FDG vs PET/MR for Epilepsy in Children

Brain imaging with FDG is as accurate as PET/MR scanning for diagnosis of children with localization-related epilepsy, according to a study published in Pediatric Radiology.

Researchers from Texas, Arizona, and Ohio performed a prospective study to compare the diagnostic accuracy of PET/MR-acquired FDG brain exams to that of PET/CT with respect to identifying seizure foci in children with localization-related epilepsy. The researchers studied images from 35 patients (median age 11) who had been referred for a diagnosis of localization-related epilepsy; 14 were female. Attenuation-corrected FDG images acquired at PET/MR and PET/CT were interpreted independently by five expert readers who were blinded to the scanner used for acquisition and attenuation correction as well as all other clinical and imaging data. The locale of seizure origin determined at multidisciplinary epilepsy surgery work rounds was considered the reference standard. Non-inferiority testing for paired data was used to compare the diagnostic accuracy of PET/MR to that of PET/CT. The results showed that image quality did not differ significantly between the two modalities and the accuracy of PET/MR was not inferior to that of PET/CT for localization of a seizure focus.

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