Editorial

Hepatitis C–Some New Treatment Options

Hepatitis C Virus (HCV) infection is a major world health problem It is one of the main causes of cirrhosis and Hepatocellular Carcinoma (HCC). HCV-related end stage liver disease is the leading reason for liver transplantation in the USA.

The introduction of routine screening of blood, blood products and organ tissues has reduced transmission in advanced economies. Unfortunately this is not the case in developing economies where poor screening, unreliable blood screening tools, careless attitude of the laboratory personnel and poor economic status of the patient all contribute to the unabated incidence of new cases. So Hepatitis C remains a major health problem in many continents. Areas of higher prevalence include countries in the Far East, South Asia, Mediterranean countries and certain areas in Africa and Eastern Europe.

In Pakistan prevalence is reported to be 2.4 % Hepatitis C, prevalence rates based on published reports, by country/area (updated hepatitis C prevalence data from published studies and/or data submitted to WHO by 131 countries/areas as of June 1999) Since we have not adopted measures to curtail the epidemic at the national level as a matter of policy, the prevalence of HCV in our country is probably still on the rise. Incidence of new cases is not abating. One has to go to a busy out patients clinic of a government hospital to see the evidence. The epidemic has no signs of reaching a plateau let alone showing any evidence of falling.

Sadly the screening of blood for transfusion is still not satisfactory in many hospitals, practice of giving injections by unqualified people without changing the syringe or the needle, the unsafe sharing contaminated needles by a large population of addicts are fueling the flames of this epidemic. The barbers blade, tattoo painters needle and professional ear /nose piercers lancet are some of the other instruments doing the damage and causing the spread of the disease. Even our operation theatres and some of our dental clinics are not safe places to practice as far as HCV is concerned.

It has been suggested that gaps in knowledge relating to the epidemiology, transmission routes and disease burden of hepatitis C warrant global surveillance of the disease, in order to determine specific health care measures for prevention and control.

Undoubtedly prevention is the best cure, particularly in the case of HCV disease where available treatment options are not very good, with low recovery rate, unacceptably high relapse rate and it is expensive beyond the reach of a common man, the commonest victim. However some new developments in the treatment of this dreadful disorder are giving some hope of eliminating this disease. Unfortunately the treatment is going to remain expensive in the foreseeable future.

Up until now the treatment of HCV has remained the same for the last few years. Essential components of treatment being interferon (preferably pegylated) combined with ribavirin, continued for a minimum of six months (in case of genotype 1 up to one year). Unfortunately sustained response rate has been low especially in HCV genotype 1 and relapse rates have been unacceptably high.

There is a dire need for a shorter duration of therapy with minimal side effects with a high degree of response rate and once treated no relapse should occur. The treatment should be economical which is very important in an under developed country like ours, where the population is too poor to afford the present treatment.

To meet these requirements the research is still continuing. Certain new therapies have emerged which can meet the challenge of sustained response and low relapse rate. But unfortunately shorter duration of treatment and more economical therapy are still distant dreams. Also the side effects profile is not as good as one would wish it to be.

When considering treatment options one has to keep in mind certain factors that may affect the natural history of HCV infection: and influence treatment outcomes.

Cofactors such as presence of HBV and alcohol intake appear to promote disease progression. Co-infected patients have a higher risk of Hepatocellular carcinoma than those who are only infected with one virus. Some evidence suggests that presence of anti-HBc alone might increase the risk of Hepatocellular carcinoma among patients with chronic HCV infection Steatohepatitis, rather than obesity, seems to be the important co-factor. However, one intervention study from Brisbane, Australia, suggests that reducing weight reduces fibrosis progression. Consistently normal ALT levels are associated with slower fibrosis progression.

New Drugs for Hepatitis C–Boceprevir and Telaprevir

A United States Food and Drug Administration advisory committee unanimously recommended in April 2011) that two new hepatitis C drugs, Boceprevir and Telaprevir, be approved. These new drugs give hope to those patients who have proved resistant to treatment, genotype 1 resistant strains and those who are co infected with HIV. Both Boceprevir and Telaprevir are (HCV) protease inhibitors and inhibit HCV replication in the body. They are added to current regimen of combination of ribavirin and interferon.

Side effects profile of these promising new treatment choices however, is not so benign .But the benefits of the drugs outweigh their risks.

Phase 3 clinical trials showed that Boceprevir raised cure rates in both treatment-naïve and already treated HCV patients to around 66 percent. Cure rates for Telaprevir were around 70 to 80 percent for treatment-naïve participants and 65 percent for treatment-experienced patients.

There are indications that in patients co-infected with HCV and HIV, the new drugs may also offer better cure rates, while standard HCV treatment is less effective in such patients. Preliminary results from a Phase 2 clinical trial in HCV-HIV co-infected patients have shown that after four weeks, 70 percent of participants who received telaprevir plus ribavirin and Pegasys had undetectable levels of HCV, compared to 5 percent of participants who received only ribavirin and Pegasys (see related AIDS Beacon news).

The dosing regimen for Telaprevir Boceprevir are complex but for the moment one has to follow them (as recommended by the manufactures based on clinical evidence) to achieve high response rates among previously resistant patients.

Side Effects

Both the new drugs also have potentially serious side effects. Fatigue and nausea is commonly experienced. In addition, both drugs are associated with more frequent and severe anemia (low blood iron levels). Anemia can result in symptoms and may necessitate blood transfusions. In the Boceprevir trials, around 50 percent of participants experienced anemia, compared to 36 percent in Telaprevir trials.

In addition to anemia, a majority of participants taking Telaprevir (56 percent) reported getting a rash; around 20 percent experienced discomfort (such as itchiness or inflammation) in the anus or rectum. For most participants these symptoms were mild or moderate and did not lead to discontinuation of the drug. However, a small number of participants experienced life-threatening rashes while taking Telaprevir. In particular, three patients had suspected cases of Stevens Johnson Syndrome, a potentially fatal condition.

Other drugs which are under investigation include protease inhibitors, nucleoside analogues certain other chemical compounds and early vaccines.

Some improved forms of interferones like albumen interferones and oral interferones are also candidates for new introductions into the armamentarium of treatment for HCV.

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