

New advances in HCC diagnosis, staging and treatment all predicted to improve patient outcomes

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Epidemiological, genetic and clinical data presented today at the International Liver Congress 2014 are collectively focussed on different approaches designed to improve the diagnosis, staging and treatment of hepatocellular carcinoma (HCC).

"Human hepatocellular carcinoma is one of the most prevalent cancers worldwide and the second most frequent cause of cancer-related death," said EASL's Scientific Committee Member Dr Helen Reeves Senior Lecturer & Honorary Consultant Gastroenterologist at Newcastle Hospitals NHS Foundation Trust, UK.

"Because HCC is such an extremely diverse and heterogeneous disease, improving patient outcomes has proved a difficult undertaking. A number of existing therapeutic options have been subjected to rigorous study but have not shown any patient benefit. The findings from these HCC diagnosis, staging and treatment studies are important because they have the potential to significantly improve patient outcomes," Dr Reeves explained.

Key findings from the studies include:

- the need for centrally-coordinated screening programmes across Europe
- the potential of gadoxetic acid-enhanced MRI to more accurately

stage HCC patients with early disease to ensure each patient receives the optimum treatment

- the development of a 3-gene signature blood test, which can be used as an alternative to imaging techniques to reliably identify early stage HCC in high-risk individuals
- impressive long-term data reinforcing the importance of percutaneous RFA in the HCC treatment armamentarium, including its use in the treatment of advanced HCC where a single HCC is associated with thrombosis of the main portal vein

Wide geographical variation in HCC survival explained by differing intensity of country screening programmes

In Japan, approximately 80% of hepatocellular carcinoma (HCC) cases are detected by screening. In marked contrast, the figures for the UK, Spain and Hong Kong data were significantly lower at 15%, 35% and less than 10% respectively.

There was also a dramatic difference in the stage of disease at diagnosis. In Japanese patients, 59% were within the Milan Criteria (generally accepted set of parameters designed to assess the suitability of HCC patients for liver transplantation) and 71% were suitable for potentially curative treatment. Comparative figures for Spain were much lower at 26 and 32%, the UK 37 and 38% and Hong Kong, 8 and 16%, respectively.

Median HCC survival for Japan, Spain, UK and Hong Kong were 47, 26, 20 and 7 months respectively.

"The wide geographical variation in survival among HCC patients had been attributed to intrinsic ethnic differences, different aetiologies, or

disease stages at presentation," explained Dr Reeves. "However, age, gender and Child-Pugh class distribution were all similar between the HCC patient populations from each of these four countries. Statistical analysis showed that aetiology had little impact on survival," she said.

"It would appear that the marked difference in the intensity of screening programmes between different countries, and the consequent variation in curative therapeutic options goes a long way to explaining the wide geographical variation in HCC survival," said Dr Reeves. "What we urgently need are centrally-coordinated screening programmes across Europe to improve outcomes," she added.

In this study, more than 5,000 patients were recruited from two high incidence areas, Japan (n=2599; predominantly HCV) and Hong Kong (1112; predominantly HBV), from a medium-incidence area, Spain (n=834; predominantly HCV & alcohol) and the UK (n=724; multiple aetiologies). Comprehensive demographic, aetiological and staging data along with treatment details were made available.

Staging HCC with gadoxetic acid-enhanced MRI improves treatment outcomes in patients with early disease

Additional staging of hepatocellular carcinoma (HCC) patients using gadoxetic acid-enhanced MRI has been shown to be associated with lower recurrence and better survival in patients presumed to have a single nodular HCC on the basis of a dynamic CT scan. These were the exciting findings of a study presented today at the International Liver Congress™ 2014.

Using multivariable analysis, the group of patients who were additionally evaluated with gadoxetic acid-MRI (CT+MR group) was shown to be

associated with a significantly lower risk of HCC recurrence (hazard ratio [HR] 0.72, P=0.02) and overall mortality (HR 0.67, P=0.04) compared with the CT alone group.

According to Dr Reeves, "Early recurrence of HCC after curative treatment is frequent and thought to represent a metastasis from the primary tumour that was actually present before treatment was started. Using gadoxetic acid-enhanced MRI to more accurately stage HCC patients with early disease has the potential to significantly improve outcomes by ensuring each patient receives the optimum treatment," she explained.

Gadoxetic acid is a contrast agent for MRI that has combined perfusion and hepatocyte-specific properties. This technique has shown higher detection sensitivity for HCC compared to dynamic CT or MRI.

In this historical cohort study, a total of 700 consecutive patients presumed to have a single nodular HCC by dynamic CT scan were analysed. Out of this patient population with early disease, 323 were additionally evaluated with gadoxetic acid-MRI (CT+MR group); 377 were not (CT group).

Results of the initial CT scanning using the Barcelona Clinic Liver Cancer (BCLC) staging system had identified 243 (34.7%) patients at a very early stage (0) with a single lesion

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