Neurocysticercosis: Clinical Experience in Large Urban Safety Net Hospital in Chicago

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Background

Neurocysticercosis is a major cause of adult-onset epilepsy and premature death in adults. We aimed to describe the clinical and demographic features in a large patient population in Chicago of which published data is limited.

Methodology

A retrospective chart search with ICD9/ICD10 diagnostic code for Neurocysticercosis and neuroimaging suggestive of Neurocysticercosis was performed for clinical encounters in the hospital or affiliated clinics of Cook County Health between 2013-2018. After a careful chart review, patients who were clinically diagnosed with Neurocysticercosis were included in the study. A descriptive analysis of the data are presented, and linear regression analysis was done to compare variables.

Conclusions

Our study agrees with previously reported data regarding seizure being the most common presenting complaint, generalized seizures being the most common type. The increasing risk of active lesions with increasing duration since the last visit to endemic country raises the concern that the diagnosis is significantly delayed in the immigrant population.

Results

Out of a total of 90 patients all of whom were immigrants, the country of origin was reported in 60% and the majority were from Mexico (83.3%). The median age at the time of diagnosis is 29.5 (range < 1 to 67). The most common presenting complaints were seizures (62.1%) and headache (27.6%). The most common type of seizure was generalized (48.8%) followed by focal (36.6%). Approximately a third of patients also had hydrocephalus (33.7%). Many patients had > 1 lesion on neuroimaging (70.7%) out of which the most common type were parenchymal lesions (60.9%) followed by ventricular and subarachnoid. Calcified (45.5%) and cystic lesions (44.2%) were found in about equal number of cases. A minority had both types of lesions (10.4%). Contrast enhancement or edema surrounding the lesion was found in about half (47.2%) of the cases. The number of years since the last visit to an endemic country before diagnosis was reported in 46.6% of cases and the mean was 9.8 years (range 0 to 30) and On linear regression analysis it was found that per year increase since the last visit increased the chance of having contrast enhancement/edema surrounding the lesion in neuroimaging or requiring treatment with antiparasitic medications. (OR 1.77 (1.08-2.90), P= 0.03).

Country of origin	
Mexico	83.3%
Guatemala	9.3%
Honduras	3.7%
Dominican Republic	1.9%
El Salvador	1.9%
Presenting complaint	
Seizure	62.1%
Headache	27.6%
Other	2.3%
Abnormal speech	1.1%
Unsteady gait	1.1%
Dizziness	3.4%
Others	2.3%
Seizures	67.5%
Seizure type	
Generalized	48.8%
Focal with generalization	14.6%
Focal	36.6%
Type of Lesion	
Calcified	45.5%
Cyst	44.2%
Both	10.4%
Enhancement/edema of lesions	47.2%
Treatment	46.3%

Variable	OR	P-value
>1 lesion		
Age (per year increase)	1.05 (1.00-1.09)	0.04
Female	3.52 (1.26-9.82)	0.02
Headache	0.30 (0.09-0.95)	0.04
Receiving treatment		
Year since immigration (per year increase)	1.77 (1.08-2.90)	0.03

Contact

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