Cryofibrinogen in patients with hepatitis C virus infection

Mixed cryoglobulin is usually associated with hepatitis C virus infection and might cause systemic vasculitis. The presence and impact of cryofibrinogen, another cryoprotein, in the serum of hepatitis C virus-infected patients has not yet been evaluated. The objective of this study was to study the prevalence and the clinical and therapeutic impacts of cryofibrinogen in hepatitis C virus-infected patients.

A total of 143 consecutive hepatitis C virus-related (RNA+) patients (including 57 patients with hepatitis C virus-related vasculitis) were screened for cryofibrinogen and cryoglobulin (positive if >0.05 g/litre). The main characteristics and outcome were evaluated according to the cryofibrinogen/cryoglobulin status at baseline.

It was found that cryoproteins, including cryoglobulin and cryofibrinogen, are frequently found in the serum of hepatitis C virus-infected patients. In such patients, a positive cryofibrinogen status is closely related to the presence of cryo-globulin at baseline and after antiviral therapy.

Delluc A, Saadoun D, Ghillani-Dalbin P, Sene D, Piette J, Cacoub P (2008) Cryofibrinogen in patients with hepatitis C virus infection. *Am J Med* **121:** 624–31

Detection of mutations in epidermal growth factor receptor in circulating lung cancer cells

The use of tyrosine kinase inhibitors to target the epidermal growth factor receptor gene in patients with non-small-cell lung cancer is effective but limited by the emergence of drug resistance mutations. Molecular characterization of circulating tumour cells may provide a strategy for non-invasive serial monitoring of tumour genotypes during treatment.

In this study, the team captured highly purified circulating tumour cells from the blood of patients with non-small-cell lung cancer using a microfluidic device containing microposts coated with antibodies against epithelial cells. Epidermal growth factor receptor mutational analysis was performed on DNA recovered from circulating tumour cells using allele-specific polymerase chain reaction amplification and the results were compared with those from concurrently isolated free plasma DNA and from the original tumour-biopsy specimens.

The team identified the expected epidermal growth factor receptor activating mutation in circulating tumour cells from 92% of patients and in matched free plasma DNA from 33% of patients. The T790M mutation, which confers drug resistance, was detected in circulating tumour cells collected from patients with epidermal growth factor receptor mutations who had received tyrosine kinase inhibitors. When T790M was detectable in pretreatment tumour-biopsy specimens, the presence of the mutation correlated with reduced progression-free survival. Serial analysis of circulating tumour cells showed that a reduction in the number of captured cells was associated with a radiographic tumour response; an increase in the number of cells was associated with tumour progression, with the emergence of additional epidermal growth factor receptor mutations in some cases.

The team concluded that molecular analysis of circulating tumour cells from the blood of patients with lung cancer offers the possibility of monitoring changes in epithelial tumour genotypes during the course of treatment.

Maheswaran S, Sequist L, Nagrath S et al (2008) Detection of mutations in EGFR in circulating lung-cancer cells. *N Engl J Med* **359:** 366–77

Predicting reperfusion in ST elevation acute myocardial infarction

Experimental studies have shown that if an acute transmural myocardial infarction is reperfused at full pressure there is an immediate and persisting increase in end-diastolic wall thickness as a result of massive intramural oedema, with the amount of oedema inversely related to the residual stenosis in the infarct-related artery. This study investigated if these findings are paralleled in the clinical setting and whether the resultant myocardial substrate differs after percutaneous coronary intervention *vs* thrombolysis.

It was found that full-pressure restoration of epicardial blood flow after transmural myocardial infarction causes an immediate increase in end-diastolic wall thickness, easily detected by echocardiography. In contrast, pressure-limited reperfusion (typical for thrombolysis) results in normal end-diastolic wall thickness. This confirms experimental data that percutaneous coronary intervention and thrombolysis can differ in their resultant myocardial substrate.

Merli E, Sutherland G, Bijnens B et al (2008) Usefulness of changes in left ventricular wall thickness to predict full or partial pressure reperfusion in ST-elevation acute myocardial infarction. *Am J Cardiol* **102:** 249–56

Survival following androgen deprivation therapy for localized prostate cancer

Despite a lack of data, increasing numbers of patients are receiving primary androgen deprivation therapy as an alternative to surgery, radiation or conservative management for the treatment of localized prostate cancer. The aim of this study was to evaluate the association between primary androgen deprivation therapy and survival in elderly men with localized prostate cancer.

The group carried out a population-based cohort study of 19 271 men aged 66 years or older receiving Medicare who did not receive definitive local therapy for clinical stage T1–T2 prostate cancer. These patients were diagnosed in 1992–2002 within predefined American geographical areas, with follow up until 31 December 2006 for all-cause mortality, and until 31 December 2004 for prostate cancer-specific mortality. Instrumental variable analysis was used to address potential biases associated with unmeasured confounding variables.

The study found that primary androgen deprivation therapy is not associated with improved survival among the majority of elderly men with localized prostate cancer when compared with conservative management.

Lu-Yao G, Albertsen P, Moore D et al (2008) Survival following primary androgen deprivation therapy among men with localized prostate cancer. *JAMA* **300**: 173–81