposed to infected blood are also at increased risk of catching hepatitis C.

There's usually a 20- to 40-year lag between the time people contract hepatitis C and when it leads to liver cancer. Doctors say the liver cancer epidemic caused by contaminated blood transfusions will not peak until 2015.

The good news is that there's now a vaccination for hepatitis B, "so the next generation has great protection," says Schwartz.

Signs and symptoms: In the United States, most liver cancer is discovered through ultrasound and CT scans. Detecting liver cancer early is the key to managing it.

"If you have the risk factors, get screened every six months," says Schwartz.

Unfortunately, liver cancer doesn't give warning signs until it is advanced. "By the time you have symptoms, you have a short life expectancy," says Schwartz. The liver is so good at regenerating and recovering from injury that it will continue to function normally until the tumor is fatally

large. The symptoms for advanced liver cancer include fluid buildup in the liver, jaundice, internal bleeding and pain in the area.

Traditional treatment: Treating liver cancer is complicated by the fact that "almost every patient has two diseases concurrently," says Schwartz. "You have to deal with the liver disease and the cancer." Usually the underlying liver diseases that cause liver cancer are treated with anti-viral drugs.

There are many ways to respond to liver cancer. "Liver cancer is treatable by surgery and other means," explains Schwartz, "including the partial removal of the liver (called liver resection), full transplant, living donor transplants and a lot of nonsurgical treatments such as radio-frequency ablation (using electric currents to kill malignant cells) and chemoembolization (a form of chemotherapy)."

The kind of treatment a patient receives depends on how the liver is functioning and where the tumor is located. "It's like real estate," says Schwartz. "Location is the issue. If the tumor is in the center of the liver, you may need a whole transplant, while the same tumor to the side might be snipped off in a liver resection." Because liver resection is a partial removal and has a low mortality rate, it is "the preferred treatment," says Schwartz.

Research breakthroughs: One of the most promising research breakthroughs is happening in a local project at Mount Sinai. Traditionally, there had been no medicine for doctors to prescribe for patients with liver cancer. But last month, Dr. Joseph Llovet and his team published findings in the *New England Journal of Medicine* that may change that. In a study of 600 patients with liver cancer too advanced for surgery, Llovet's team gave 300 people the drug Sorafenib and 300 others a placebo. The liver cancer tumors didn't shrink, but the people taking Sorafenib lived longer. "People taking Sorafenib lived 11 months, and people without it lived seven months," says Schwartz, "making a 40% prolongation of life."

Questions for your doctor:

Ask your doctor about surveillance: "Do I need a routine screening?" There are guidelines for prevention and early detection, which you should discuss with your doctor.

If you are diagnosed with the cancer, Schwartz advises asking, "Are you sending me to a place with distinct expertise in liver cancer?" Even some leading cancer centers don't have expertise in the field. "Make sure your center has all the different elements necessary for treatment, including a liver transplant center," he says.

WHAT YOU CAN DO

- Get screened. Liver cancer screening is recommended for people who have the following risk factors: hepatitis B and C, liver cirrhosis or a family history of liver cancer. People at high risk should get screened every six months.
- Ward off obesity and diabetes. Eating a healthy diet, exercising and maintaining a reasonable weight are key to your health. Most people don't know that obesity can lead to liver cancer, another reason you can't afford to ignore this advice.

- Be aware of the threat posed by hepatitis B and C. If you have any known risk factor for hepatitis, get tested. Hepatitis C passes through blood-to-blood contact, so it is not an STD. You should get tested if you received a blood transfusion before 1991, if you've done IV drugs, or gotten a tattoo. Hepatitis B is more contagious, and most often spreads through unprotected sex, needle sharing and from mother to child.
- Get experienced hepatitis care. Hepatitis is serious business, but it's not a death sentence. Doctors now have medicines that can manage or cure many cases. "Hepatitis B is easier to treat," says Schwartz. "There are nontoxic oral medicines - they suppress the virus, but don't cure it." Hepatitis C is harder to treat, but doctors now use interferon along with ribavirin. "In the hands of an experienced hepatitis C care professional," says Schwartz, "over half of people infected can be cured."

BY THE NUMBERS

- 90% of the time, liver cancer is the result of an underlying liver disease.
- 3.9 million Americans have hepatitis C.
- 40% of all liver transplants are for liver cancer.
- Doctors predict that the liver cancer epidemic will peak in 2015.

Source: Dr. Myron Schwartz

Veteran who has hepatitis C feels abandoned by Army

<http://www.nj.com>

by Wayne Woolley/*The Star-Ledger*

Boonton's Stephen Balsamo, 54, believes an Army inoculation exposed him to tainted blood and infected him with the hepatitis C virus.

Stephen Balsamo felt like his body was on an assembly line. He and his fellow recruits lined up back-to-belly at the Fort Dix clinic that day in 1973 and, as they filed by, the men were given a half-dozen shots in each arm with a device called a jet gun injector.

The 54-year-old Boonton man thought little of it at the time. The gantlet was just another thing to endure at the start of a three-year hitch in the Army.

