Epidemiology of Acute Childhood Myositis (ACM) in University Children's Hospital during a 6-year period (2011-2017)

A.DAMIANAKI¹, I.Kalogirou², M.Papadopoulou³, A. Tzortzopoulos⁴, T. Karakonstantakis⁴, G.Anastasiadis², E.Karvelis³, I. Papassotiriou⁴, A.Michos¹

1.First Department of Pediatrics, National and Kapodistrian University of Athens, "Aghia Sophia" Children's Hospital,

2.First Department of Pediatrics "Aghia Sophia" Children's Hospital,

3.Second Department of Pediatrics "Aghia Sophia" Children's Hospital

4.Department of Clinical Biochemistry, "Aghia Sophia" Children's Hospital, Athens, Greece

Background:

Acute Childhood Myositis (ACM) known by various names, including influenza associated myositis, acute myositis and viral myositis is an acute condition which manifests with severe lower-extremity myalgia and reluctance to walk. The syndrome usually occurs during the convalescent phase of a febrile upper respiratory tract infection, most commonly caused by influenza B and A. The aim of the study was to evaluate the epidemiology and clinical characteristics of ACM in a tertiary children's hospital.

Patients and Methods:

A retrospective study was performed from 2011 to 2017. All children who were hospitalized at "Aghia Sophia" Children's Hospital with the diagnosis of ACM were included in the study. Clinical, laboratory data, vaccination status, course of illness and complications were recorded and statistical analysis was performed.

Figure 1. Gender distribution of ACM cases during 6 years

Results:

Four hundred and seven (407) children were hospitalized between 2011 and 2017 due to ACM. The year 2017 was the prevalent one with 115 hospitalizations. The median age of patients was 7 years with a 2:1 male predominance. During 2017, 80,5% (103/115) of patients with ACM expressed localized pain and tenderness on the gastrocnemius and soleus muscles. The muscle power and reflexes were normal in all patients except three of them. Sixty-six per cent (66%) (76/115) of cases were para-infectious, while 39% (39/115) were infectious. Nine patients expressed recurrent episodes.

Figure 2. Age distribution of ACM cases during 6 years

Creatine kinase was elevated in all patients and leucopenia was the most significant finding in the blood tests. Seventy-six per cent (76%) of patients showed clinical improvement during the first day of hospitalization and 80% received intravenous fluids. One case of ACM due to Influenza B was complicated with nephrotic syndrome and two others hospitalized for myositis were finally diagnosed with carnitine palmitoyltransferase II (CPT II) deficiency.

Figure 3. Pediatric ACM cases per year

Conclusions:

Acute Childhood Myositis is usual during the course or after viral infections and although acute and alarming, its presentation is usually self-limited. When there are recurrences could be an indication of a metabolic myopathy.