

AASLD 2005: Part 2



Alan Franciscus, Editor-in-Chief

HCV Advocate coverage of the American Association for the Study of Liver Disease (AASLD) 2005 conference continues with information about current HCV medical treatment, factors that influence disease progression and the long term sustainability of successful HCV treatment.

OBESITY AND HCC

More and more data is confirming that obesity has a negative impact on hepatitis C disease progression and treatment. Now there is evidence that obesity can affect the survival of patients with liver cancer. Knowing how obesity affects hepatitis C is another valuable tool to use to stay healthier.

T. Mizuta and colleagues studied the affect of Body Mass Index (BMI) on liver function and survival of patients with hepatocellular carcinoma (HCC) or liver cancer (*abstract 63917*).

150 patients with hepatitis C were divided into four groups when they first developed HCC:

- **Lean** (less than 22 BMI), 57 patients
- **Normal** (22-25 BMI), 56 patients

- **Overweight** (25-28 BMI), 29 patients
- **Obese** (more than 28 BMI), 8 patients

The differences in age, gender, alcohol consumption, smoking (pack/year), diabetes, and hepatic function among the four groups were examined. There were no differences in the gender, alcohol, smoking (pack/year) and diabetes among the four groups. The only difference reported was that the lean group was significantly older than the other groups.

The results showed that a higher BMI score predicted liver function abnormalities and that the survival rate of the **obese** group was significantly lower than that of the other groups. Of interest, the ALT levels were lower and liver function was better in the **lean** group compared to the normal, overweight and obese groups.

The authors concluded that "Body Mass Index was the only factor clearly associated with early poor prognosis of early stage HCC."

SVR REDUCES LIVER-RELATED DEATH AND HCC

Another study looked at



IN THIS ISSUE

Healthwise:

To Treat or Not to Treat.....3

Liver Transplantation.....5

the effect of interferon treatment on HCV disease progression. S. Bruno and colleagues reported on data from 23 Italian centers on patients who were treated with interferon monotherapy between January 1992 and December 1997 to find out if successful treatment, as defined by an SVR, reduces or prevents the occurrence of hepatocellular carcinoma (HCC - liver cancer) (*abstract 64191*). 1214 patients who were diagnosed with cirrhosis and treated with interferon monotherapy were included in the study database. Of these, 199 patients achieved an SVR (16.4%). During the follow-up period (92.5 ± 39.9 months), 12 patients in the SVR group and 171 patients in the non-responder group were diagnosed with liver cancer. Furthermore, 170 patients in the non-SVR group died compared to only 11 patients in the SVR group. The authors concluded that their data

continued on page 2

AASLD 2005

continued from page 1

demonstrate that the achievement of SVR in patients with cirrhosis is independently associated with a lower risk of liver cancer and an increase in life expectancy. The authors also noted that “the higher SVR rates associated with pegylated interferon plus ribavirin therapy would help to increase HCV patient survival.”

HCV TREATMENT AND SCHIZOPHRENIA

Hepatitis C positive individuals with schizophrenia are usually not considered good treatment candidates based on the belief that interferon therapy may worsen symptoms of schizophrenia. Until now there has been very little actual data available about HCV treatment in this group to make treatment recommendations. This is an important question that needs to be answered because schizophrenics as a group have a high rate of HCV infection compared to other groups.

M.S. Huckans and colleagues from the Portland Veterans Medical Center conducted a study on chronic HCV positive patients with schizophrenia, schizoaffective disorder, and substance use disorders (*abstract 64615*). In this retrospective study, data from 293,445 veterans in the Northwest Veterans Healthcare System was analyzed. Treatment response and therapy completion rates

were compared among three groups:

- **Group 1** – 8,836 patients with a history of schizophrenia or schizoaffective disorder (47% also had a substance use disorder). Of these 59% were tested for HCV antibody.
- **Group 2** – 39,922 patients with a substance use disorder with no history of schizophrenia or schizoaffective disorder. Of these 63% were tested for HCV.
- **Group 3** – 244,605 with no history of schizophrenia/schizoaffective disorder or substance use disorder (control group). Of these 30% were tested for HCV.