But Balsamo is now convinced that was the day the Army exposed him to tainted blood and infected him with the hepatitis C virus that now destroys his liver bit by bit each day. His medical records show a transplant may be his only hope.

Yet Balsamo is learning that help from the government is far from guaranteed. And the more he thinks about it, the angrier he gets.

"When I put my right hand up, they said they'd take care of me if something happened," he said. "Now I'm sick from something they did, and they're saying they might not be able to help. It's disgusting."

The U.S. Department of Veterans Affairs recently told Balsamo he must prove his condition is "service-related" to qualify for treatment in its health care system or to receive disability benefits.

Although privacy regulations prohibit VA officials from commenting on specific cases, it's clear Balsamo faces an uphill battle.

The VA's policy guidance is blunt: "Getting service-connection for (hepatitis C) is difficult. Most people cannot prove that they got HCV during their military service."

Those words drive Harry Hook crazy. The 61-year-old Vietnam veteran from Salem County is the manager of HCVets.com, a national clearinghouse for information about hepatitis C for veterans.

"The claims process is quite horrendous," Hook said. "They make it really difficult to prove it."

Hook fought his own case for more than a decade. When he was diagnosed, he said, the VA doctor was "determined to find an excuse to deny me."

"He had me take my shirt off and he was looking for needle tracks," Hook said. "I told him, 'Doc, I've never used drugs and never will. You're making an assumption that because I'm a Vietnam veteran that I'm a druggie.'"

The VA says it is obligated to ensure behavior unrelated to military duty, such as intravenous drug use or sex with an infected person, is not the culprit.

Hook, a former Marine who was badly injured in Vietnam's Mekong Delta in 1969, was ultimately able to use medical records from a transfusion he received after he was wounded to demonstrate he likely contracted the virus from tainted blood. The VA does allow that contaminated blood was widely used in military transfusions during the Vietnam War. For that reason, the VA now provides all medical care for Hook's condition.

Nationally, the VA has identified about 275,000 veterans within its health care system who have tested positive for the virus.

It's estimated that as many as one in 10 Vietnam veterans is infected with the hepatitis C virus, a rate five times higher than the general population.

In New Jersey, about 1,000 veterans -- or 7 percent -- of the patients in the VA health system are treated each year for hepatitis C.

Sandra Warren, an agency spokeswoman, said many of those veterans are being treated by the VA for other ailments as well.

The VA often counters criticism about its hepatitis C policy by noting it has spearheaded numerous research projects for treatment of the virus. In 2004, the agency spent \$2.4 million on its own research and oversaw more than \$4.1 million in outside research.

However, some lawmakers want the agency to do much more.

Rep. Rodney Frelinghuysen (R-11th Dist.) has twice introduced legislation in the past five years -- most recently in 2005 -- that would obligate the VA to screen every veteran for hepatitis C and offer treatment "without regard to whether the virus was contracted while the veteran was in the military." Neither effort garnered enough support to reach a vote.

In a statement, Frelinghuysen noted Vietnam vets have been disproportionately affected by hepatitis C: "I have worked extensively on this issue and will continue to work in Congress ... to make sure those who serve our nation have access to ... the care they deserve."

For Balsamo, legislation might be his best hope. Because he makes more than \$41,000 a year, he is ineligible for automatic health coverage through the VA.

Convincing the VA that he contracted the virus from the jet-gun injector will be his biggest hurdle. The device -- no longer routinely used by the U.S. military -- delivered inoculations with a high-pressure jet of injection liquid instead of a needle to pierce the skin.

Veterans groups have seized upon several reports that call into question the safety of the devices, particularly those used before 1980. The most cited report comes from a team of Air Force doctors who observed the inoculation of Marine recruits in the 1970s and found the injectors were "frequently contaminated with blood, yet sterilization practices were frequently inadequate or not followed."

Citing those reports and others, a handful of veterans have successfully argued the jet gun was the source of their infection.

But the VA's official policy is to generally deny veterans' claims that the jet gun was their source of hepatitis C. In a letter to all VA regional offices in 2004, Carolyn Hunt, acting director of the VA's compensation and pension service, wrote that although hepatitis C transmission was "biologically plausible," there was no evidence demonstrating a clear connection.

Balsamo said he is going to continue to fight, arguing the first medical report showing there was something wrong with his liver came in 1979 -- three years after he left active duty.

For now, Balsamo has the strength to start the paperwork and make the doctor visits he will need to build his case.

But he knows he has to move quickly. He had a recent close call last month, suffering a near-fatal hemorrhage caused by his liver. He recovered, but he doesn't know how much longer he will be well enough to keep working in his job as a salesman for a company that makes sheet-metal fabricating equipment. That job comes with health insurance that's helping pay his medical bills.

"I feel like if I lose my job, I'm done," he said. "And that's not right. I never lived the kind of life where you'd contract hep C. The military gave it to me, and now they've got to make it right."

