



ACUTE POLYRADICULONEURITIS IN SARAJEVO DURING THE WAR

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ABSTRACT

Acute polyradiculoneuritis is acute inflammatory demyelinating polyneuropathy, with still unknown cause, and whose main pathophysiological disorder is degeneration of axons which affects peripheral nerves. Most frequently it occurs as acute, several days or weeks after viral, respiratory or gastrointestinal infections. Survival rate is in the world between 95-98% of cases. The goal of the research is to determine by retrospective study number of cases of acute polyradiculoneuritis during the war in the Sarajevo under the siege and their outcome. In this paper we have analyzed total number of acute polyradiculoneuritis cases within the period since April 1992 until April 1996, when the city of Sarajevo was completely under siege. Diagnostic criteria besides anamnesis was detailed neurological exam, blood tests, analysis of the cerebrospinal liquor, EMG, ECG and cardiac tests. Within the above mentioned period there was 17 cases of polyradiculoneuritis, 13 male and 4 females, age between 14-65 years. Motor weakness and paresthesias was most dominant in clinical image. Number of cases increased during the years and it was greatest during 1995. Previous infections were noted in 6 cases, and 5 of those respiratory, and one case of gastrointestinal. Proteinorahia in liquor was found among 10 cases (4 during first and 6 during the second week of illness). Pathological EMG was found in 8 cases. Milder form of illness had 4 patients, while 13 patients had more severe form. In total 7 patients survived, 2 of them without consequences, 3 with milder and 2 with more severe consequences while in 10 cases there was a lethal outcome.

KEY WORDS: Acute polyradiculoneuritis, war, Sarajevo under siege.

INTRODUCTION

Acute polyradiculoneuritis is acute inflammatory demyelinating polyneuropathy, with still unknown cause. This state is first time described by the French neurologist Jean Baptist Landry 1859, and later during 1916. George Guillain, Jean Alexander Barre and Andre Strohl. Main pathophysiological disorder is degeneration of axons which affects peripheral nerves (1). Most frequently it occurs as acute, several days or weeks after viral, respiratory or gastrointestinal infections (EBV, CMV, common cold virus). Also there are described cases which occurred after infection with *Campylobacter*, *Mycoplasma pneumoniae*, during the long term

therapy of tuberculosis meningoencefalitis, after surgery, during pregnancy or after delivery, after insect bites, after influence vaccine and after polyviral vaccine (2,3). It occurs among 1-2 cases on 100000 inhabitants per year. Illness usually starts with the motor weakness, frequently symmetric and most frequently have ascendant course, although the descendent is not rare. Parallel to this occurs sensor symptoms –paresthesias, in form of socks and gloves phenomena, which is the consequence of deep sensitivity disorder (4). The illness is successfully treated in almost 98% of case with more or less consequences (5).

GOAL

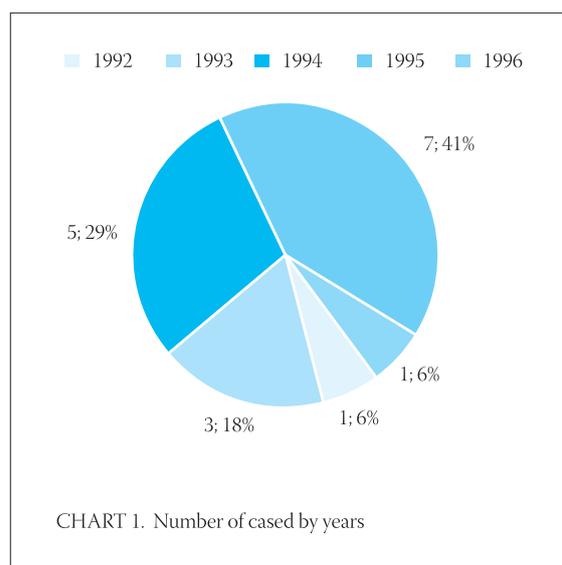
To analyze all patients with acute polyradiculoneuritis in Sarajevo under the siege during the war and their outcome.