The results of testing positive for HCV were 22% of group 1, 27% of group 2 and 5% of group 3. Of those infected with HCV, 11% of group 1, 11% of group 2, and 14% of group 3 were treated with interferon therapy.

Results from this study found that group 1 (schizophrenic group) was significantly less likely than group 3 (control group) to complete 24 weeks of therapy (29% vs. 46% $p = 0.001$), but group 1 was equally as likely to complete 48 weeks of interferon therapy (13% vs. 15%, $p = 0.69$).

In an intent to treat analysis, group 1 achieved SVR rates comparable with group 3 (control group) (25% vs. 30%, $p = 0.73$). Comparing group 2 (substance use disorder) with group 3 (control) it was found that they were significantly less likely to complete 24 weeks (35% vs.

46%, $p = 0.001$) and 48 weeks (11% vs. 15%, $p = 0.03$) of HCV therapy. However, based on an intent to treat analysis group 2 achieved SVR rates comparable to group 3 (control group) (24% vs. 30%, $p = 0.24$).

The authors concluded that “[in] spite of completion rate differences, results indicate that individuals with schizophrenia and substance use disorders have similar SVR rates as controls. Therefore, HCV treatment is warranted for these groups.” The authors also recommended further studies on the impact of interferon on psychiatric symptoms in these high risk groups.

WIN-R

The results from the trial of weight based dosing of ribavirin in combination with Peg-Intron (WIN-R) was presented at AASLD. In this study, J. Jacobson and colleagues reported on the results of **flat** dose ribavirin (800/day) vs. **weight** based dosing (*abstract 72446*).

Altogether, 225 sites and 4,913 patients participated in the study. All participants received Peg-Intron 1.5 $\mu\text{g}/\text{kg}$ a week plus ribavirin:

- 2,444 patients received 800/day (**flat** dose),
- 2,469 patients received **weight** based dosing:
 - < 65 kg–800 mg/day
 - 65 to < 85 kg–1000mg/day
 - 85 to < 105kg–1200 mg/day
 - 105-125 kg–1400 mg/day

continued on page 7

HealthWise:

To Treat or not to Treat, that is the Question



Lucinda K. Porter, RN, CCRC

For those living with hepatitis C (HCV), the decision to undergo medical treatment may be a difficult one. For some people the question is not “if” but “when.” Others are adamant in their opposition to treatment. However, for most, “to treat or not to treat” is a major issue that deserves serious attention. “Should I do treatment?” “Should I wait?” “When should I start?” These questions can spin around in our heads for days, weeks and even years. Sometimes the questions distract us from living and enjoying life. Indecision can feel like paralysis. The purpose of this article is to address some common elements used to make HCV-treatment decisions. It assumes that you are making this decision along with advice from your medical provider.

According to Merriam-Webster, the origin of the word “decide” is Latin, meaning, “to cut off.” The nature of deciding cuts one off from other alternatives. If you take one path, you cannot take the other. The opening lines of Robert Frost’s poem, “The Road Not Taken” capture the weight of making a decision:

*Two roads diverged in a yellow wood,
And sorry I could not travel both*

Decision-making is a process. The most important part of this process is to arrive at a decision. A bad decision is sometimes better than no decision. Indecision has its own consequences. Not deciding is a decision. Further, it is a decision made from a position of powerlessness. There may be times when postponing a decision is the best choice. However, often this form of procrastination creates more harm than good.

There are six steps in the decision-making process. Here is an abbreviated example of this process. Assume your doctor has recommended HCV treatment and that you have mild disease progression. Your doctor says the choice is up to you. You find yourself juggling a thousand different thoughts. You wonder how you can reach such a big decision.

1) *Identify the decision* - For example, “Should I try HCV treatment and if so, when should I start?” Make sure this is a priority decision. You may have another major health problem that takes priority, such as cancer, major depression or alcoholism. You may have a sick family member who needs your attention right now.

