GLOSSARY

BIOINFORMATICS
Computational methods for analyzing sequences and structures

SELDI-TOF
Surface-enhanced laser-desorption-ionization time-of-flight

GRAFT-VERSUS-TUMOR (GVT) EFFECT
When immune cells transplanted from a donor into a cancer patient can recognize the patient's tumor cells, resulting in eradication of these cells

between benign and malignant pheochromocytoma, or predict progression of benign tumors; and there is no cure for metastatic disease. Furthermore, progression can take as long as 20 years in some patients. Brouwers *et al*. employed BIOINFORMATICS to study profiles of low-molecular-mass proteins in sera from 67 pheochromocytoma patients (34 metastatic and 33 benign cases), to determine whether they could be used as biomarkers for tumor behavior.

Serum samples had previously been collected and handled according to the same protocol at four centers; two in the US and one each in Italy and the Slovak Republic. Italian and Slovak samples were shipped to the US so that all samples could be analyzed using SELDI-TOF mass spectrometry simultaneously on the same equipment. Two pattern-recognition algorithms were applied to the protein profiles; both algorithms incorporated testing and validation phases.

Both algorithms identified samples with 100% specificity and sensitivity in distinguishing patients with benign pheochromocytoma and those with malignant disease. Some ionization features of the protein profiles appeared repeatedly in the patterns identified; this might indicate relative importance for discriminating between benign and malignant pheochromocytoma, and the authors plan to study these fragments in more detail as a priority. Subsequent validation with prospective samples could enable patients in clinical settings to be stratified for tailored treatment.

Rebecca Ireland

Original article Brouwers FM *et al.* (2005) Low molecular weight proteomic information distinguishes metastatic from benign pheochromocytoma. *Endocr Relat Cancer* **12:** 263–272

GVT effect of reduced-intensity allogeneic transplantation for Hodgkin's lymphoma

There has been limited evidence for a therapeutic GVT EFFECT in patients with multiply relapsed Hodgkin's lymphoma. Peggs and colleagues therefore investigated the GVT effect of reduced-intensity allogeneic transplantation.

Between October 1997 and August 2003, 49 patients from seven centers in the UK, who had multiply relapsed Hodgkin's lymphoma and who had previously had autologous stem-cell transplantation, participated in this study. All patients underwent reduced-intensity allogeneic transplantation; 31 of these patients had human leukocyte antigen-matched donors to whom they were related, and 18 had unrelated donors. Primary endpoints included toxic effects, non-relapse-related mortality, incidence of graft-versus-host (GVH) disease and toxic effects of adjuvant donor-lymphocyte infusion.

All patients sustained engraftment. Eight patients developed acute GVH disease and seven patients chronic GVH disease before donor lymphocyte infusion. Non-relapse-related mortality was 16.3% overall, and at 730 days median follow-up was found to be significantly higher in those with unrelated donors (34.1%) than in those with related donors (7.2%) at . Four-year overall survival in all patients was 55.7%.

The authors conclude from these results that patients receiving reduced-intensity allogeneic hemopoietic stem-cell transplantation from either related or unrelated donors demonstrated durable response, associated with reduced non-relapse-related mortality and fewer toxic effects compared with conventional transplantation protocols. The authors call for randomized studies to confirm these findings and to rule out selection bias.

Marie Lofthouse

Original article Peggs *et al.* (2005) Clinical evidence of a graft-versus-Hodgkin's lymphoma effect after reduced intensity allogeneic transplantation. *Lancet* **365**: 1934–1941

Darbepoetin alfa: an effective treatment for chemotherapy-related anemia

The novel erythropoetic protein darbepoetin alfa exhibits enhanced biological activity and increased serum half-life compared with other erythropoetic agents used to treat chemotherapy-related anemia. Bartsch *et al.*'s prospective phase II trial has evaluated the effect of darbepoetin alfa on the hemoglobin (Hb) levels of patients undergoing chemotherapy for various malignancies.

Seventy-five patients with Hb levels <10 g/dl or symptomatic anemia received 150 µg darbepoetin alfa weekly by subcutaneous injection. Doses were increased to 300 µg