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Clinical audit on management of suspected meningoencephalitis patients at lady reading Hospital, Peshawar

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Abstract---Objective: The purpose of this study was to observe management and empiric treatment of meningitis/encephalitis without doing initial investigation CSF-RE or delaying it, at Department of Emergency Medicine, General Medicine and Neurology wards. Method: It is an observational retrospective study this study was carried out at the General medicine, Neurology and Emergency units from July 2023 to Dec 2023. Total of 54 patients were included. Before conduction of study Ethical Review Committee permission was sought to access patient Data. We studied their hospital stored data on HMIS such as admission Date, start of empiric antibiotics, CT Scans, Blood Culture and CSF-REs. Results: 98% of patients were started on empiric Antibiotics without doing CSF-RE/LP on initial presentation at the hospital. In 64% patients CSF-RE was delayed and subsequently performed. In 34% CSF-RE was never carried out. Conclusion: We did presentations, Information campaigns, to follow standard Guidelines for Suspected meningitis /encephalitis to limit potential side effects, Development of Resistance to Antibiotics and to limit treatment costs.

Keywords---Meningitis, Encephalitis, Csf-Re, Antibiotics.

Introduction

LP is essential or extremely useful in the diagnosis of bacterial, fungal, mycobacterial, and viral central nervous system (CNS) infections. The number of definite indications for LP has decreased with the advent of better neuroimaging procedures including computed tomography (CT) scans and magnetic resonance imaging (MRI), but urgent LP is still indicated to diagnose two serious conditions Suspected infection⁽¹⁾ (except for brain abscess or a Para meningeal process). The most common use of the LP is to diagnose or exclude meningitis in patients presenting with some combination of fever, altered mental status, headache, or meningeal signs. Examination of the CSF has a high sensitivity and specificity for determining the presence of bacterial and fungal meningitis CSF analysis is the gold standard for diagnosis of meningitis as well as to identify its etiology⁽²⁾. Patients with suspected meningitis is one of the major indication for LP and CSF study. **CONTRAINDICATIONS:** Although there are no absolute contraindications to performing the procedure, caution should be used in patients with Possible raised intracranial pressure (ICP) with risk for cerebral herniation due to obstructive hydrocephalus, cerebral oedema, or space-occupying lesions, Thrombocytopenia or other bleeding diathesis, including ongoing anticoagulant therapy Suspected spinal epidural abscess In many situations, high-risk patients can be identified and risks can be mitigated⁽³⁾. When the LP is delayed or deferred in the setting of suspected bacterial meningitis, it is important to obtain blood cultures (which reveal the pathogen in more than half of patients) and promptly institute antibiotic therapy⁽⁴⁾. Urgent evaluation and treatment of increased ICP, along with the administration of antibiotics and steroids, should be instituted promptly when this is suspected⁽⁵⁾. The purpose of our study is to assess to how extent guidelines were followed.

Materials and Methods

In order to check the suspected meningoencephalitis patients admitted in Medical wards in 2023, we examined the files of all adult patients admitted to the Medicine units/EM/Neurology between July-2023 to December-2023. We checked the files of all those patients whom are suspected and empirically treated for Meningitis/Encephalitis including Date of Arrival, examination notes, progress notes Lab reports, Imaging reports and Csf-RE/LP reports and Medication history. We compared this clinical practice with the current standard international guidelines. Data entry was done continuously using a data collection sheet. Ethical approval to conduct this audit was granted from the chairperson to all Medical Wards and consultant physicians. (Lady Reading Hospital Peshawar). Data was analyzed on SPSS version 2023.

Results

In the following tables, total of 54 patients who were studied gender distribution 30(57.7%) patients were male and 24(42.3%) patients were female as shown in Table. 98% of patients were started on empiric Antibiotics without doing CSF-RE/LP on initial presentation to the hospital. In 64% of patients CSF-RE was delayed and subsequently performed. In 34% CSF-RE was never carried out. CT-Scan was done in 71.1% on initial presentation. In 63.5% of patients Antibiotics were tailored to sensitive Antibiotics after culture reports.

Conclusion & Recommendation Statement

In conclusion, our study revealed that standard guidelines were not followed. And this area needs improvement. Adhering to standard guidelines are enhanced by delivering written Pamphlets, Poster Presentations, and Delivering lectures.

