

DIAGNOSTIC PROBLEMS OF (NEURO)BORRELIOSIS IN CHILDREN

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ABSTRACT

The clinical picture of infections by *Borrelia burgdorferi* spirochetes differs in some respects. The Bannwarth syndrome (painful radiculoneuritis) occurs only in adults and acrodermatitis chronica atrophicans in children is observed very rare.

The most typical neurological manifestation of Lyme Borreliosis in childhood is the cranial nerve palsy, especially the peripheral facial nerve palsy. This palsy presents as „isolated“ in the majority of cases, i.e. without any clinical signs or symptoms of meningitis. However, in nearly all children with cranial nerve palsy caused by *Borrelia burgdorferi* there is evidence of simultaneous aseptic meningitis in cerebrospinal fluid. Thus, a lumbar puncture is mandatory in every case of facial palsy to confirm or exclude the diagnosis of a neuroborreliosis.

The clinical spectrum of neuroborreliosis in children and supportive diagnostic parameters in clinically inconclusive cases are discussed.

KEY WORDS

neuroborreliosis, children, meningitis, facial nerve palsy, cerebrospinal fluid, neopterin

INTRODUCTION

The correct diagnosis of Lyme Borreliosis (LB) is easy if clinical symptoms are typical and conform with specific laboratory findings. In some cases the constellation of symptoms and serological results is inconclusive. In these cases a careful synopsis of clinical and laboratory diagnostic criteria available has to be done. In case of neuroborreliosis (NB) neopterin was demonstrated to be elevated in cerebrospinal fluid (CSF) of adults (1). This early

marker for activation of cellular immunity reflects clinical activity of a diagnosed disease (2-5). While many studies have dealt with neopterin measurements in peripheral blood and urine (6) few investigators have determined the concentration of this immune activation marker in CSF. Since NB is an inflammatory disease neopterin concentrations may give additional information in case of clinically/laboratory inconclusive cases.

