Heading a soccer ball found to be riskier for female players

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(HealthDay)—Female soccer players exhibit more widespread evidence

of microstructural white matter alteration than males, despite having similar exposure to heading, according to a study recently published in *Radiology*.

Todd G. Rubin, from the Albert Einstein College of Medicine in Bronx, N.Y., and colleagues conducted a cross-sectional study involving 98 individuals enrolled in a larger prospective study of amateur soccer players who were matched in a 1:1 ratio for age and history of soccer heading in the previous 12 months. A total of 49 men and 49 women with median total soccer headings of 487 and 469 per year, respectively, underwent 3.0-T diffusion-tensor imaging.

The researchers identified three regions in which greater heading exposure was associated with lower fractional anisotropy (FA) among men; eight such regions were identified among women. In seven of these eight regions identified in women, women had a stronger correlation between heading and FA than men. For the regions in which heading was associated with FA among men, there was no significant between-sex difference for heading with FA.

"With similar exposure to heading, women exhibit more widespread evidence of microstructural white matter alteration than do men, suggesting preliminary support for a biologic divergence of brain response to repetitive trauma," the authors write.

Several authors disclosed financial ties to the pharmaceutical, publishing, medical technology, and health care industries. One author disclosed receiving payment for expert witness work.

More information: Abstract/Full Text (subscription or payment may be required)