2) *Identify the choices* - Write down all the options, even the choices you reject. Examples are: a) start treatment, b) don’t start treatment, c) get a second opinion before deciding, and d) wait until newer treatments are available.

3) *Collect information* - Before you can make a good decision, you need to have good information. Try to obtain reliable data. Ask your medical provider to suggest good sources of information. Your community may have a health information library. Support groups may be good resources. Talking directly to patients is a way to learn about actual experiences. Try to hear many stories rather than just a few. If you only talk to someone who had an easy treatment or someone who had a difficult time, you do not get the full picture. Chat rooms are less likely to be reliable sources of information, since they tend to attract people who need a place to deal with problems. People who are having an easy treatment are less motivated to use chat rooms.

Ask your medical provider to predict what your chances are for having a favorable response. This is an individualized estimate based on factors affecting you. Find out what the potential risks and benefits are. Be sure to mention your main concerns. Sometimes the things we fear most turn out to be minor or unlikely events.

4) *Evaluate the options* - The decision is yours to make, but seeking advice is a way to gain insight. Sometimes others see aspects that we miss. Naturally, your medical provider’s advice is important.

continued on page 4

TREAT

continued from page 3

Perhaps you have family and friends whose opinions you respect. Are there people in your life who have given you good advice in the past? If so, invite them to give you feedback.

One way to evaluate your options is by making a list. Put all the choices in one column. List the reasons for and against alongside the choices. Rate these choices, using a 0 to 5 scale, with 5 being extremely important. Doing this exercise on paper may be all you need to help you decide. You can total your ratings and see if a clear choice emerges.

Another way to decide is to ask yourself, which choice are you less likely to regret? Imagining the

future, which choice would you be more likely to be sorry you had made or not have made?

5) *Make a choice* - If you feel you have sufficient information, you may be ready to make a decision. For some people this is straightforward. Others may have a hard time with this. When faced with indecision some find it useful to follow the advice of their medical provider. You may ask a question, "If you were in my shoes, what would you do?" This is a fine strategy, but remember you are making the decision - not your doctor.

If you have a spiritual or religious practice, you might find it helpful to apply this to your decision. Spend some time in solitude and reflect on your decision. Even if you are scared about it, does it

feel "right?"

6) *Create a plan and carry it out* - Once you have made a decision, trust your instincts.

Commitment is the backbone of success. Make a commitment to your plan and to yourself. Visualize your success.

Congratulate yourself for making a decision. That alone is a success. Perhaps your decision will mirror the end of Robert Frost's poem, "The Road Not Taken":

*Two roads diverged in a wood, and I-
I took the one less traveled by,
And that has made all the difference.*

For more information about this subject, look for the upcoming *HCV Decision Guide* on The Advocate's website — www.hcvadvocate.org



Help Us Reach More People with Hepatitis C!
SUPPORT US THROUGH EITHER A PAID SUBSCRIPTION OR DONATION

YES! I'd like to subscribe

- \$20 one year—12 issues
- \$10 one year—12 issues
(for those with fixed incomes)
- Renewal

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

YES! I'd like to make a tax deductible donation

- \$10 \$25
- \$100 other

Please make checks payable to: HCSP/The Tides Center

Please mail form to:

HCV ADVOCATE
P.O. Box 427037
San Francisco, CA 94142-7037



The Hepatitis C Support Project does not share its mailing list with any individual or organization. All subscribers' names and addresses are strictly confidential

Liver Transplantation



Liz Highleyman

Despite improvements in treatments, many people with hepatitis C still develop cirrhosis and liver cancer. As disease progresses to the point where the liver is unable to carry out its important functions (end-stage liver disease, or ESLD), a liver transplant is usually the only option. In the United States and Europe, hepatitis C is the most common reason for liver transplantation. While much remains to be learned about liver transplantation, the current picture contains both good news and bad.

The *good news* is that liver transplant survival rates have increased steadily in recent decades with the development of improved surgical techniques, more experience with post-transplant medical management, and better immunosuppressive drugs. The one-year post-transplant survival rate has increased from about 30% in the 1970s to 85-90% today, and the five-year survival rate is about 75-80%.

