



MARGINAL ZONE LYMPHOMA A INCIDENTAL DIAGNOSIS IN A CASE OF ASEPTIC MENINGITIS.

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ABSTRACT

Aseptic meningitis is most commonly attributed to viral aetiologies but may occasionally represent an underlying malignancy. Marginal zone lymphoma (MZL), an indolent B-cell lymphoma, rarely involves the central nervous system (CNS). We report a case of a 65-year-old male who presented with clinical features of aseptic meningitis and was subsequently diagnosed with marginal zone lymphoma with probable leptomeningeal involvement. This case highlights the importance of considering haematological malignancies in elderly male with aseptic Meningitis

KEYWORDS :

INTRODUCTION:-

Aseptic meningitis is defined as meningeal inflammation with negative routine bacterial cultures. While viral infections are the most common cause, other aetiologies include autoimmune disorders, drug-induced reactions, and malignancies.

Marginal zone lymphoma (MZL) is a low-grade B-cell lymphoma, typically involving extra nodal sites such as mucosa-associated lymphoid tissue (MALT), lymph nodes, or spleen. CNS involvement in MZL is rare, and presentation as aseptic meningitis is exceedingly uncommon. Early recognition is essential as management differs significantly from infectious causes.

CASE PRESENTATION:-

Patient Information:- A 65-year-old male from Solapur district presented with: Fever and altered sensorium for 7 days

No significant prior history of tuberculosis, malignancy, or immunosuppression was documented.

Clinical Findings:-

On admission:- Patient was drowsy with sign of meningeal irritation.

- (neck rigidity, high grade fever and altered sensorium).
- Vitals were stable
- No focal neurological deficits were noted.

Diagnostic Assessment:-

Laboratory Investigations:-

- Random blood sugar: ~119 mg/dL
- Blood urea: ~56 mg/dL
- Serum creatinine: ~1.0 mg/dL
- Electrolytes: Within normal limits Infectious Workup
- Dengue: Negative
- Malaria: Negative
- Widal test: Negative

Neuroimaging:-

CT/MRI brain: suggestive of small acute infarct measuring 20 x 7 mm in size in the right periventricular white matter in the corona radiata.

Cerebrospinal Fluid (CSF) Analysis:-

CSF findings were suggestive of aseptic meningitis:-
Cytology :- 120 nucleated cells (80% neutrophils and 20% lymphocytes) Mildly elevated protein (106 mg/dl) Normal glucose (63 gm/dl) No bacterial growth

Clinical Course:-

The patient was initially managed as a case of pyogenic meningitis with empirical intravenous antibiotics and supportive ICU care.

During routine investigation on peripheral blood smear abnormal cells were seen.

Haemogram:-

- RBC- 3.95 x 10⁹/microliter, Hb-11.47 gm/dl, HCT-31.9%, MCV-80.8 fL
- RDW-CV-14.2%
- WBC 25.15 x 10⁹/microliter.
- PLT-153.6 x 10⁹/microliter.

Peripheral Smear Report :-

- RBC Predominantly normocytic normochromic, few hypochromic microcytic seen.
- WBC 25.15 x 10⁹/microliter,
- Blasts -47%-Large cells with round, large nucleus having prominent one to two nucleoli and moderate amount of cytoplasm.
- NE-34%-Hypersegmented neutrophils seen.
- LY-15%, MO-2%, EO-1%, BA-0%, Bands-0%, Metamyelocytes-0%.
- myelocytes-1%, promyelocytes-0%.
- Few smudge cells seen.
- Platelets Adequate on smear.
- Parasites Not seen.
- Impression-Diagnosis of acute leukaemia is suggested
- Advised-1. Bone marrow aspiration study.
- 2. Cytogenetic and flow cytometry for confirmation and subtype

Haematologist opinion was taken :-

- Urgent bone marrow
- Flow cytometry for acute leukaemia
- Cytogenetic

IMMUNOPHENOTYPING REPORT (Leukemia lymphoma panel)

- Clinical history: High WBC under evaluation
- peripheral blood ETSTA Lamate Funan
- Bethod/Instrument/Software: Flow cytometry/Beckman Coulter Dx FLEX 10 color /Kaluza
- Lyn Stain Mac
- Interpretation
- CD18 moderate Positive
- CD2 Bright Positive

- CD180. Moderate Positive
- Kappa Moderate Positive
- CD23 Dim Positive
- CD22. Bright (94.71%) Positive
- CD45 Bright Positive
- iAbnormal population: 77% Monoclonal & cell

Impression: Immunophenotyping findings of peripheral consistent with CD5-CD10-B cell lymphoproliferative disease (B-CLPD) Brate CD180 with negative CD200 favour possibility of marginal zone lymphoma.

Bone marrow followed by flow cytometry revealed marginal zone lymphoma.

Final Diagnosis :-Marginal zone lymphoma with probable CNS (leptomeningeal) involvement presenting as aseptic meningitis.

Therapeutic Intervention:-

Initial: Empirical antibiotics and supportive care

Definitive:

- Referral to haematology
- Planned chemotherapy (rituximab-based regimen)
- Consideration for intrathecal therapy

Outcome and Follow-Up:-

- The patient showed partial clinical stabilization with supportive management.
- Definitive oncological treatment was planned; however, long-term follow-up details are limited.

DISCUSSION:-

Aseptic meningitis is commonly viral in origin, but other differential should also be considered especially if presented in elderly age group as in this case.

Malignancy-related meningitis, particularly leptomeningeal carcinomatous, is a recognized but uncommon cause.

Marginal zone lymphoma rarely involves the CNS. When it does, it may present with:

- Altered mental status
- Chronic meningitis-like symptoms
- Non-specific CSF findings

This case underscores several important clinical points:

- -Key Learning Points
- Not all aseptic meningitis is viral
- Elderly patients with atypical presentations need broader differentials.

CONCLUSION:-

Marginal zone lymphoma presenting as aseptic meningitis is rare but clinically significant. In cases of meningitis with negative infectious workup, malignancy should be considered. Early diagnosis can facilitate appropriate oncological management and improve outcomes.

Consent:-

Informed consent was obtained from the patient/attendant for publication.

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