Serio and co-workers report their valuable experience with the effects of TNF antagonists on the lipid profiles of 62 patients with rheumatoid arthritis (RA). They found no difference across the three TNF antagonists. In contrast to our results, increases in the total cholesterol level and, more importantly, in the HDL-cholesterol level were noted. However, the atherogenic index (total cholesterol/HDL-cholesterol) remained unchanged, in keeping with our findings. A recent study established that the atherogenic index was a better predictor of myocardial infarction than was the HDL-cholesterol level.[1]


Dahlqvist SR, Engstrand S, Berglin E, et al. Conversion towards an atherogenic lipid profile in rheumatoid arthritis patients during long-term infliximab therapy.[2]

I have read with interest a recent paper by Jing et al[1], describing a study employing MRI to track superparamagnetic iron oxide nanoparticle (SPIO)-labeled, bone marrow-derived mesenchymal stem cells (MSCs) injected into the knee joint cavity in a rabbit articular cartilage defect model. The rabbit knee joints underwent gradient echo T2*-weighted MRI 1, 4, 8, and 12 weeks post-injection. Histology studies were also performed 4 and 12 weeks post-MSCs injection. It was reported that 12 weeks post-MSCs injection no SPIO containing MSCs was observed with MRI adjacent to cartilage defects, and histology did not show SPIO containing MSCs in cartilage defects sites. The authors concluded that the injected MSCs do not actively participate in the repair of articular cartilage defects following intra-articular injection.

However, several factors need to be considered before such a conclusion is drawn. First is the SPIO labeling efficiency of MSCs do not actively participate in the repair of articular cartilage defects sites. The authors concluded that the injected MSCs do not actively participate in the repair of articular cartilage defects following intra-articular injection.

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The recently reported decrease in cardiovascular mortality may, however, be related to an increase in the antioxidant effect of HDL-cholesterol induced by TNF antagonist therapy.[2]

References


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Comment on Jing et al. original article “In vivo MR imaging tracking of magnetic iron oxide nanoparticle labeled, engineered, autologous bone marrow mesenchymal stem cells following intra-articular injection”

Keywords: MR imaging; Magnetic iron oxide nanoparticle; Mesenchymal stem cells; Cartilage

I have read with interest a recent paper by Jing et al [1], describing a study employing MRI to track superparamagnetic iron oxide nanoparticle (SPIO)-labeled, bone marrow-derived mesenchymal stem cells (MSCs) injected into the knee joint cavity in a rabbit articular cartilage defect model. The rabbit knee joints underwent gradient echo T2*-weighted MRI 1, 4, 8 and 12 weeks post-injection. Histology studies were also performed 4 and 12 weeks post-MSCs injection. It was reported that 12 weeks post-MSCs injection no SPIO containing MSCs was observed with MRI adjacent to cartilage defects, and histology did not show SPIO containing MSCs in cartilage defects sites. The authors concluded that the injected MSCs do not actively participate in the repair of articular cartilage defects following intra-articular injection.

However, several factors need to be considered before such a conclusion is drawn. First is the SPIO labeling efficiency of the MSCs during authors’ experiment. By looking at the figures 1B and 2F in paper, it can be noted that a substantial of MSCs were not labeled with SPIOs, and some SPIOs might be merely attached to the surface of MSCs and might fall off during later in vitro cell handling and also after intra-articular injection. And also as shown with figure 3 and 4, the loading of SPIO...