



The main focus of research in the Gastroenterology Department in 2010 continued to be in the areas of chronic viral hepatitis, hepatocellular carcinoma and inflammatory bowel disease.

Chronic Viral Hepatitis

A number of novel therapeutic strategies for the treatment of chronic hepatitis C were evaluated, including:

- A study with an all oral interferon-free treatment involving combination therapy with hepatitis C viral polymerase and protease inhibitor demonstrating profound viral suppression without the development of viral resistance (published in *The Lancet*)
- A second all oral interferon-therapy study in hepatitis C genotype 1 patients involving the combination of a non-nucleoside polymerase and protease inhibitor
- A Phase 3 study of Telaprevir in combination with peg interferon alpha-2a plus ribavirin in both treatment naïve and treatment experienced patients (the latter accepted for publication in *New England Journal of Medicine*)
- Transfusion of hepatitis C virus (HCV) lipopeptide-primed autologous dendritic cells in prior non-responders to treatment demonstrating enhanced T cell responsiveness in HCV patients (published in *Journal of Hepatology*)
- A Phase 2 study of novel protease inhibitor TMC435 in combination with peg interferon plus ribavirin in genotype 1 patients

Several key investigator-initiated studies were performed, including:

- Evaluation of the mechanisms behind reduced response rates in subjects with hepatitis C-related cirrhosis to standard therapy (two key papers published in *Hepatology* and *Journal of Hepatology*)
- Investigation of the role of toll like receptors in the development of hepatitis C-related liver inflammation and fibrosis in hepatitis C and HCV-HIV coinfecting patients (published in *Journal of Viral Hepatitis*)
- Assessment of the mechanisms by which GBV virus C protects against the development of progressive severe liver disease in subjects with HCV and HIV coinfection (published in *Journal of Hepatology*)
- The clinical impact of having minimal residual viraemia at week 24 of therapy on treatment response in HCV genotype 1 patients (published in *Antiviral Therapy*)
- Information on the outcomes of tenofovir therapy in patients with chronic hepatitis B who had a suboptimal response to adefovir therapy (published in *Gut*)

Hepatocellular Carcinoma

A range of novel therapeutic strategies were studied in patients with hepatocellular carcinoma across all disease stages including:

- Sorafenib as adjunctive therapy in early stage disease following liver resection or local ablation and in intermediate stage disease following transarterial chemoembolisation
- Evaluation of brivanib; and combination therapy with sorafenib and erlotinib as an alternative to sorafenib in advanced disease
- Evaluation of survival outcomes in patients with early stage disease treated with radiofrequency ablation

Fibroscan Evaluation of Fibrosis

The unit has expanded its clinical and research program evaluating the utility of Fibroscan in several patient groups including:

- Haemophiliacs with hepatitis C and HIV coinfection (published in *Haemophilia*)
- Type 2 diabetics in which Fibroscan was shown to be an excellent screening tool for the detection of steatohepatitis and significant liver fibrosis
- Chronic liver disease showing liver stiffness measurement has good predictive value for the presence of clinically significant portal hypertension
- Heart failure demonstrating those with acute and chronic heart failure have a significantly higher liver stiffness that is not improved by diuresis

Inflammatory Bowel Disease

Novel biological treatment strategies were evaluated during 2010 in patients with Crohn's disease and ulcerative colitis. These included golimumab for ulcerative colitis and the adhesion molecule blocker MLN002 for both acute and maintenance therapy in patients with severe Crohn's disease. A large collaborative study established with St Vincent's Hospital continued to assess the effectiveness of immunomodulator therapy with or without TNF α blockade to reduce recurrence of Crohn's disease following surgical resection.

The development of a large inflammatory bowel disease database was also a key initiative to facilitate investigator-initiated research. Several key studies included examination of the role of azathioprine metabolites as well as methotrexate metabolites in improving patient management in patients with Crohn's disease, as well as investigating the role of capsule endoscopy in patients with quiescent Crohn's disease.

Endoscopy

Two important investigator initiated research projects were performed in 2010 in the area of endoscopy:

- A multicentre study of the outcome of endoscopic mucosal resection of giant polyps in the colon (accepted for publication in *Gastroenterology*)
- A comparative assessment of the efficacy and safety of percutaneous endoscopic gastrostomy tube placement compared to radiologically inserted gastrostomy tubes

Postgraduate Students
1 PhD Student

Publications
14 Journal Articles