

Multiple Sclerosis-related Optic Neuritis: A retrospective observational study

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BACKGROUND: Optic neuritis (ON) is a common presentation of Multiple Sclerosis (MS). Corticosteroids have been widely used in the treatment of ON, especially acute ON. However, controversy remains regarding whether there is a difference in clinical outcome between hyperacute treatment versus acute or delayed treatment.

METHODS: We performed a retrospective medical record review of 156 patients with ON admitted to the ward of our Neurology Department, at Centro Hospitalar Universitário de São João, between January 2004 and August 2019. Out of these, 42 Multiple Sclerosis - related ON were included. Clinical data, treatment protocols and discrete relapses (including ON) on follow-up were analysed.

RESULTS

| | Hyperacute (<48h) | | Acute (>48h-7d) | | Delayed (>7d) | | Total |
|-----------------------|-------------------|------|-----------------|------|---------------|------|-------|
| | n/9 | % | n/26 | % | n/7 | % | |
| ON and other relapses | 3 | 33.3 | 7 | 26.9 | 1 | 14.3 | 11 |
| Only non-ON relapses | 3 | 33.3 | 5 | 19.2 | 2 | 28.6 | 10 |
| Only ON relapses | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No relapses | 3 | 33.3 | 14 | 53.8 | 4 | 57.1 | 21 |

Table 1 - Correlation between NO relapses and timing interval of treatment initiation of MS-ON patients

- Intravenous methylprednisolone was administered for a median of 5 days as initial treatment.
- The medium follow-up time was 82.6 months.

The average difference of visual acuity of the affected eye between admission and discharge on Hyperacute and Acute groups was, respectively, 0.7 and 0.4/1.0.

Furthermore, there was a correlation between the interval spanning from symptom onset to treatment and the incidence of ON relapses on follow-up ($R^2=0.735$, $p<0.001$).

CONCLUSION: Our analysis suggests that prompt corticosteroid treatment may reduce the risk of optic neuritis relapses on follow-up. However, important limitations exist and further research is needed in order to validate our results.

