Accentuated Virchow-Robin Spaces in the Centrum Semiovale in Children with Autistic Spectrum Disorders

Hayman, A. ¹·Shaw, J. B. ²·Loveland, K. A. ²·Taber, K. H. ¹·Pearson, D. A. ²
¹Baylor College of Medicine, Houston, TX, ²University of Texas Medical School, Houston, TX.

Purpose
To illustrate the incidence of accentuated and/or dilated Virchow-Robin children and adolescents with an autistic spectrum disorder.

Materials & Methods
Fourteen male children with an autistic spectrum disorder, verified by use of standardized procedures (Autism Diagnostic Interview-Revised and Autism Diagnostic Observation Schedule-Revised), received MR imaging. Six children and adolescents (5 males, 1 female) without autism, as determined using the same procedures, were scanned as a comparison group. MR scans were performed using a 1.5 T scanner. Two T1-weighted SPGR sequences (0.7 mm coronal thin-slice, 0 mm gap; 1.5 mm sagittal, 0 mm gap) and a complementary sagittal T2-weighted fast spin-echo sequence (1.5 mm, 0 mm gap) were obtained. A review of the relevant imaging and psychological literature was conducted also. A neuroradiologist and a neurobiologist without clinical information determined the incidence of normal, accentuated, and/or dilated Virchow-Robin spaces.

Results
Nine of 14 subjects with autistic spectrum disorders (64%) had accentuated and/or dilated Virchow-Robin spaces in the centrum semiovale. No abnormal spaces were present in the control subjects.

Conclusion
Autistic spectrum disorders should be added to the list of children's diseases associated with accentuated Virchow-Robin spaces.