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Obama's health plan may help more uninsured: report

www.reuters.com

By Julie Steenhuisen

CHICAGO (Reuters) - An analysis of the two starkly different approaches to reforming the U.S. health care system offered by John McCain and Barack Obama suggests Obama's plan has the best chance of making health care more affordable, accessible, efficient and higher in quality.

The report, released on Thursday by the Commonwealth Fund, sized up the presidential candidates' plans for dealing with a health care system which has left nearly 46 million people uninsured and many more underinsured.

According to the report, Democrat Obama's plan would cover 34 million of the nation's projected 67 million uninsured people in 10 years, compared with just 2 million covered under Republican John McCain's plan.

"It's a plan that tries to deal in a serious way with the uninsured," Karen Davis, president of the Commonwealth Fund, said of Obama's plan in a telephone interview.

"That is clearly a top priority. He doesn't eliminate it, but in my view he cuts it in half over a 10-year period."

Obama's plan seeks to build on the current employer-based insurance system, which now provides coverage to 160 million people, or more than 60 percent of the population under 65.

His plan would require all employers except small businesses to either offer health insurance or contribute to the cost of coverage. It would replace the current individual insurance market with an insurance exchange in which small businesses and those without access to coverage could buy a private or public health plan with tax credits.

The plan also eases qualifications for low-income families to be covered under Medicaid, the state-federal insurance program for the poor, and the State Children's Health Insurance Program.

Obama's plan is most like a plan put forth earlier this year by the Commonwealth Fund, which would also build on the current employer-based health system.

MARKET SOLUTION

McCain's plan seeks to put health insurance into the hands of individuals by removing tax breaks for employer-paid health benefits and offering tax credits of \$2,500 for individuals and \$5,000 for families instead.

"I think Senator McCain's plan is more concerned with health care costs and doing something about that through a market solution. It's basically saying let's have people buy their own insurance,' Davis said.

McCain would also ease state insurance restrictions and allow people to buy policies across state lines, and he would expand existing state high-risk pools for people who cannot get individual insurance because of health problems.

Researchers at the Urban Institute-Brookings Institution Tax Policy Center project McCain's plan would reduce the number of uninsured by 1.3 million in the first year at a cost \$185 million. About 20 million people would lose their employer-sponsored coverage under McCain's plan, but 21 million would gain coverage on the individual market.

Obama's plan in its first year would reduce the number of uninsured by 18.4 million at a cost of \$86 billion.

Over 10 years, McCain's plan would cost \$1.3 trillion and Obama's would cost \$1.6 trillion, according to the report.

Neither plan would offer universal health coverage, but Obama's plan would mandate health insurance coverage for children.

(Editing by Jackie Frank)

StemCells gets grant to fight hepatitis C

Silicon Valley / San Jose Business Journal

<http://www.bizjournals.com>

StemCells Inc. said Thursday it was awarded a \$305,000 grant from the National Institute of Diabetes and Digestive and Kidney Diseases to research and develop a potential cell-based therapy for liver disease arising from infection by the hepatitis C virus.

Palo Alto-based StemCells said hepatitis C is a global health challenge, with approximately 170 million people affected worldwide and an estimated three million new infections each year. The virus targets liver cells and is a leading cause of end-stage liver disease.

The grant will fund work over the next year to investigate whether the company's human liver engrafting cells can be made resistant to infection by the virus.

The studies will be done in collaboration with Dr. Jeffrey Glenn, Associate Professor of Gastroenterology and Hepatology at Stanford University School of Medicine.

Free HIV, hepatitis tests and shots back

<http://www.mauinews.com>

By LEE IMADA, News Editor

Free HIV and hepatitis C testing and free hepatitis A and B vaccinations are available once again from the state Department of Health.

The testing and vaccination programs were suspended in May due to a staff vacancy, said Barbara Joslin, tester and counselor with the Department of Health in Maui County. With the vacancy filled, "we're trying to get it rolling" again, she said.

The HIV testing and hepatitis B vaccination are available to everyone. There are eligibility requirements for the hepatitis C test and the hepatitis A vaccination, she said.

For hepatitis C, the free testing is available to:

- People currently or with a history of injecting drugs, including hormones.
- People who received blood transfusions or blood products prior to 1992.
- People who have gotten nonprofessional tattoos/piercings.
- Sexual partners of intravenous drug users and/or hepatitis C-positive individuals.
- People with HIV.
- People who have been incarcerated.
- Children of hepatitis C-infected women.
- People with known blood exposure to hepatitis C.

For hepatitis A, the free vaccinations are open to:

- People with chronic liver damage.
- Men who have sex with other men.
- Intravenous drug users.
- People with a history of substance abuse.

The schedules and locations for the testing and vaccinations are:

- Keolahou Congregational Church in Kihei, 11 a.m. to 2 p.m. Mondays, open to walk-ins.
- Wailuku Health Center, 8 a.m. to 4 p.m. Tuesdays, walk-ins; and 8 a.m. to 4 p.m. Fridays, by appointment.
- Haiku Community Center, noon to 3 p.m. Wednesdays, walk-ins.
- Lahaina Comprehensive Health Center, behind the post office, 9 a.m. to noon Thursdays, walk-ins.