The *bad news* is that there is a severe and worsening shortage of donor livers. There are currently more than 17,000 people on the United Network for Organ Sharing (UNOS) liver waiting list; in 2004, about 6,000 liver transplants were performed. Given this discrepancy between supply and de-

mand, about 10% of patients die each year while on the waiting list.

A process is in place to ensure that the most appropriate candidates receive available cadaver livers (livers from deceased persons). In 2002, UNOS adopted a new system called MELD (Model for End-Stage Liver Disease) that uses three lab tests – bilirubin, creatinine, and prothrombin time – to predict how likely patients are to die. Previously, candidates were assigned a status based on symptoms of decompensation such as ascites, bleeding varices, itching, blood clotting problems, or encephalopathy. The MELD system is intended to give priority to patients who need new livers most urgently, rather than those who have been waiting longest. According to a study in the January 2004 issue of *Liver Transplantation*, the number of liver transplants increased by 10% and the waiting list mortality rate fell by nearly 4% after MELD was adopted.

But the new allocation scheme remains controversial since it tends to prioritize patients with specific causes of liver disease (especially liver cancer) and does not take into account other factors that might make certain patients higher priority candidates. As such, researchers

are studying new metrics for allocation. T.I. Huo and colleagues, for example, reported in the June 2005 *Journal of Hepatology* that the change in MELD score over time may be a more accurate predictor of mortality risk than the MELD score at a single time point.

Given the shortage of donor livers, new methods have been developed to extend the supply, including split liver and living donor liver transplantation. The liver is the only organ in the body that can regenerate itself. Thus, a cadaver liver may be split into two pieces and transplanted into two recipients, where each piece will grow into a fully functioning organ. Split liver transplants produce the best results when the larger right lobe is given to an adult and the smaller left lobe goes to a child. In some cases, split liver transplants may be appropriate for two adults, depending on donor and recipient size. In the future, the split liver procedure may become more widely used if researchers figure out a way to accelerate liver regeneration.

In a living donor transplant, a piece of liver is taken from a live person, usually a relative (although

continued on page 6

TRANSPLANTATION

continued from page 5

livers do not require close genetic matching like some other organs). Pioneered in the late 1980s, several thousand living donor liver transplants have been performed to date, and the procedure now accounts for about 5% of all liver transplants. While living donor transplants have the potential to dramatically increase the supply of organs, the procedure is not without risk to the donor. A study published in the February 27, 2003 *New England Journal of Medicine* found that 65 of 449 donors (14.5%) experienced at least one complication, including bile leakage, infection, and excessive bleeding. In 2002, a living donor at Mount Sinai Hospital in New York City died of an infection after donating a section of his liver to his brother, but such deaths are very rare. Occasionally, under very specific circumstances, a “domino” procedure may be done in which one patient receives a new donor liver and that patient’s old liver is then given to a second recipient.

In the January 2006 *Journal of Hepatology*, Mylene Sebahg and colleagues compared the outcomes of split liver, living donor, and domino procedures at a single center in France. They found that the rate of acute and chronic organ rejection was similar among the groups, but acute rejection was more severe in the split liver group. The split liver group

was also more likely to experience biliary complications (40% for split liver, 26% for living donor, 8% for cadaver donor), possibly because bile ducts are more heavily damaged when the liver is divided into sections. In general, the survival rate for split and living donor transplants is similar to the rate for cadaver transplants, but some evidence suggests people with hepatitis C do less well with living donor organs (*to be discussed next issue*).

There have also been proposals to use “less than optimal” livers to expand the supply, including organs from older donors. But this is a risky option. As reported in the March 2005 *Archives of Surgery*, Derek Moore and colleagues found that the three most important factors affecting post-transplant survival and quality of life were donor age, recipient’s UNOS urgency status, and cold ischemic time (the amount of time liver is kept on ice, without a supply of oxygen, after removal from the donor). The five-year graft survival rate was 72% when the liver came from a donor younger than 60 years, compared with 35% when the donor was age 60 years or older. In another study, 14% of HCV positive patients who received livers from donors younger than 30 years experienced recurrent post-transplant cirrhosis, compared with 45% of those who received livers from donors age 31-59, and 52% who received organs from donors older than 59.

