How effective is ferumoxtran-10 MRI in the diagnosis of lymph node metastases?

Detection of tumor spread to lymph nodes is crucial to provide the best treatment to patients with cancer. Current imaging methods used for detecting lymph node metastases, however, are unreliable. Ferumoxtran-10 is a newly developed contrast agent that can identify malignant nodal infiltration even in small lymph nodes. Will *et al.* have performed a meta-analysis to assess the precision of ferumoxtran-10-enhanced MRI as a predictor of lymph node metastases.

Studies that compared either ferumoxtran-10-enhanced MRI or unenhanced MRI with histological diagnosis were identified from the Ovid, EMBASE, Cochrane and MEDLINE databases. Analyses of the sensitivity and specificity of the imaging techniques were performed on 19 studies involving 631 patients.

Overall, ferumoxtran-10-enhanced MRI was more sensitive, more specific, and showed greater diagnostic precision than unenhanced MRI. Metaregression analysis confirmed that ferumoxtran-10-enhanced MRI showed greater diagnostic precision than unenhanced MRI ($P=0.001$). Studies assessing the abdomen and pelvis showed greater diagnostic precision than those assessing other body regions ($P=0.006$).

The authors conclude that ferumoxtran-10-enhanced MRI provides better diagnostic accuracy than unenhanced MRI, and that it is sensitive and specific for lymph-node metastases, particularly those in the abdomen or pelvis. They recommend the initiation of further studies to assess the safety and tolerability of this imaging method and its applicability to different patient groups.

Rebecca Ireland

Original article Will O *et al.* (2006) Diagnostic precision of nanoparticle-enhanced MRI for lymph-node metastases: a meta-analysis. *Lancet Oncol* **7**: 52–60

Polymorphisms in *IGF1* associated with an increased risk of prostate cancer

Inherited variations in the insulin-like growth factor 1 (*IGF1*) gene could be associated with an increased risk of prostate cancer, says a study published in the *Journal of the National Cancer Institute*. The authors believe this to be the first study to systematically examine the relationship between *IGF1* variation and risk of prostate cancer in a large multiethnic case-control population—the study included 2,320 prostate cancer patients and 2,290 matched controls without prostate cancer.

Through a series of analyses of the *IGF1* gene and its single-nucleotide polymorphisms (SNPs), the authors identified several *IGF1* SNPs and haplotypes that were associated with increased prostate cancer risk. Seventeen SNPs were nominally significantly associated with risk of prostate cancer ($P_{\text{trend}}=0.002-0.05$). The two most important polymorphisms were perfectly correlated with each other and are therefore genetically redundant. It was estimated that roughly 10% of the cases in this study could be attributed to carrying the SNP4 variant. Through subgroup analyses, the authors observed that the genetic effects identified in the study were consistent between different ethnic groups.

These results bolster previous observations of a link between IGF1 and development of prostate cancer. Although the authors acknowledge some limitations to the study, it provides an important foundation for further research into the influence of the *IGF1* gene on circulating IGF1 levels, and the relationship between *IGF1* variation and other genetic and environmental factors.

Pippa Murdie

Original article Cheng I *et al.* (2006) Common genetic variation in IGF1 and prostate cancer risk in the Multiethnic Cohort. *J Natl Cancer Inst* **98**: 123–134