The hepatitis infections need to be taken seriously because they could lead to organ failure, chronic illness and even death, Joslin indicated.

Hepatitis C is transmitted through blood or body fluid contact. The viral infection often is observed in conjunction with HIV, Joslin said. Most infections are due to illegal intravenous drug use.

There is no vaccination for this form of hepatitis.

About 80 percent of people with hepatitis C have no signs or symptoms in the early stages. The virus attacks the liver and can cause chronic liver disease, cirrhosis and cancer, according to a Health Department report titled "Hepatitis C in Hawaii." The serious consequences of hepatitis C can take 20 to 30 years to become apparent.

From 1998-2002, the Health Department tracked 350 positive hepatitis-C tests on Maui and six on Molokai, the report said. The number of new infections nationwide has declined from 240,000 in the 1980s to 30,000 in 2003.

Hepatitis A is the most common form of viral hepatitis and is transmitted through ingestion of infected fecal matter in food and water and through close personal contact including oral and anal sex, a Health Department fact sheet said. People traveling through countries where hepatitis A is common are also at risk.

Epidemics occur nationwide and in communities from time to time and during those years the numbers of reported cases can reach 35,000 nationwide, the Health Department reports.

The infection usually resolves itself in six months. There is a vaccination to prevent infection.

Hepatitis B is a very contagious virus that is transmitted through body fluids and is considered a sexually transmitted disease because the transmission fluids include blood, semen and vaginal secretions.

The most common way to get hepatitis B is through unprotected sex or from mother to baby, the Health Department said. Hepatitis B can cause chronic liver disease, which can lead to death in 15 to 25 percent of cases. There is a vaccine available to prevent infection.

"The virus can live outside the body for a long period of time, and it can have serious consequences," said Joslin about hepatitis B.

The number of new hepatitis B infections has declined from 260,000 in the 1980s to 73,000 in 2003 nationwide. The highest rate of disease occurs in people 20 to 49 years old, a Health Department fact sheet said.

HIV is the virus that causes AIDS, which attacks the immune system. Over time and without effective treatment, HIV gradually destroys the body's defenses against disease, leaving the person vulnerable to infections and cancers, the Health Department said in fact sheets on its Web site.

Even without treatment, some people with HIV infection have no symptoms at all, some have mild health problems, while others have severe health problems associated with AIDS, which is the late stage of HIV infection.

Before the discovery of effective treatment, it commonly took 10 years or more from the time of initial HIV infection to a diagnosis of AIDS, and on average it would take another two to four years before death. New treatments have extended life expectancy significantly.

The virus is transmitted mainly through sexual intercourse, from mother to infant and via intravenous drug use.

About 750,000 people are believed to be infected with HIV in the United States, including 2,000 to 3,000 people in Hawaii, the Health Department reported.

Call 984-2129 for appointments and more information.

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Liver Disease on the Rise, but New Treatments Coming

<http://www.newswise.com>

America faces an increase in liver cancer due to hepatitis C infections, but new treatments are on the horizon, scientists will report at the 15th International Symposium on Hepatitis C & Related Viruses, to be held in San Antonio from Oct. 5-9.

Newswise — It's another result of an aging baby boom population: an upsurge in cases of liver cancer and other forms of liver disease caused by years of chronic infection with a virus many people don't even realize they have.

Fortunately, scientists at an upcoming international conference will report that improved ways of stopping hepatitis C are on the horizon.

Approximately 3.2 million people in the United States are believed to be chronically infected with hepatitis C, or HCV, with the highest incidence among people in their 40s to 60s. Worldwide, approximately 170 million people are believed to be infected.

For years, hepatitis C has been called the "silent epidemic," because a chronic infection can persist for decades before causing symptoms, such as cirrhosis of the liver. Cirrhosis itself can be fatal, with scarring that impairs liver function and blood circulation, and can lead to liver failure.

Hepatitis C infection is already the leading cause of liver transplants in this country, but now the United States is also experiencing an increase in the rate of HCV-related liver cancer. In fact, "liver cancer is now America's most rapidly increasing form of cancer, and as the epidemic of HCV-infected individuals ages, we're only going to see rates of liver disease get higher and higher," said Robert Lanford, Ph.D., a researcher at Southwest Foundation for Biomedical Research and one of the organizers of the upcoming conference. "So it is especially exciting that the international research community has some good news to report on the development of powerful new antiviral medications to treat HCV infection."

800 scientists to convene

The 15th International Symposium on Hepatitis C & Related Viruses will bring together 800 international scientists from Oct. 5-9 at the Marriott Rivercenter in San Antonio. The meeting will be co-chaired by two Texas scientists, Dr. Lanford of San Antonio's Southwest Foundation for Biomedical Research (SFBR), and Stanley Lemon, M.D., the John Sealy distinguished university chair and director of the Institute for Human Infections and Immunity at the University of Texas Medical Branch at Galveston. The two scientists and their institutions also collaborate as part of the Southeastern Hepatitis C Cooperative Research Center, which also includes researchers from Johns-Hopkins University in Baltimore, Md., and the University of Washington in Seattle, Wash.