An exception to the optimal liver rule may apply for people with HIV and/or HCV. Today, livers from HCV positive people, HIV positive people – and even groups considered “high risk,” including HIV negative gay men – are not accepted for transplants. Studies suggest that HCV positive patients who receive HCV-infected livers fare no worse than those who receive HCV-free organs. Since the advent of highly active antiretroviral therapy (HAART), numerous studies have shown that HIV positive people with well-controlled HIV disease (i.e., undetectable or low HIV viral load, CD4 cell count of at least 200, no opportunistic infections) have post-transplant survival rates similar to those seen in HIV negative individuals. Dozens of HIV positive liver transplants have been performed to date, and lawsuits have forced insurers to cover them. HIV/HCV coinfecting people tend to experience faster liver disease progression than HIV negative people, and (as reported in the November 2005 issue of *Liver Transplantation*) HIV positive individuals are more likely to die on the liver waiting list – even if they do not have more severe HIV disease or liver disease. Some experts believe coinfecting patients should be given higher priority for transplants, but this is difficult due to the scarce liver supply. Use of livers from HIV positive or at-risk donors may be a partial solution for

continued on page 9

AASLD 2005

continued from page 2

This was a randomized study where treatment duration for genotype 1 patients was 48 weeks and genotype 2 or 3 patients received either 24 or 48 weeks of treatment.

All patients who received at least one dose of drug were included in the intent to treat analysis.

The overall sustained virological response (SVR) reported was 44% in the **weight** based group vs. 41% in the group who received a **flat** dose. Breaking it down by genotype – the SVR for genotype 1 was 34% (**weight** based) vs. 29% (**flat** dose). For genotype 1, high viral load SVR was 32% (**weight** based) vs. 27% (**flat** dose).

Genotype 2 and 3 SVR results were 60% (**weight** based) vs. 58% (**flat** dose) for 48 weeks of treatment and 68% (**weight** based) vs. 65% (**flat** dose) for 24 weeks of treatment. As a result the authors concluded that treating genotype 2 and 3 patients for 24 weeks is as effective as 48 weeks of treatment.

Serious adverse events (side effects) were observed in 11% (**weight** based) vs. 12% (**flat** dose) with more anemia (hemoglobin less than 10 g/dL) in the **weight** based group (46% vs. 32%). The discontinuation for adverse events was similar between the two groups (15% vs. 14%).

It was also found that the **weight** based group had a lower relapse rate than the

flat dose group (15% vs. 19%).

A total of 1,808 patients did not complete treatment and a total of 327 end-of-treatment responders were lost to follow-up. The responders who were lost to follow-up were counted as treatment failures in the intent-to-treat analysis.

The authors concluded that “[**w**]eight based dosing of ribavirin results in significantly greater SVR than **flat** dose especially in the difficult to treat genotype 1 patient (34% vs. 23%).”

More detailed information about the WIN-R trial data will be available once the data is peer reviewed and published in a peer-reviewed medical journal.

DURABILITY OF SVR

A most important question about HCV treatment outcome is whether a sustained virological response (SVR-HCV RNA negative during and six months post treatment) is long lasting. M.G. Swain and colleagues from the University of Calgary, Canada reported (*abstract 62232*) on follow-up data from an on-going international study of patients treated with Pegasys alone or in combination with Copegus (ribavirin).

To date the follow-up data is available for 901 patients who achieved an SVR. Study participants include chronic hepatitis C patients, patients with normal ALT levels and persons infected with HIV and hepatitis C.

It was found that overall

continued on page 8

HCSP GUIDES

The Hepatitis C Support Project has published various publications in our “Guide” series. The Guides are available on our Web site *www.hcvadvocate.org*

A Guide to Understanding and Managing Fatigue – this Guide provides a comprehensive overview of the causes of fatigue as well as simple tips to help manage this often debilitating symptom of HCV.

