

# CLINICAL RELEVANCE OF NEUTROPHIL-TO-LYMPHOCYTE RATIO IN GUILLAIN-BARRÉ SYNDROME

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## Introduction

- ❑ Guillain-Barré Syndrome (GBS), acute autoimmune polyradiculoneuropathy.
- ❑ Neutrophil to lymphocyte ratio (NLR), proposed biomarker in autoimmune and neurological diseases, including GBS.
- ❑ **Study aim:** determining associations between NLR and clinical/biological characteristics of GBS in a South Tunisian cohort.

## Methods and Materials

- ❑ Prospective study conducted over a period of 2 years (January 2022 – December 2023).
- ❑ Patients hospitalized in the Neurology department of CHU Habib Bourguiba de Sfax for GBS.
- ❑ Data collection included clinical and biological data, notably the complete blood count (CBC).
- ❑ Assessment of the GBS Disability Score (GDS) at admission, at 2 weeks, and then monthly.
- ❑ Follow-up of patients for 6 months until they recovered the ability to walk unaided (GDS ≤2).

## Results

### 40 patients included:

- ❑ *masculine Predominance (sex ratio =1.35)*
- ❑ *Mean age : 50,32 years*
- ❑ *Sensitive abnormalities: 16 (40%)*
- ❑ *Cranial nerves abnormalities: 8 (20%)*
- ❑ *Nerve conduction studies*
  - 27 demyelinating (67,5%)
  - 12 axonal(30%)
  - 1 normal (2.5%)
- ❑ *Mean CSF total protein 0,63 g/l .*


### Median NLR: 3.12 [2.27 – 3.910]

- ❑ *No association with epidemiological and clinical data*
- ❑ *Association with GDS at admission (r = 0.34; p = 0.03)*
- ❑ *No association with long-term prognosis*
- ❑ *Association with C4 levels (r = 0.448; p = 0.009)*

## Discussion

- ❖ NLR: A quick and economical index with high sensitivity to stress and inflammation, but low specificity. It is influenced by age, sex, and ethnicity (1).
- ❖ High NLR in our cohort, associated with severe initial presentation according to the GDS score: **consistent with other studies (2)**

## Conclusion

Association of the neutrophil-to-lymphocyte ratio (NLR) with the initial severity of GBS, with no link to long-term prognosis.  Confirmation needed in larger cohorts.

## References