At the San Antonio symposium, 450 presentations from scientists from around the world will provide an overview of the history of HCV and current statistics on disease prevalence and trends, as well as the latest in biomedical research aimed at treating and preventing HCV infections.

This year's conference holds special importance for the HCV research community because it marks the 30th anniversary of the development of an animal model for studying the disease, the chimpanzee. At the time, HCV had not been specifically identified, and was called "non-A, non-B hepatitis," a reference to the virus not being hepatitis A virus or hepatitis B virus, the two hepatitis viruses that were known at the time. Many of the major breakthroughs in treating the disease and screening the blood supply for HCV contamination have been advanced by research with chimpanzees.

Developing better drugs

HCV researchers worldwide are trying to develop an antiviral treatment to replace the only U.S. Food and Drug Administration-approved therapy for hepatitis C, a 48-week regimen of pegylated interferon-alpha and ribavirin, which causes severe flu-like symptoms and a number of other side effects. And the cure rate is less than 50 percent for those enduring the side effects of these two drugs.

Because HCV mutates rapidly, combinations of drugs are needed to compensate for the rapid resistance the virus can easily develop to any single drug. Researchers would like to develop a cocktail of three drugs to cure HCV with greater efficacy and without the toxicity of the current therapy that some patients cannot tolerate.

"We believe that if we get three really good antivirals that target the virus at different required functions, mathematically, the chance of having three genetic changes in the same virus so that it can escape all three antivirals simultaneously is remote," Lanford explained. He said that researchers attending the conference in San Antonio will make over 80 presentations related to improved antiviral treatments, as well as updates on the progress to develop a preventive vaccine, which so far has proven difficult to accomplish.

About 30 new antivirals are in various stages of clinical trials, said Lanford, whose laboratory tests many of the new HCV drugs in chimpanzees at SFBR's Southwest National Primate Research Center before the drugs receive approval for trials with people.

The chimpanzee remains the only animal model for HCV. Because of the animal's physiological similarity to humans, it provides essential data on how well the body "takes up" a drug therapy, how well the drug reaches the circulation and the liver, and how long before the drug disappears.

"That tells you how to design your clinical trial, whether people are taking the drug once a day, twice a day, or three times a day," Lanford said. "It's what we call 'PK,' pharmacokinetics."

Tests with chimpanzees also reveals how potent a drug is, or how quickly it reduces the level of the virus in the blood.

Because of these and other factors, chimpanzees at SFBR were instrumental in the development and testing of a vaccine for hepatitis B, the leading cause of liver cancer in much of the world.

Today, the hepatitis B vaccine is routinely administered to children in the United States and many other countries. Lanford says that current work with this research model is now yielding exciting breakthroughs in the treatment of hepatitis C.

Some of the most promising new HCV drugs undergoing testing at SFBR have shown a 10,000-fold suppression of the virus in just two days, reducing viral load from 1 million copies per milliliter of blood to only 100 per milliliter, Lanford said.

“Five years ago, we were lucky to see a 10-fold suppression in virus from the drugs that were being developed,” he said. “In the last few years, we’ve been seeing this class of highly potent drugs that attack different targets on the virus, such that they can be used in combination in a cocktail.”

Sources of infection

People acquire HCV when blood from an infected individual gets into the bloodstream. Although many with the virus acquired it via blood transfusions or exposure to blood products, the United States saw a spike in HCV infection when intravenous use of illegal drugs increased among young people in the mid-1960s. The infection rate peaked in the mid-1970s.

A major source of infection prior to the ability to screen the blood supply for HCV was related to medical procedures. Those included medical advances of the 1960s, such as coronary bypass surgery, requiring an increased need for blood transfusions, and an increased likelihood that those having surgery would receive contaminated blood, Lanford said. In addition, many hemophiliacs requiring regular blood transfusions, as well as kidney dialysis patients, acquired the disease from their medical treatments.

HCV was not identified as a separate virus until 1988, and screening to detect the virus in donated blood was not developed until 1989. The initial cloning or identification of the virus was accomplished by scientist at Chiron laboratories using blood from an infected chimpanzee. Dr. Michael Houghton, a keynote speaker at the symposium, was the leader of the group that isolated the virus at Chiron.

Silent no more

“Unfortunately, the silent part of this epidemic really disappeared a long time ago,” Lanford said. “The infection is ‘silent,’ or asymptomatic, for the first few decades, but as you progress in age, and as the duration of the time you have been infected increases, the likelihood that you are going to progress to cirrhosis increases and increases. So eventually we expect that over 20 percent of infected individuals will develop cirrhosis. That’s a very large group of people.”

According to the Centers for Disease Control and Prevention, about 3.2 million people in the United States, or nearly 2 percent of the population, have chronic HCV infection. About 4 percent of those 35-60 years old carry the virus.

