Author's response to reviews

Title: Mapping of Hormones and Cortisol Responses in Patients after Neuroborreliosis.

Authors:

Ivar Tjernberg (ivart@ltkalmar.se)
Martin Carlsson (martinc@ltkalmar.se)
Jan Ernerudh (jan.ernerudh@lio.se)
Ingvar Eliasson (ingvar.eliasson@vgregion.se)
Pia Forsberg (pia.forsberg@liu.se)

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Dear Sir,

Please consider the attached manuscript for publication in BMC Infectious Diseases. The manuscript has been revised by a native in English and has exclusively been submitted to this journal. No conflict of interest is to be reported.

A significant proportion of patients having been treated for Lyme neuroborreliosis report various persistent complaints affecting their daily life. These patients suffer not only from these persistent symptoms but also frequently report that they are misunderstood by health care professionals that do not take their complaints seriously. Although some studies have been performed on this patient group, research as to the causes of these complaints is still limited and studies performed on confirmed cases are still few.

One possible explanation for some of these reported complaints could be dysfunction of the endocrine system, and this is one of the first investigations regarding hormonal status and in particular HPA-axis function in patients after confirmed Lyme neuroborreliosis.

Although we could not find any major dysfunction in hormonal biochemical parameters in neuroborreliosis patients 2-3 years post treatment in this study, we believe it is important to publish our data as they have not previously been reported.

One minor surprising finding, however, was that the degree of complaints reported correlated positively with absolute cortisol increment after administration of synthetic adrenocorticotropic hormone. This is new and interesting data regarding these patients and similar results have been reported in depressed patients.
Best regards, Ivar Tjernberg, M.D., PhD-student Kalmar Sweden.