

Empiric Acyclovir use for suspected Herpes meningoencephalitis, How are we doing?

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BACKGROUND

- Herpes simplex meningoencephalitis (HME) is a sporadic clinical event.
- The incidence of HME is 1 to 2 cases per 1 million persons per year in the USA.
- The diagnosis of HME requires CNS imaging and CSF analysis with HSV PCR confirmation.
- Empiric early intravenous Acyclovir(ACV) use for suspected HME is recommended.

OBJECTIVE

- The goal of the study was to analyze ACV utilization in a cohort of patients suspected of having HME.
- To analyze the clinical presentation triggering suspicion of HME prior to start of ACV.
- To analyze laboratory modalities used to make the diagnosis of HME
- To analyze radiological tests done to support the diagnosis of HME.
- To describe the discharge diagnosis in this cohort of patients suspected of having HME.

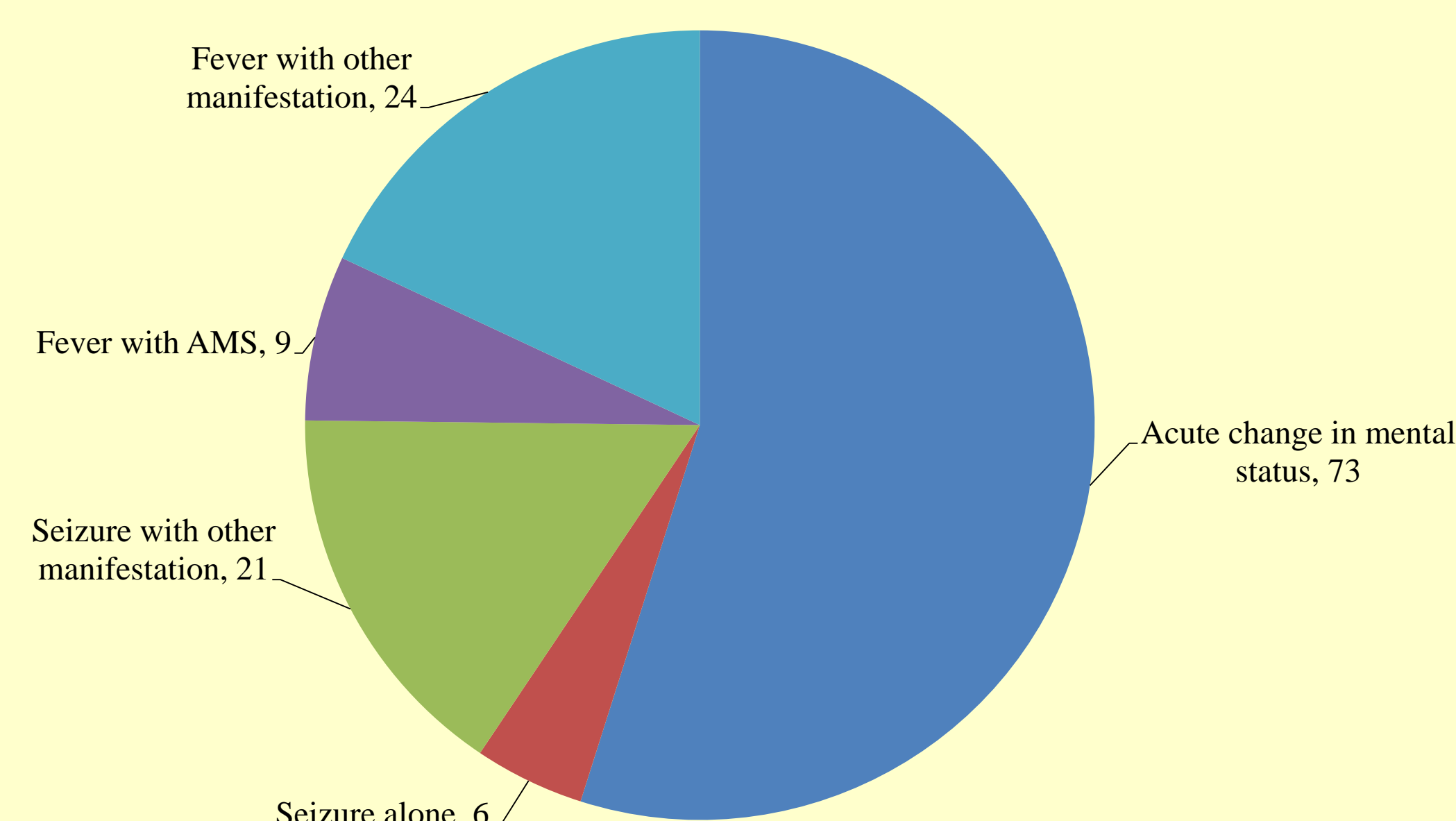
METHODS

- A retrospective analysis in a 680 bed tertiary care teaching hospital.
- Adult patients suspected of having HME who were empirically treated with ACV were included.
- Study period June 2008 - December 2015.
- Adult patients treated with I.V ACV for presumed HME were included.
- Data was collected for
 - demographics,
 - co-morbid conditions,
 - clinical manifestations,
 - CT, MRI brain findings,
 - lumbar puncture (LP) results,
 - duration of ACV,
 - side effects of ACV,
 - discharge diagnosis, and
 - Outcome.

RESULTS

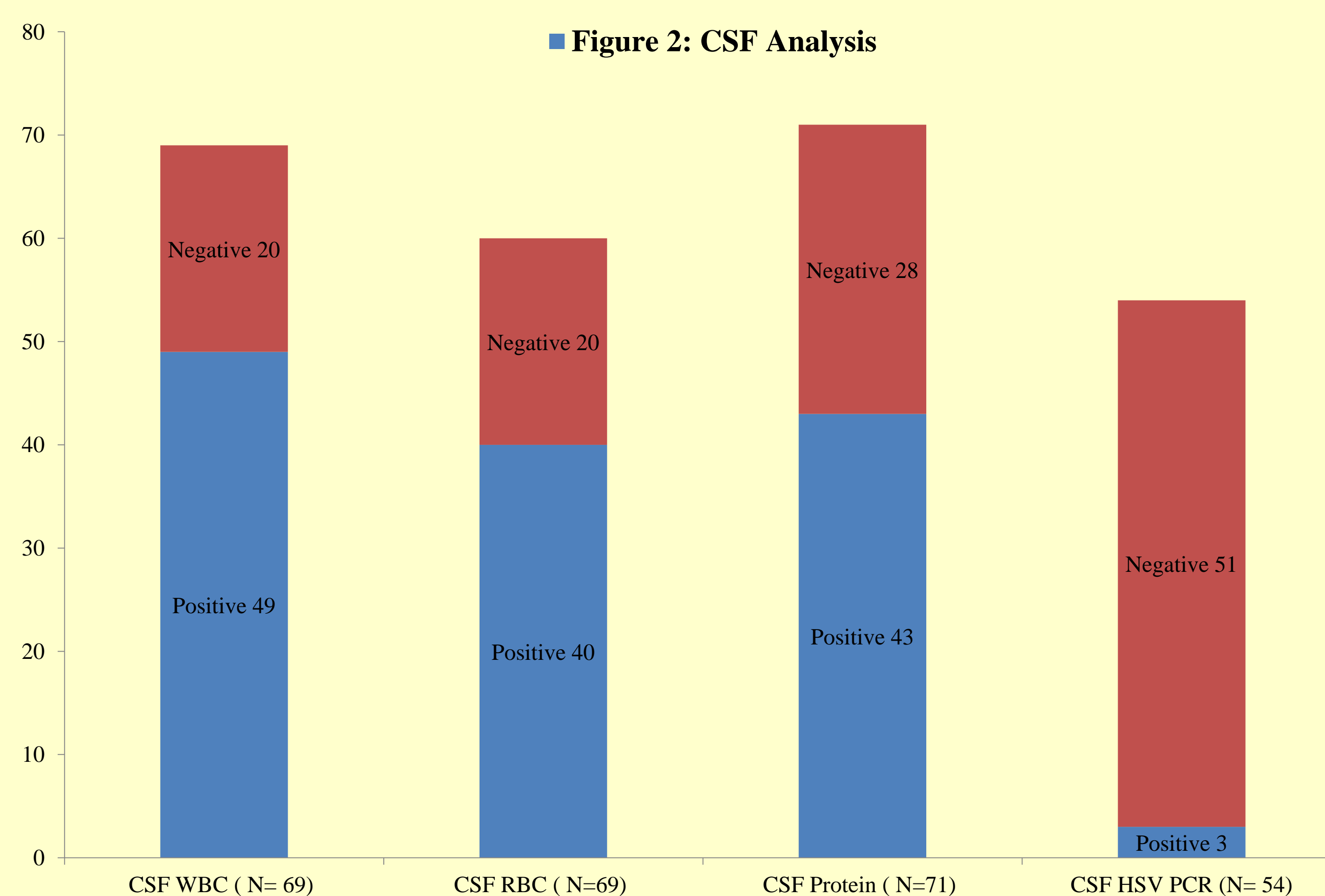
- One hundred pts were included
- Mean age 53 years (Range 18-91). Males 45(45%)