In the United States, HCV is the leading cause of liver cancer, which is the most rapidly increasing form of cancer. Other forms of cancer, such as lung and breast, are more prevalent than liver cancer, but their incidence is declining in frequency as we change lifestyle and develop better treatments.

Because some highly improved treatments for HCV are expected to be available in the future, many patients are postponing treatment if they are not yet showing advanced-stage symptoms of the disease.

“I am an optimist about the newer therapies. The anticipation is that in five or 10 years, we will have three good drugs, or a cocktail, without the harsh toxicity of interferon and ribavirin,” Lanford said, “and we will be in a good position to cure this epidemic.”

Southwest Foundation for Biomedical Research is one of the leading independent biomedical research institutions in the United States, dedicated to advancing human health through innovative biomedical research. It is recognized within scientific and academic communities worldwide for the quality of its basic research into the nature, causes, preventions, and treatments for disease. SFBR’s staff of more than 85 doctoral-level scientists conducts nearly 200 major research projects, with marked success in the areas of genetics, neonatal development, metabolic disorders and infectious diseases.

Source: Southwest Foundation for Biomedical Research (SFBR)

Low rate of spontaneous HCV clearance in patients with HIV; early HIV treatment recommended for those with chronic HCV infection

www.aidsmap.com

Michael Carter

Approximately a quarter of patients coinfecting with HIV and hepatitis C virus spontaneously clear infection with hepatitis C, according to a study conducted by European investigators and published in the November 1st edition of the Journal of Infectious Diseases.

Researchers also found that female patients were more likely to spontaneously clear their hepatitis C infection, as were gay men, individuals also infected with hepatitis B virus, and patients living in northern Europe.

Of the patients with chronic hepatitis C infection, most were infected with hepatitis C genotype 1 and had a high hepatitis C viral load – characteristics associated with a poor response to anti-hepatitis C treatment. The authors of an accompanying editorial suggest that patients with these characteristics should receive “early antiretroviral treatment” as the “best way to avoid a poor outcome of liver disease.”

Investigators from the large EuroSIDA cohort study wished to establish the number of HIV-positive patients who had been infected with, but spontaneously cleared, hepatitis C infection. They also wanted to determine the virological features of the hepatitis C in the patients with chronic infection.

A total of 14,310 patients enrolled in the EuroSIDA cohort at 93 treatment centres across Europe, as well as in Argentina and Israel were eligible for inclusion in the study. All the patients with hepatitis C antibodies had stored samples tested for hepatitis C RNA. Patients who had detectable hepatitis C virus were then tested to determine hepatitis C viral load and genotype.

Just under a quarter (24%) of the EuroSIDA cohort had antibodies to hepatitis C. However, the investigators excluded 1435 of these patients as they did not have stored serum samples available for analysis. This left a study population of 1940.

Spontaneous clearance of hepatitis C infection occurred in 444 (23%) patients. Factors associated with spontaneous clearance were female sex (adjusted odds ratio, 1.39; 95% CI: 1.06 – 1.81, $p = 0.017$), coinfection with hepatitis B virus as indicated by hepatitis B surface antigen (adjusted odds ratio, 2.91; 95% CI: 1.94 – 4.38, $p < 0.001$), and residence in northern Europe vs. eastern or southern Europe (adjusted odds ratio, 1.47; 95% CI: 1.05 – 2.09, $p = 0.032$).

Furthermore, the investigators found that injecting drug users (20%) were significantly less likely than gay men (39%) to spontaneously clear hepatitis C (adjusted odds ratio, 0.36; 95% CI: 0.24 – 0.53, $p < 0.001$).

Next, the investigators turned their attention to the 1496 patients with chronic hepatitis C infection. They found that the majority of these patients were infected with the hepatitis C genotypes that have the poorest response to the current standard hepatitis C treatment – pegylated interferon and ribavirin. Some 786 patients (53%) were infected with hepatitis C genotype 1 and that a further 217 individuals (15%) were infected with genotype 4.

Median hepatitis C viral load was a little over 570,000 iu/ml. However, patients with the genotype 1 infection had a median hepatitis C viral load of 776,000 iu/ml.

The investigators note that approximately a third of patients who are only infected with hepatitis C virus clear the virus, compared to fewer than a quarter of patients in their cohort. They suggest that this could be due to the immune suppression that HIV can cause. They also suggest, however, that given the large numbers of injecting drug users in the study reinfection with hepatitis C virus could be an explanation.

An accompanying editorial suggests that a single negative hepatitis C viral load, the threshold for hepatitis C clearance used by the investigators, is not a reliable indicator of spontaneous cure of hepatitis C. They write, “a more-thorough evaluation of viral clearance by patients needs to be done using a more sensitive test, such as a transcription-mediated amplification.”

Noting the increased chances of spontaneous cure for patients in northern Europe, the authors suggest that “spontaneous clearance of hepatitis C virus infection does not solely depend on viral and immunological factors or risk category but also depends on geographical location and other host factors.” They note earlier French research that suggests that genetic variations in hepatitis C virus in men and women were associated with the chance of a spontaneous cure or response to treatment.

