Needle biopsy grading does not aid selection of patients suitable for transplant for HCC

The introduction of stringent eligibility criteria for hepatic transplantation for hepatocellular carcinoma (HCC) has resulted in marked improvement in outcomes. There is the possibility, however, that a subset of patients might exist who would benefit from liver transplantation despite not meeting these criteria. Recently, some centers have begun to incorporate assessments of tumor grade—as determined by needle core biopsy (NCB)—into selection protocols for hepatic transplantation for HCC. As a result of a study of 211 patients treated for HCC, Pawlik *et al.* have concluded that tumor grade assessed by NCB might be misleading and should not be used to decide which patients receive transplants.

The authors compared preoperative NCB-assessed tumor grade with final surgical pathologic tumor grade. A higher proportion of HCC cases were classified as poorly differentiated on assessment of the final surgical specimen than on preoperative NCB (27.9% vs 15.1%; $P<0.05$); poor differentiation has previously been associated with worse post-transplantation outcomes. Preoperative NCB and postoperative surgical pathology had poor agreement as to tumor grade ($\kappa=0.18$; $P<0.0001$), with a 3-tier grading scheme showing consensus in only 45.2% of cases. Unlike final pathologic tumor grade, preoperative NCB-assessed tumor grade was not associated with presence of microscopic vascular invasion—a strong predictor of post-transplantation prognosis. Additionally, final pathologic grade was an independent predictor of outcome in a multivariate model that included established clinicomorphologic prognostic variables such as tumor size and number—tumor grade determined by NCB was not.

Original article Pawlik TM *et al.* (2007) Preoperative assessment of hepatocellular carcinoma tumor grade using needle biopsy: implications for transplant eligibility. *Ann Surg* **245:** 435–442

Induction chemotherapy does not affect radiation-induced pulmonary damage

Radiation therapy (RT) with concurrent or previous (induction) chemotherapy has been shown to improve clinical outcome in patients with lung cancer when compared with RT alone. RT-induced pulmonary injury is common, however, and might be exacerbated by the effects of induction chemotherapy (IC). The toxic effects of IC could increase the likelihood of subsequent RT causing injury to the lung. Mao *et al.* additionally hypothesized that if IC has already successfully reduced the size of the tumor, there might be less opportunity for RT-induced tumor shrinkage and consequent improvements in lung function to offset the toxic effects of RT.

The authors reviewed data from 91 patients with unresectable lung cancer treated definitively with thoracic RT; 42 of these had received IC. Previous chemotherapy did not consistently affect the rate or magnitude of RT-induced changes in lung function, and the degree of IC-induced tumor shrinkage was not associated with the rate of lung damage following RT, or with the degree of tumor response to RT. There was no significant difference between the groups who had and had not received IC with regard to the average percent change between pre-RT and post-RT pulmonary function test results, although multivariate analysis pointed to a higher rate of RT-associated pneumonitis in patients who received IC ($P=0.01$).

The authors note several limitations to the study. Further research is, therefore, needed to clarify the effect of IC on subsequent RT-induced lung damage.

Original article Mao J *et al.* (2007) The impact of induction chemotherapy and the associated tumor response on subsequent radiation-related changes in lung function and tumor response. *Int J Radiat Oncol Biol Phys* **67:** 1360–1369

PancPRO: family history predicts risk of incident pancreatic cancer

Known genetic factors account for less than 20% of all cases of familial pancreatic cancer. Clinical genetic testing is, therefore, unable to identify a large proportion of the individuals at high risk for this disease. Risk prediction models can act as a surrogate for genetic testing, and can identify target populations for screening programs. In this paper, Wang *et al.* report the development and validation of PancPRO, a Mendelian risk prediction tool for pancreatic cancer.