Polymyalgia Rheumatica Is Not Seasonal in Pattern and Is Unrelated to Parvovirus B19 Infection

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ABSTRACT. Objective. To prospectively analyze seasonal distribution in the onset of symptoms of polymyalgia rheumatica (PMR) and its relationship to parvovirus B19 infection.

Methods. Over a 4-year period (September 1997 to September 2001), 68 patients were prospectively diagnosed with PMR in an outpatient rheumatology department, of which only 55 patients (38 women, 17 men) aged 50 to 90 years (mean 74.1 ± 8.1) were able to specify the month of onset of symptoms. During the last year parvovirus B19 IgM serologies were determined in all new cases.

Results. No significant seasonal variation in disease onset was observed during the 4-year period; 17 cases were observed in spring, 10 in summer, 15 in autumn, and 13 in winter (p = 0.625). Nevertheless, almost 50% of all cases of PMR were diagnosed in the months of May, February, and August. All of the evaluated patients (14 of 14) had negative parvovirus B19 IgM serologies.

Conclusion. Onset of symptoms in PMR is unrelated to seasonal pattern. Yet almost 50% of cases occurred in the months of May, February, and August. Parvovirus B19 infection was unrelated to the onset of PMR. (J Rheumatol 2003;30:2624–6)

Key Indexing Terms: POLYMYALGIA, PARVOVIRUS, SEASONAL

Polymyalgia rheumatica (PMR) is a common illness, with an average annual incidence of 17.8 cases/100,000 people over age 50 years. Although the etiology of this disorder is unknown, genetic and environmental factors may play a role. The abrupt onset of symptoms and the periodic clustering of cases observed in some series suggest a precipitating infectious factor. Indeed, infectious processes such as parainfluenza virus, Mycoplasma pneumoniae, Chlamydia pneumoniae, and parvovirus B19 have been related to this disease. Interestingly, reports indicate a seasonal or monthly clustering of cases of PMR, whereas others failed to confirm any seasonal trend. Nevertheless, it should be noted that most of these studies are retrospective, which makes evaluation of the precise onset of symptoms and the possible coincident viral infection difficult.

The aim of this study was to prospectively analyze the seasonal distribution of PMR in an outpatient rheumatology unit and its relationship to recent parvovirus B19 infection.

MATERIALS AND METHODS

Over a 4-year period (September 1997 to September 2001) all cases diagnosed with PMR were prospectively included in the study. Only the patients who were able to specify the month of onset of symptoms were analyzed.

PMR was diagnosed based on established criteria. Diagnosis was confirmed by a followup at least 10 months.

No differences in seasonal pattern were found: 17 cases between years. Most of the cases that presented in May and August (13%). Figure 1 shows the monthly rate of the onset of symptoms during the 4-year period. During this period, a total of 19,710 additional visits were made, of which 7971 were first visits. The total monthly number of visits remained stable throughout the study (Figure 2). When the monthly incidence of cases of PMR was evaluated each year, the periodic clustering of cases differed slightly between years. Most of the cases that presented in May and February were observed in 1999 and 2000, whereas most of...
the cases presenting in August were observed in 1998 and 2001 (Figure 3).

The serological study for IgM parvovirus B19 was negative in all cases studied (14/14): 7 cases occurred in winter, 3 in spring, 3 in autumn, and one in summer.

**DISCUSSION**

This study shows that PMR is not seasonal in pattern. Nevertheless, a periodic clustering of cases in May, February, and August was observed. No relationship between parvovirus B19 infection and the onset of disease was found during the last year of the study.

Some studies indicate a seasonal pattern in the incidence of PMR\(^5\), whereas others do not\(^6,7\). The reasons for these discrepancies may be due to several factors. Most of these studies were retrospective, thus the specific recall about the...
The acute onset of symptoms of PMR suggests a precipitating environmental factor as one of the causes\(^1\). Indeed, an increased prevalence of antibodies against parainfluenza virus type 1 has been reported in PMR\(^2\), as well as a close temporal relationship between the epidemics of \(M.\ pneumoniae\), \(C.\ pneumoniae\), and parovirus B19 infections and the incidence peaks of PMR and giant cell arteritis\(^3\). Nevertheless, the relationship between PMR or giant cell arteritis and parovirus infection seems to be controversial\(^4\)\.\(^8\)\(^10\). Cimmino, \textit{et al.}\(^4\) in a preliminary study indicated a relationship between PMR and B19 infection, whereas Helweg-Larsen, \textit{et al.}\(^10\) did not confirm these results. The results of my study suggest that parovirus B19 does not play a role in PMR. However, it should be recognized that parovirus infection was analyzed during the last year of the study, and B19 infection is known to occur in periodic outbreaks, with peaks of disease activity occurring from 3 to 6 years apart\(^3\). Therefore, it cannot be totally ruled out that this virus may have been related to other clustering peaks in previous years.

PMR does not appear to be associated with a seasonal pattern. Parovirus B19 infection was not associated with the onset of symptoms of PMR in this study. Nevertheless, longer prospective studies with larger numbers of patients are necessary to confirm these results.

REFERENCES