Patients infected with the harder to treat genotypes and a high hepatitis C viral load should receive early antiretroviral therapy to improve their immune function and as “the best way to avoid a poor outcome of liver disease.”

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Local seeks fundraising help for transplant costs

<http://www.news-star.com>

SHAWNEE, Okla. — After a near-fatal accident in 1989, Jack Hunsicker had several blood transfusions, resulting in him contracting Hepatitis C. The disease has destroyed his liver, and as a result, Hunsicker needs a liver transplant.

Hunsicker lives east of Norman and is being treated at Integris Baptist Medical Center.

Hunsicker was accepted to a transplant list, and his insurance will pay for most of the costs for the transplant, however, he will have to pay co-pays, travel, temporary relocation and medication. It is estimated to cost \$20,000 for the rejection medication.

To help with costs, friends and family have established a fund with National Transplant Assistance Fund, because NTAF provides tax-deductibility and fiscal accountability to his contributors. Contributors can make checks payable to NTAF Mid-Atlantic Liver Transplant Fund 150 N. Radnor Chester Road, Suit F-120, Radnor, PA 19087. In the memo line of the check, write in honor of Jack Hunsicker.

For credit card contributions, call NTAF at (800) 642-8399 or visit www.transplantfund.org/Restricted/patient-detail.cfm?pat_id=7302542&CFTOKEN=43061436.

Oct 3, 2008

Minorities with disabilities suffer most

www.reuters.com

NEW YORK (Reuters Health) - During 2004-2006, an estimated 20% of US adults, or 1 in 5 people, had some level of disability and these individuals -- particularly individuals from certain minority groups -- were much more likely to rate their health as fair or poor compared with persons without a disability.

Black, Hispanic and Native Americans with a disability reported fair or poor health at disproportionately higher rates than White and Asian Americans, health officials with the Centers for Disease Control and Prevention reported Thursday in the agency's weekly report on illness and death.

"Health care delivery has been slow to reduce disparities that would enable many persons with disabilities to achieve and maintain a good level of health," they wrote in the lead article in the *Morbidity and Mortality Weekly Report*.

The researchers analyzed racial and ethnic disparities in self-rated health status among adults with and without disabilities using data from the 2004-2006 Behavioral Risk Factor Surveillance System -- a large telephone survey that monitors the prevalence of key health behaviors.

The prevalence of disability among US adults ranged from 11.6 percent among Asians to 29.9 percent among American Indians/Alaska Natives.

When compared with adults without a disability, those with a disability were less likely to have excellent or very good health (27.2 percent vs. 60.2 percent), and more likely to report being in fair or poor health (40.3 percent vs. 9.9 percent).

Reports of fair or poor health among adults with a disability were most common among Hispanics (55.2 percent) and American Indians/Alaska Natives (50.5 percent) and least common among Asians (24.9 percent).

"Efforts to reduce health disparities among racial/ethnic populations should also address the needs of adults with disabilities," the report concludes.

SOURCE: Morbidity and Mortality Weekly Report, October 3, 2008.

Lorne Tyrrell 'a shining light in U of A's first 100 years'

<http://www.canada.com>

Nick Lees

The Edmonton Journal

Honoured medical scientist says cures for hepatitis B and C are achievable soon, but the illnesses are overlooked in funding process

When Lorne Tyrrell speaks, the world should listen, his friends say.

"He has a brilliant mind," says Dr. John Chiu, a family physician, former student, a friend and colleague.

"There's no question he is one of the world's top medical scientists, a shining light in the University of Alberta's first 100 years."

About 20 years ago, Tyrrell headed a team whose research led a decade later to the licensing of lamivudine, the first oral antiviral agent to treat hepatitis B infection.

The drug is now licensed in more than 170 countries and sales last year realized some \$365 million.

For his work, and endeavours in other fields, Tyrrell has been named an Officer in the Order of Canada, presented with the Canadian Liver Foundation's gold medal, made a Fellow of the Royal Society and been handed other awards too numerous to mention.

"We need to increase our knowledge through increased research to find cures for both hepatitis B and C," says Tyrrell, holder of the Canadian Institute of Health Research/Glaxo Smith Kline chair in virology.

"I am sure these goals are achievable in my lifetime."

Hepatitis B infects the liver and causes inflammation that has brought about epidemics in parts of Asia and Africa and is endemic in China.

Some 600 million people in the world carry either the hepatitis B or C virus.

Hepatitis B can be acute (self-limiting) or chronic (long-standing).

A self-limiting infection will usually clear within weeks or months. It begins with general ill health, loss of appetite, nausea, vomiting, body aches, mild fever and may progress to jaundice.

Chronic hepatitis B can lead to cirrhosis, which dramatically increases the chance of liver cancer. Hepatitis C is a blood-borne infectious disease that can lead to cirrhosis, which can cause liver failure or liver cancer.

