

## Background

Neurocysticercosis (NCC) is the most common CNS helminthic infection and a common cause of seizures in endemic regions.

Growing evidence indicates that calcified parenchymal cysticercosis (CaNCC) is not inactive and can provoke inflammation in some cases. Perilesional edema (PLE) can sometimes be seen around CaNCC, often leading to symptoms.

To describe the clinical, radiologic, and serologic characteristics of a large series of patients with CaNCC.

## Methods

Retrospective review of demographic/clinical information, imaging, and serology of patients with confirmed CaNCC between 1996-2022.

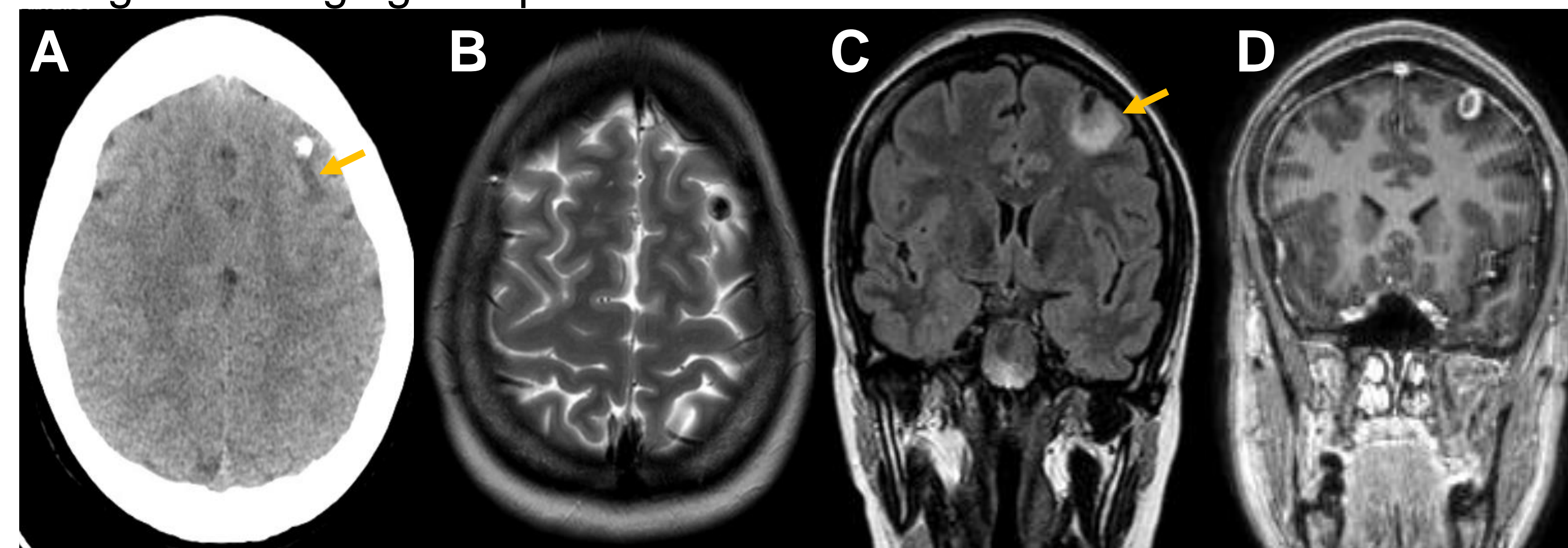
## Results

- 87/302 patients (28.8%) had exclusively CaNCC.
- Most individuals were female, born in Mexico, with a mean age of 38.4 years and a median time from migration of 12 years.
- Patients with PLE tend to present closer to the time of immigration compared to patients with no PLE.
- The most common presentation was seizures (n=43). Of them, 53.5% had PLE.
- 37 patients presented with headaches; among these, only 16.2% had PLE.
- Nine cases of CaNCC were incidentally found on imaging.
- Western blot (WB) was positive in 19 cases while and serum cysticercosis antigen was negative in all.
- Enhancement on T1-MRI after gadolinium administration was present in all patients with PLE and also commonly seen in patients with no PLE.

Table 1. Characteristics of patients with CaNCC

n = 87	
<b>SOCIODEMOGRAPHICS</b>	
Sex, male (n, %)	44 (50.6)
Age, years (mean ± SD)	38.4 ± 15.3
Migrant (n, %)	85 (97.7)
Area of origin (n, %)	
Mexico	28 (32.2)
South America	23 (26.4)
Central America	17 (19.5)
Caribbean (DR, Haiti)	9 (10.3)
Asia	8 (9.2)
North America	2 (2.3)
Time from migration, years (median, IQR)	12 [4-20]

Image 1 - Imaging of a patient with PLE



A. Axial image on CT reveals calcification in the left frontal lobe with perilesional edema (arrow).

B. Axial image on T2 sequence-MRI reveals a hypointense defect corresponding to calcification on CT.

C. FLAIR sequence-MRI evidence PLE (arrow) surrounding CaNCC.

D. T1 sequence-MRI after gad reveals a ring-shaped contrast enhancement which corresponds to the calcification

Table 2. Clinical and demographic characteristics according to presence of PLE

	No PLE n = 62	PLE n = 25	Total n = 87	p-value
<b>DEMOGRAPHICS</b>				
Time from immigration	6.5 [14-20.5]	3 [4-8]	12 [4-20]	<0.001
<b>CLINICAL PRESENTATION</b>				
Seizure	20	23	43 (49.4)	<0.001
Headaches	29	6	37 (42.5)	0.299
Incidental finding	9	0	9 (10.3)	0.055
<b>SEROLOGY</b>				
Western blot	12	6	19 (21.8)	0.771
Cysticercosis antigen	0	0	0	
<b>IMAGING</b>				
Enhancement	12	25	37 (42.5)	<0.001

