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Th1/Th2 ratio, nitric oxide (NO) and immunoglobulin in patients with newly diagnosed B-cell non-hodgkin's lymphoma

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To highlight the clinical association nitric oxide (NO) and Th1/Th2 ratio with immunoglobulins and in patients with newly diagnosed B-cell non-Hodgkin's lymphoma. Thirty four (34) newly diagnosed patients with aggressive B-cell NHL and 25 age, sex and body mass index (BMI)-matched healthy controls were randomly selected for a cross-sectional case-control study conducted at the Hematology Department of Tlemcen University Medical Centre (Northwest of Algeria). Circulating levels NO and those of IgA and IgM were significantly higher in patients than in controls. The levels of Th1/Th2 ratio and plasma total antioxidant capacity (ORAC) were significantly lower in patients compared with controls; while malondialdehyde (MDA) and protein carbonyl (PC) levels were significantly higher in patients. B-cell NHL additionally, the disease was significantly associated with high levels of NO production from 50th to 75th percentile [50th percentile; RR = 2.68, 95% CI 1.55-4.62, $p = 0.001$, 75th percentile; RR = 7.24, 95% CI 3.18-16.47, $p = 0.000$]. Moreover, LDL-BCD levels were positively and significantly correlated with IFN- γ ; whereas, NO levels were inversely and significantly correlated with IFN- γ and Th1/Th2 ratio. NO production seems to be associated with aggressive B-cell NHL and alteration of Th1/Th2 ratio. Additionally, the NO appears one of the main mediators that are related to the decreased production of IFN- γ .

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