"There hasn't been the same advocacy on behalf of hepatitis patients as there has been for HIV/AIDS," says Tyrrell.

"HIV/AIDS affects one person in 120 in the world, while hepatitis one in 12."

Research has made a huge impact on HIV. The virus was discovered in 1983 and by 1996 inhibitors were found that led to effective antiviral therapy, at least in the developed world.

"This has changed AIDS from a fatal disease to a chronic, stable disease," says Tyrrell.

"In Canada, major initiatives quickly supported HIV/AIDS research.

"Research funding has been doubled from \$40 million over five years to more than \$80 million over the current five-year period."

In addition, the Gates Foundation and the federal government partnered to devote nearly \$100 million into work on developing HIV vaccines.

Eight years ago, the federal government had a \$15-million initiative supporting hepatitis C research, but after five years it was extended for two years, but not renewed.

"There has never been any special initiative for hepatitis B research in Canada," says Tyrrell.

"Across the country, there are 250,000 people with hepatitis C and 350,000 with hepatitis B."

Today, hepatitis C is the most common cause of liver failure resulting in transplants in North America and Europe.

"More than half of the liver transplants we do in Edmonton are performed to treat end-stage liver disease caused by hepatitis C," says Tyrrell.

"I'm not comparing HIV/AIDS and viral hepatitis to suggest that HIV/AIDS has been receiving too much funding, but to emphasize the importance of viral hepatitis and how it seems to have been forgotten in much of the funding process."

More work is needed on lamivudine, he says, because a very small genetic change in the hepatitis B virus renders it resistant to the drug.

"A newer generation of drugs is less prone to resistance," he says. "But lamivudine remains widely prescribed because it is reasonably priced and very well tolerated."

Tyrrell, raised on a mixed farm west of Stony Plain, says we must have a biotech industry in Alberta to diversify the economy and provide options for those with masters degrees and doctorates.

"Far too many grads doing postdoctorates in the U.S. end up remaining there because we don't have a biotech industry," he says.

"But in the last few months, I believe Premier Stelmach and Technology Minister Doug Horner have been giving strong signals that a biotech industry is being encouraged."

Tyrrell is the co-founder of ViRexx, a local company developing hepatitis B and C vaccines, and KMT Hepatech, which uses the hepatitis C mouse model to evaluate small molecules and vaccines. Both are U of A spinoffs.

Tyrrell, who received a medical degree with distinction from the U of A and went to Queen's University for his doctorate, pays tribute to a long list of mentors. He praises chemist Morris Robins for designing the initial compounds that led to work on lamivudine, and collaboration with Dr. Norm Kneteman and Dr. David Mercer, the Alberta Heritage Foundation for Medical Research Clinical Fellow, in developing the first non-primate animal model for hepatitis C research.

Tyrrell, the U of A's faculty of medicine and dentistry dean from 1994 to 2004, is now a professor of medicine, biochemistry, medical microbiology and immunology.

Away from the university and conferences, Tyrrell works on his farms, often while thinking about finding funds for projects.

"Our best people can go to such places as Vancouver, Boston and the Bay area and find companies to support their research careers," he says.

"These places are attractive to young people buying a house and starting a family. Currently in academia they are spending too much time writing perfect grant applications.

"An analogy might be like our having an excellent airport, planes and pilots, but we don't have enough fuel.

"Operating grants is the fuel to get us airborne."

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Improving Hepatitis C care focus of major grant

<http://www.willitsnews.com>

The Willits News

The Community Clinics Initiative of the Tides Foundation has awarded \$200,000 to Mendocino County's Hep-C Advocacy Project to develop a comprehensive continuum of care for people at risk for, or living with, Hepatitis C.

Project members include the Mendocino County AIDS Volunteer Network, Mendocino Coast Clinics, Mendocino Community Health Clinics and other concerned community partners.

Community education, prevention and treatment efforts will be targeted to improve the impacts of the disease locally, according to Jane Stafford of the Tides Foundation.

"The Community Clinics Initiative is thrilled to make this investment," Stafford said. "The collaboration between these organizations has the potential to reduce the impacts of [Hepatitis C]. They share a long history of providing care to the most vulnerable people in Mendocino, so it's no surprise to us they are spearheading this effort to address the alarming rate of Hepatitis C infections in their community.

"This effort demonstrates the power of partnerships to provide comprehensive services beyond the medical visit, including community outreach and education, prevention, and care for the growing number of people infected with Hepatitis C."

Hepatitis C is Mendocino County's fastest growing infectious disease. Most people who host the infection are unaware they are carriers.

"Empowering patients to seek appropriate healthcare, supporting them as they undergo the rigorous treatment, developing a coordinated response countywide that includes training more physicians and other healthcare practitioners are a few of the primary goals of the Hep-C Advocacy Project," Stafford said.

"Success will not only improve the lives of those affected by Hep C, but will reduce the burden on individuals, social agencies and hospitals grappling with the disease."

Information: Libby at the Mendocino County AIDS Volunteer Network, 462 1932, ext. 205, or email libbyg@mcavn.org .