Pituitary Dysfunction in Histiocytosis at Diagnosis and Follow-up: A Single Tertiary Center Experience

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Introduction

Histiocytic disorders (HD) are a group of disorders originated by pathogenic myeloid cell and share similar MAPK pathway mutations. HD include Langerhans cell histiocytosis (LCH), Erdheim Chester Disease (ECD), juvenile xanthogranuloma (JXG), Rosai Dorfman Disease (RDD) and haemophagocytic lymphohistiocytosis (HLH) and effects a lot of systems locally or systemically both children and adults. Here we investigated especially pituitary endocrinopathies of HD in our patients.

Methods

We performed a retrospective analysis of all HD from our database. A total of 250 patients were found and 102 of them (40.8%) were pediatric patients. Forty of the remaining 148 patients (27%) were either transferred from pediatrics or diagnosed in adulthood. A total of 22 patients were included in the analysis.

Results

Among all of 22 HD patients, thirteen (59%) were women, fifteen (%68.2) were LCH, five (22.7%) were ECD, two (9%) were RDD. The mean follow-up time was 7.4±5.8 years, median age of onset of symptoms was 39 (21-59), median age at diagnosis was 39.5 (22.7-59.2). At the diagnosis, symptoms were diabetes insipidus (DI) (27.2%), musculoskeletal complaints (22.7%), pulmonary symptoms (22.7%), skin lesions (13.6%), orbitopathy (9%) and constitutional symptoms. At diagnosis, five patients (22.7%) had two or more pituitary hormone deficiency, three patients (13.6%) had euthyroid multinodular goitre. Systemic disease was frequent (72.7%). At the follow-up the most common endocrinopathy was DI (32%). Patients received chemotherapy (54.5%), chemotherapy and radiotherapy (13.6%) or followed without treatment (13.6%). After treatment, none of the patients' endocrine symptoms were in complete remission but in four patients DI, and in two patients two or more pituitary hormone deficits were partially normalized. BRAF mutation was investigated only in six patients and two were mutant.

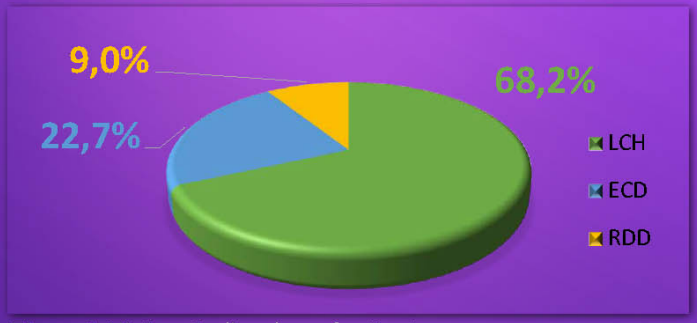

Figure 1. Histiocytic disorders of patients

Table 1. Biochemical and characteristic features of the patients

	n=22
Female	**13 (%59)**
Follow up time	**7.4±5.8 years**
Age of onset of symptoms	**39 (21-59)**
Systemic disease	**16 (72.7%)**
BRAF mutation (n=6)	**2 (33%)**
DI at follow-up	**32%**

Figure 2. Symptoms at diagnosis

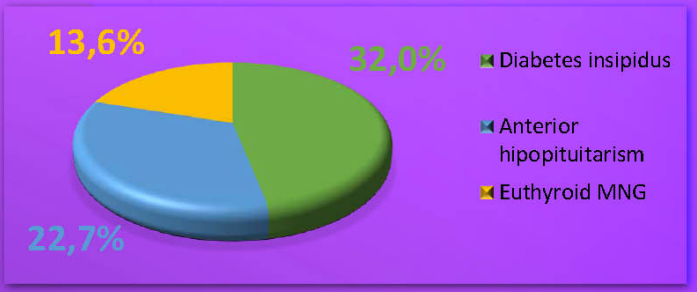

Figure 3. Endocrinopathies at diagnosis and follow-up

Discussion

HD symptoms may differ from asymptomatic state to a malignant hyperproliferative lesions or haemophagocytic syndrome. Endocrinopathies may be seen at presentation or follow up. Therefore, a systematic approach is essential to detect all involvements.