MATERIAL AND METHODS

A retrospective study of patients with acute radiculoneuritis which were treated at the Neurology Clinic in Sarajevo in the period from 1st of April 1992, until 1st of April 1996. This was a period of war during which the city of Sarajevo was surrounded by the aggressor army. During the majority of time during that period city was without electricity, drinking water, gas, with the minimal quantities of food supplies or without it. There was no possibility for the free movement, so the citizens live in constant fear that they can be hit, crushed, taken away or killed. Diagnostic criteria's besides anamnesis was, detailed neurological examination, laboratory testing of blood, urine, blood sugar levels, transaminases, bilirubine and proteins in blood, with the analyses of cerebrospinal liquor, EMG, ECG and cardiac examination.

RESULTS

Six patients had verified previous infection, five of them had respiratory and one gastrointestinal infection. Four patients had milder expression of clinical symptoms, and 13 more severe one. Main symptoms were motor weakness and paresthesias, and clinical symptoms were dominated by areflexion with the generally severe state, paresis and paralyses. Blood tests indicated mildly increased SE among 4 patients (up to 20 during first hours), moderately increased among 5 patient (up to 50), high among 3 patients (70), while 5 patients had normal finding. Among 10 patients a pathological proteinorahia in liquor was found (among 4 during the first and second week and among 6 during the second week).



Four patients had normal results of liquor testing, and in three cases due to the acute course of illness a lumbar puncture is not performed. Among 6 patients a milder pleocytosis in liquor was noted (up to 65 cells). Pathological EMG had 8 patients, and negative T wave in ECG was found among 5 patients. From the total number of treated, 10 died (58,8%) and 6 of them in the Center for anesthesia and reanimation. 7 patients survived (41,2%), two without consequences, three with milder consequences (monoparesis), and two with severe consequences (deep paraparesis).

DISCUSSION

With the incidence of 1-2 cases per 100000 inhabitants annually, acute polyradiculoneuritis is considered to be a rare disease. Although the true cause of illness today is still unknown, it is considered that more different causes can be a trigger for the occurrence of the acute polyradiculoneuritis (4). According to the literature references in 50% of cases, illness is preceded by the viral infection, and which is also confirmed in our research, where the previous infection was present in 38% of case. Illness is more frequent among males than female, which is also applicable for our research. Clinical expression of illness is dominated by sensor disorders in 50% of case, motor weakness in 25%, and mixed motor – sensor symptoms in 25% of cases (6). In our research clinical expression was opposite to the referent data. Within our sample most dominant was weakness in 55% of case which is double as described in literature and sensor disorders was present among 90% of patients. With early diagnosis of the acute polyradiculoneuritis, adequate pharmacological treatment and sufficient rehabilitation, survival rate is practically 97% with more or less consequences.

Rehabilitation is long term, from 6 months up to two years, and the lethal outcome according to the literature data is among 2-3% of cases (4,6). In our research lethal outcome was in 58,8% of cases which is almost 29 times more frequent than the literature data indicates. Diagnose of illness is made very early in all cases, but inadequate or insufficient pharmacological therapy and the general condition in that war period, are for sure the reason for this kind of outcome. Three quarters of our patients was men. Majority of them was involved in the defense of the city, and they all have lost one or more family members. They lived practically under the impossible living conditions, without enough water and food, heating, under the constant stress from the

bullet or shrapnel's. The majority of patients were admitted during the 1995, the most difficult year of the war, when Srebrenica happened, and when all hopes for the survival of the city and people was lost. That was the year when we also had majority of lethal outcomes. Permanent, all the time intensifying stress with inhuman living conditions take their toll. We think that the physical and psychological impoverishment in very difficult economic and war circumstances lead to the permanent decrease of the immune defense of the organism from one side, and from the other permanent lack of hope for salvation and feeling of being abandoned by the international community and the world, was that vicious circle, which cannot be broken.

CONCLUSION

Acute polyradiculoneuritis is the illness which during the war years, was frequently registered in our community. The number of patients increased during the years, and the highest number is noted during the 1995, most difficult and last year of war. Mortality was quite high, in 58,8% cases. Permanent stress, difficult social and economic conditions of life which was dictated by the general war state, and the lack of hope for salvation, was the leading factors for the more frequent occurrence of polyradiculoneuritis, and especially inadequate and insufficient pharmacological therapy, as well as improper rehabilitation are the cause of poor outcome of the illness and high percentage of mortality in this period of time.

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