Conflict of Interest: The study has no conflict of interest to declare by any author.

No. of Pts. Treated Empirically Without Doing CSF-RE

Frequency		Percent	Valid Percent	CumulativePercent
Valid	Yes	51	98.1	100.0
Missing	System	1	1.9	
Total		52	100.0	

No. of Pts. Antibiotics were Tailored to SensitiveAntibiotics after Culture Reports

Frequency		Percent	Valid Percent	CumulativePercent
Valid	Yes	33	63.5	63.5
	No	19	36.5	100.0
Total		52	100.0	

CSF-RE Done on The Same Day

Frequency			Percent	Valid Percent	umulativePercent
Valid	Yes	15	28.8	28.8	28.8
	No	37	71.2	71.2	100.0
	Total	52	100.0	100.0	

CSF-RE Indicated But Delayed

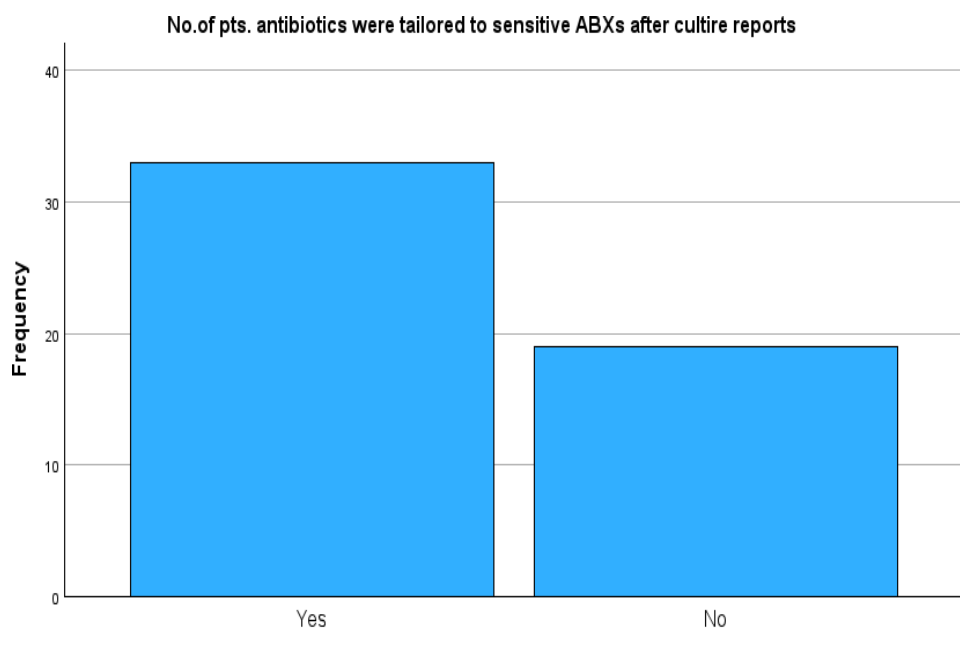
Frequency			Percent	Valid Percent	umulativePercent
Valid	Yes	34	65.4	65.4	65.4
	No	18	34.6	34.6	100.0
	Total	52	100.0	100.0	

CT-Scan Done on Initial Presentation

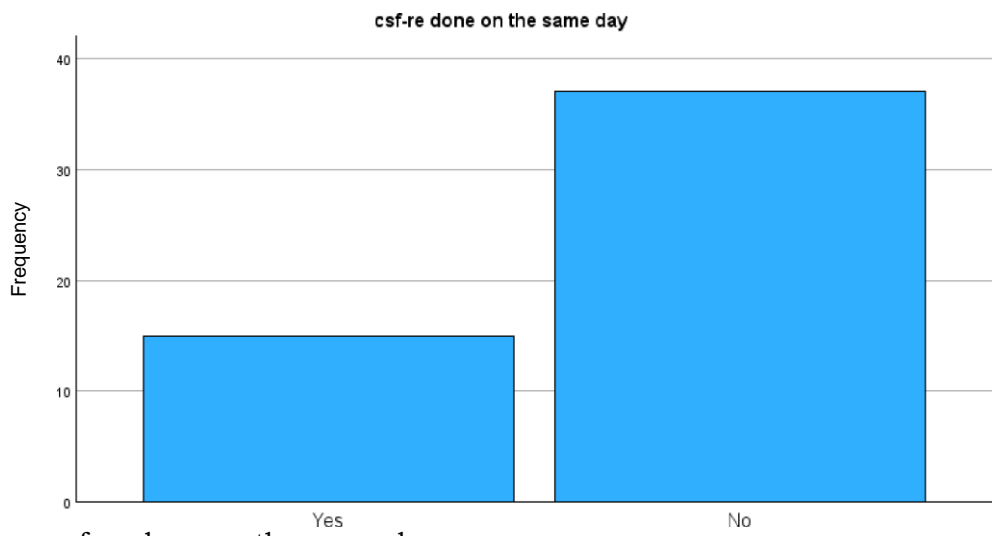
Frequency			Percent	Valid Percent	umulativePercent
Valid	Yes	37	71.2	71.2	71.2
	No	15	28.8	28.8	100.0
	Total	52	100.0	100.0	