Management of Hepatitis C by the Primary Care Provider: Monitoring Guidelines. This Guide provides the medical provider with the necessary information to help identify and manage hepatitis C positive individuals. (Available in English and Spanish.)

A Guide to Hepatitis and Disability is one of the most comprehensive documents available on how to prepare and file for social security disability. There is additional information on commercial disability insurance, and health insurance.

First Steps for the Newly Diagnosed is an HCSP guide designed to help the person who is newly diagnosed with the medical aspects of HCV including a lab tracker, questions to ask your medical provider and more.

The Guides are downloadable in copy-ready format. Permission to reprint is granted and encouraged with credit to the hepatitis C Support Project.

AASLD 2005

continued from page 7

894 patients (99.2%) of the patients remained HCV RNA negative. In addition, **all** of the patients who were treated for 48 weeks with Pegasys plus Copegus (ribavirin-1000 or 1200 mg/day) were still HCV negative including the patients with HIV/HCV coinfection, and “normal” ALT levels.

The authors concluded that “[a]n SVR achieved with peginterferon alfa-2a (40KD) (Pegasys), alone or in combination with ribavirin, is durable for up to 5 years after completion of therapy.” The authors are currently investigating whether the 7 patients who became HCV RNA positive after treatment were true relapsers or were reinfected after the end of treatment.

RAPID VIROLOGICAL RESPONSE

After 12 weeks of therapy

with pegylated interferon plus ribavirin therapy, a 2-log drop in viral load or elimination of HCV can help predict whether treatment will be successful or not. The 12 week rule has been a valuable tool in helping patients and their medical providers decide whether or not to continue treatment based on these results. Another potential treatment predictor is looking even earlier at viral load parameters.

At AASLD, D. Jensen and colleagues presented data from a large retrospective study of genotype 1 patients to find out if the data for those who achieved a Rapid Virological Response (RVR) at week 4 (*abstract 65969*) was predictive of an SVR and if treatment duration for those who achieved an RVR could be reduced from 48 weeks to 24 weeks without compromising treatment outcome.

In this study of patients treated with Pegasys plus Copegus, data from 729 geno-

type 1 patients with week 4 results were available and analyzed. Of these, 146 patients had an RVR – defined as an HCV RNA (viral load) of less than 50 IU/mL after 4 weeks of treatment – and were subsequently treated for 24 weeks. Of these, 51 (24%) patients achieved an SVR. It was found that 89% of the patients who achieved an RVR and who were treated for 24 weeks achieved an SVR compared to only 19% of the group that did not achieve an RVR. A low baseline HCV RNA (viral) was the only significant and independent factor associated with an SVR.

The authors concluded that “[a]n RVR at week 4 of treatment is the single best predictive factor for SVR,” and that “[t]he use of RVR status to guide treatment duration in genotype 1 patients is appealing and should ideally be confirmed by prospective studies.”



VIRGINIA DONOR REGISTRY:

The state of Virginia maintains a database of willing potential organ and tissue donors. Donation wishes will be honored at the time of death for those who are registered in the database, who have indicated their wishes on the back of their driver’s license or state ID card, or who have a signed donor card. If the deceased is not listed, then donation decisions will be asked of the deceased’s family.

Families will not be allowed to override the decision of those who have registered with the state of Virginia. However, it is a good idea to discuss your wishes with your family so they are not surprised with this additional information at what will probably be a very difficult time. Willingness to donate does not interfere with medical, financial or funeral decisions. You and your family can expect the same quality of care whether or not you are a donor. When death has occurred or is imminent and unavoidable, it may be necessary to maintain medical support until the necessary organs and tissues are removed. Telling your family about your wishes may help them understand this process.

The names of those who have used the Virginia Department of Motor Vehicles process to indicate their willingness to donate will be transferred to the database. You can check the database to verify that you are listed.

To register or verify status online: www.save7lives.org

By mail, request information by calling: 1.866.SAVE.SEVEN (1.866.728.3738)

TRANSPLANTATION

continued from page 6

this population.