Figure 1: Clinical Presentation



- MRI of brain was performed in 49 pts, 7 (14.2%) had findings suggestive of HME.
- CT was performed in 85 pts, 82 were done **with- out** contrast, 9 (10.6%) had findings suggestive of HME.
- LP was done on 74(74%) patients, CSF HSV PCR was sent on 54/74 (73%), 3(4%) had a (+) HSV PCR.
- 26 patients didn't have an LP, of whom 21 (80%) presented with altered mental status.

Figure 2: CSF Analysis



CSF WBC: > 5/HPF- positive , < 5/HPF- Negative
 CSF RBC: > 10/HPF- positive, < 10/HPF- Negative
 CSF Protein: >45mg/dL- Positive, <45mg/dL- Negative

RESULTS

- Mean duration of Acyclovir use was 5 days (Range 1-17 days).
- 31% of patients were started on ACV in the Emergency room.
- 9 patients developed renal failure on ACV, 6 of them had **no** evidence of HME

Figure 3: Discharge Diagnosis

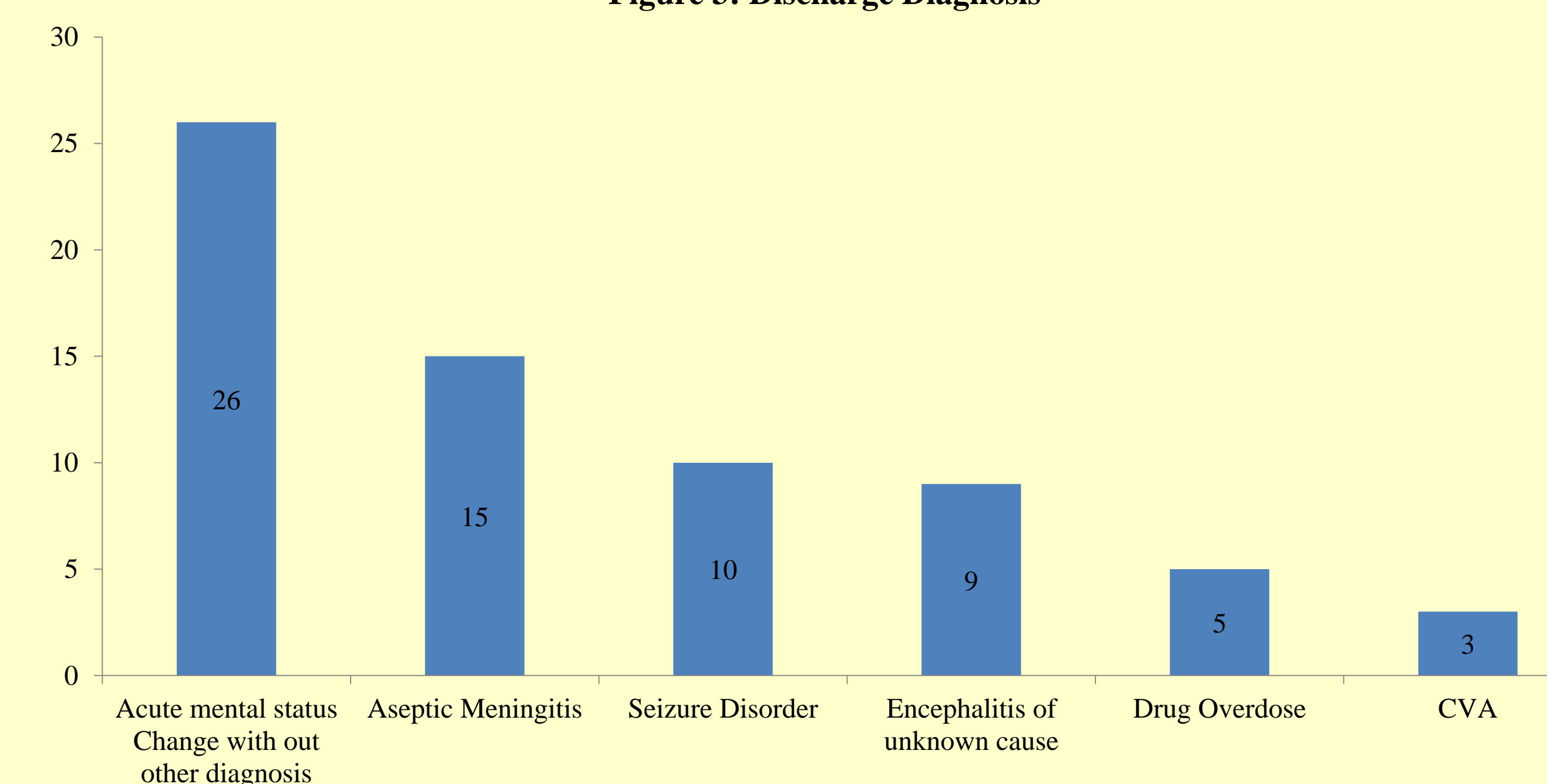
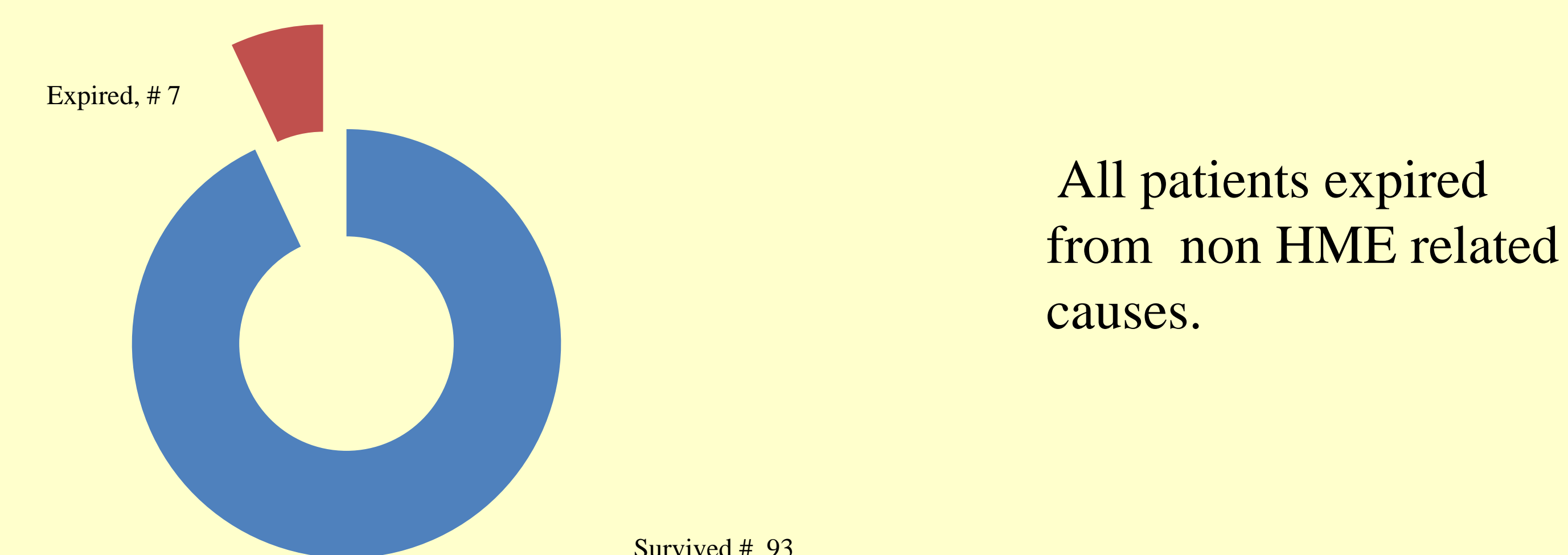


Figure 4: Outcome (N=100)



CONCLUSIONS

- In our institution, ACV for presumed HME was used and continued, despite lack of an objective support of the diagnosis.
- The most common diagnostic modality used was CT scan without contrast.
- Despite a presumed diagnosis of HME, an LP was done only on 3/4 of the patients and HSV PCR was sent only in half of those who had it.
- The diagnosis of HSV HME could not be supported in 3/4 of the patients.
- Acyclovir related renal failure was detected in patients who did not have a diagnosis of HME.
- Better utilization of radiological and CSF HSV PCR could reduce unnecessary use of ACV and improve diagnostic accuracy of presumed HME.