Children's Hospital of Philadelphia PolicyLab

The Implications of Brain MRI in Autism Spectrum Disorder

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ABSTRACT: Our objective was to describe the types of providers who refer children with autism spectrum disorder (ASD) for brain magnetic resonance imaging (MRI), the referral reason, and MRI results. The most common referral reasons were autism spectrum disorder with seizures (33.7%), autism spectrum disorder alone (26.3%), and autism spectrum disorder with abnormal neurologic examination or preexisting finding (24%). Neurology (62.5%), general pediatric (22.3%), and developmental/behavioral practitioners (8.9%) referred the most patients. The prevalence of definite pathology was highest in children referred for autism spectrum disorder with abnormal neurologic examination/preexisting finding (26.2%, 95% CI: 16.8%-36%), headaches (25.7%, 95% CI: 11.2%-40.2%), or seizures (22%, 95% CI: 14.6%-29.5%), and was lowest in children referred for autism spectrum disorder alone (6.5%, 95% CI: 1.5%-11.6%). We concluded that there is a low prevalence of definite pathology in children with autism spectrum disorder undergoing brain MRI. In children with abnormal neurologic examination or preexisting finding, seizures, or headaches, one may consider performing brain MRI given the higher prevalence of pathology.

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