The 17,000 people on the liver waiting list today is up from about 3,000 in 1993. The number is only expected to grow as people infected with HCV decades ago begin to develop end-stage disease or liver cancer. From a social standpoint, the severe organ shortage has prompted calls for policy changes, such as the “presumed consent” system – already in place in some European countries – under which people are automatically considered potential organ donors unless they explicitly opt out. In terms of living donor transplants, it is crucial to ensure that prospective donors are truly making an informed, voluntary decision without financial or other types of pressure.

Liver transplant patients with hepatitis C face an additional challenge: HCV almost always infects the donated liver and may cause a new round of fibrosis progression. Post-transplant HCV recurrence will be discussed in the next issue of the *HCV Advocate*.

References:

Brown, R. et al. A survey of liver transplantation from living adult donors in the United States. *New England Journal of Medicine* 348(9): 818-825. February 27, 2003.

D’Amico G. Developing concepts on MELD: delta and cutoffs. *Journal of Hepatology* 42(6): 790-792. June 2005.

Freeman, R.B. et al. United Network for organ sharing organ procurement and transplantation network liver and transplantation committee: Results of the first year of the new liver allocation plan. *Liver Transplantation* 10(1): 7-15. January 2004.

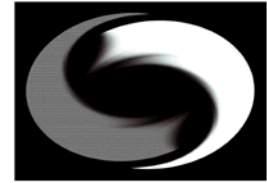
Huo, T.I. et al. Evaluation of the increase in model for end-stage liver disease (Δ MELD) score over time as a prognostic predictor in patients with advanced liver cirrhosis: risk factor analysis and comparison with initial MELD and Child-Turcotte-Pugh score. *Journal of Hepatology* 42(6): 826-832. June 2005.

Moore, D. et al. Impact of donor, technical, and recipient risk factors on survival and quality of life after liver transplantation. *Archives of Surgery* 140(3): 273-277. March 2005.

Ragni, M. et al. Pretransplant survival is shorter in HIV-positive than HIV-negative subjects with end-stage liver disease. *Liver Transplantation* 11(11): 1425-1430. November 2005.

Roland M et al. 1- to 3-year outcomes in HIV-infected liver and kidney transplant recipients. 12th Conference on Retroviruses and Opportunistic Infections, Boston, February 22-25, 2005. Abstract 953.

Sebagh, K. et al. Cadaveric full-size liver transplantation and the graft alternatives in adults: A comparative study from a single center. *Journal of Hepatology* 44(1): 118-25. January 2006.



**HEPATITIS C
SUPPORT PROJECT**

**Executive Director
Editor-in-Chief,
HCSP Publications**
Alan Franciscus
alanfranciscus@hcvadvocate.org

Managing Editor, Webmaster
C.D. Mazoff, PhD
cdmazoff@hcvadvocate.org

Contributing Authors
Liz Highleyman
Lucinda K. Porter, RN, CCRC

Design and Production
Paula Fener
Blue Kangaroo Design
blueroodesign@aol.com

Contact information:
Hepatitis C Support Project
PO Box 427037
San Francisco, CA 94142-7037

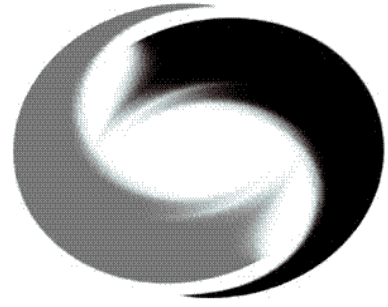
The HCV Advocate offers information about various forms of intervention in order to serve our community. By providing information about any form of medication, treatment, therapy or diet we are neither promoting nor recommending use, but simply offering information in the belief that the best decision is an educated one.

Reprint permission is granted and encouraged with credit to the Hepatitis C Support Project.

© 2006
Hepatitis C Support Project



For Living Positively. Being Well.



www.hcvadvocate.org

HCSP

P.O. Box 427037
San Francisco, CA
94142-7037