Hemophilia is a condition in which there is a deficit of a coagulation factor. Treatment for this condition consists of administration of the missing or deficient factor by hemotransfusion. According to statistics, more than 80% of hemophiliacs in the USA are infected with the hepatitis C virus (HCV). Twenty years ago, transfusion with blood products from multiple donors constituted a major risk for persons with inherited coagulation diseases. Chronic infection with HCV is a significant cause of morbidity and mortality in hemophiliacs who undergo multiple transfusions. Furthermore, 30%–50% of hemophiliacs with HCV are coinfected with human immunodeficiency virus (HIV), which accelerates the progression of HCV infection. In hemophiliacs, HIV–HCV coinfection is associated with an increased risk of end-stage liver disease. Progression of liver cirrhosis and development of hepatocarcinoma are reduced by HCV treatment. Increasing numbers of patients with hemophilia and viral hepatitis are dying from hepatocellular carcinoma. The incidence of hepatocarcinoma is 239 per 100,000 HCV-positive hemophiliacs per year.

Treatment of hepatitis C elicits various virological response patterns. Interferon suppresses viral replication and normalizes alanine aminotransferase levels in 15%–25% of nonhemophilic patients with chronic HCV infection. The initial response of hemophiliacs to treatment with interferon alone is poor (0%–8%). Combined treatment with interferon plus ribavirin induces sustained suppression of hepatitis in one-third of hemophiliacs who are refractory to interferon monotherapy.

At present, two types of therapies are based on pegylated interferon plus ribavirin. In cases of hepatitis C monoinfection, PEGASYS®, a pegylated interferon alfa-2a (40 kD), resulted in an average sustained viral response of up to 63%, and peginterferon alfa-2b (12 kD) resulted in an average sustained viral response of up to 54%. Combined therapy with interferon plus ribavirin is safe for hemophilic HIV patients with stable CD4 cell counts and low HIV replication, levels and results in an HCV clearance rate of 40%.

Liver biopsies of hemophilia patients are problematic because of their coagulation anomalies. Liver biopsies are necessary to establish the extent of liver damage in hepatitis C patients and can be used to aid decision making and to measure progress during treatment. It has long been known that liver biopsies can be taken safely from hemophilic patients when concen-
trated solutions of coagulation factors are adminis-
tered and close medical supervision is maintained. Of
161 HCV–HIV coinfected hemophilia patients, 112
(69.6%) declined biopsies because of fear and the risk
associated with the procedure and 49 (30.4%) accept-
ed biopsies (all received two doses of coagulant factor
and 25 received a third dose). There was no bleeding
after any of the biopsies.

In conclusion, liver biopsies of hemophilic patients
(with or without coinfection with HIV) are generally safe,
and in most cases, useful. Although, some patients have
been successfully treated with antiviral therapies without
having a biopsy, the indications for liver biopsies in pa-
tients with hemophilia are the same as those for other
populations.

**Recommendations of the consensus panel**

**What is the treatment of choice for this group of
patients?**

The consensus was that the treatment of choice for
this group of patients is combined antiviral therapy
with pegylated interferon and ribavirin in which the
dose and duration is determined by the HCV genotype
present.

Evidence quality: 2

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