DA - EPOCH - R treatment can cause adrenal insufficiency in non-Hodgkin lymphoma patients

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Background

- * The most frequent cause of adrenal insufficiency (AI) is prolonged use of corticosteroids
 - However, shorter use of corticosteroid therapy may also affect adrenal function
- * Patients with aggressive lymphoma are treated with R- CHOP, which includes five days of prednisone at a dose of 100 mg/d
- * DA-EPOCH-R is an alternative protocol for these patients.
 - It consists of higher doses of prednisone (five days of prednisone 60 mg/m² twice daily)
- * In both regimens, there is no recommendation for tapering down of corticosteroids or assessment of potential AI
- * We hypothesized that DA- EPOCH- R protocol might be associated with higher rates of AI

Objective

To compare the incidence of AI and its associated clinical and laboratory manifestations in non-Hodgkin lymphoma (NHL) patients treated with R- CHOP vs. DA- EPOCH- R

Materials & Methods

- * Newly diagnosed NHL patients receiving either DA- EPOCH- R (study group) or R- CHOP (control group) were enrolled prospectively
- * **Inclusion criteria**
 - Established B-cell aggressive NHL diagnosis
 - Age > 18
 - Informed consent
- * **Exclusion criteria**
 - Known adrenal disorders
 - Past corticosteroid treatment during the last 6 months
 - Lymphoma adrenal involvement
 - Concomitant treatment affecting ACTH test
- * **AI evaluation - 250 µg ACTH tests @ 5 time points:**
 - pre-treatment
 - day 5 after the first cycle
 - day 21 after the first cycle
 - @ completion of the 5th cycle
 - @ beginning of the 6th cycle

A positive ACTH test : cortisol level < 500 nmol/liter

Results

- * 10 and 17 patients received DA- EPOCH- R and R- CHOP, respectively between 5.2015 - 5.2017
- * **Lymphoma sub-types:**
 - 19 patients – DLBCL
 - 1 patient - Follicular lymphoma grade 3A
 - 6 patients -primary mediastinal B cell lymphoma
 - 1 patient - primary effusion lymphoma
- * Median age: 60 years (range: 21-89)
- * Baseline characteristics were similar between groups except for age at diagnosis
 - patients in the control group were older than those in the study group (63 vs. 34 years, respectively, p=0.001)
- * ACTH test was positive at least once during the study follow-up in 9 patients (see Fig.):
 - 7 patients with DA- EPOCH- R
 - 2 patients with R- CHOP (P = 0.04)
- * Tests were mostly positive on day 5 after the first cycle (8 patients)
- * Patients with a positive ACTH test were more likely to develop fever during treatment
- * Patients with a positive ACTH test did not develop:
 - Overt electrolyte disturbances
 - Reduced mean arterial blood pressure
 - Elevated eosinophil levels

Adrenal insufficiency in DA- EPOCH- R vs. R- CHOP therapy

Conclusions

- * **Patients who received DA- EPOCH- R might be more prone to develop AI**
- * **Clinicians should be aware of a limited adrenal response to stress in these patients**
- * **AI should be considered as a cause for fever in these patients**
- * **Further studies with a higher number of patients are needed to establish these findings**