Gender

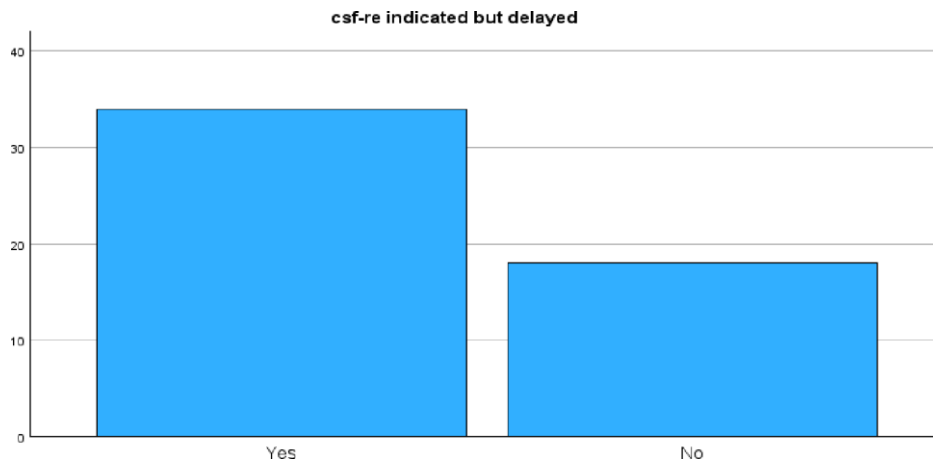
Frequency			Percent	Valid Percent	umulativePercent
Valid	Male	30	57.7	57.7	57.7
	Female	22	42.3	42.3	100.0
	Total	52	100.0	100.0	



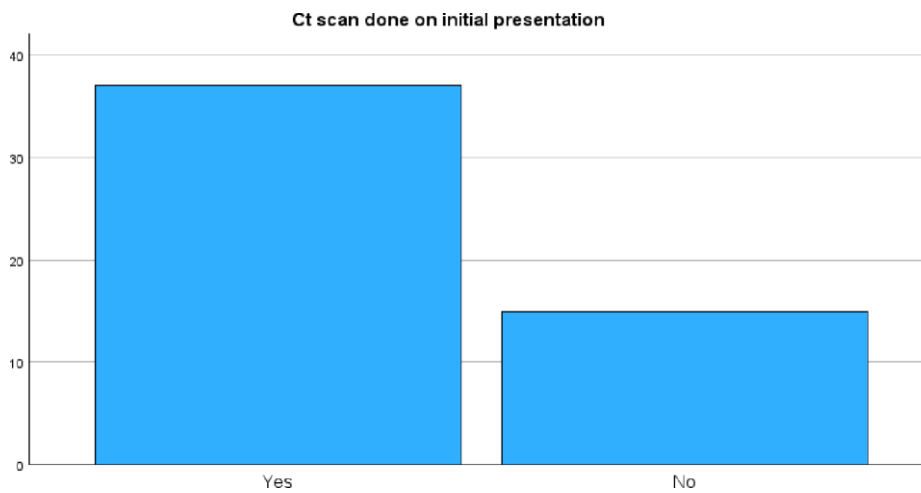
No. of pts. antibiotics were tailored to sensitive ABXs after culture reports



csf-re done on the same day



csf-re indicated but delayed



Ct scan done on initial presentation

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