

Protease Inhibitor Use for Chronic Hepatitis C Infection in Prior Null Responders and Liver Transplant Recipients: A Review

Context

Chronic hepatitis C infection affects nearly 1% of the Canadian population. In 2007, it was estimated that 242,000 Canadians had chronic hepatitis C infection and about 7,000 new infections occurred. Of those with chronic infection, 15% to 25% will develop progressive liver disease, end-stage liver disease, hepatocellular carcinoma, or will require a liver transplant. Recurrence occurs in more than 95% of patients after liver transplantation. Genotype 1 is the most common type of hepatitis C virus and also the most difficult to treat.

Technology

Two protease inhibitors, boceprevir (Victrelis) and telaprevir (Incivek), were the first direct-acting antiviral drugs approved in Canada for the treatment of chronic hepatitis C infection, genotype 1. For both drugs, the protease inhibitor must be used in combination with standard therapy, peginterferon plus ribavirin (PR), resulting in a three-drug regimen.

Issue

Treatment of chronic hepatitis C had remained virtually unchanged for many years until the approval of boceprevir and telaprevir. While these drugs have changed the landscape of hepatitis C treatment in Canada, they are costly. Many clinicians have not yet had extensive experience with these drugs. This review focuses on the effectiveness and safety of triple therapy with a protease inhibitor for patients who have had minimal or no response to standard PR therapy and are classified as “null responders” as well as patients who have experienced recurrent infection after a liver transplant.

Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages

For patients who are prior “null responders”:

- There may be benefit from triple therapy with telaprevir (the response rate is expected to be lower than in other patients).
- The effectiveness of triple therapy with boceprevir is uncertain.

For patients with recurrent infection after a liver transplant:

- The effectiveness of protease inhibitors is uncertain.

Evidence is rapidly evolving in this area.

Results

The literature search identified 513 citations. Of these, 29 were deemed potentially relevant with 3 publications meeting the criteria for inclusion in this review: 1 randomized controlled trial, 1 uncontrolled trial, and 1 conference abstract.

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