Reviewer's report

Title: Bartonella seropositivity in children with Henoch-Schonlein purpura

Version: 1 Date: 26 December 2004

Reviewer: Michael Giladi

Reviewer's report:

General
The study of Robinson et al is the second study that describes an association between Bartonella seropositivity and HSP. Although there are no other data to suggest that Bartonella spp. play a role in HSP pathogenesis, the information presented in this report is important and may stimulate others to study this potentially interesting association. The major problem with this study is that no data are provided regarding the performance of the serological assay which is the core of the study (see below).

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached):

Serology
1. An in-house IFA test using agar-derived antigen for the detection of anti-B. henselae IgG antibodies was used in the study. The authors do not provide any information on their previous experience with this assay for the diagnosis of CSD. What is the sensitivity and specificity? What is the seroprevalence in normal population? These questions are particularly important since performance of IFA tests for the diagnosis of CSD varies in different studies from very low to very high specificity (see discussion in Giladi et al., Clin Infect Dis 2001;33:1852-8). Contrary to some of IFA assays which used vero-cell derived antigen, IFA assays with agar-derived antigen, as was used in the study under review, have usually performed poorly (Bergman et al., J Clin Microbiol 1997;35:1931-7, Zbinden et al., Eur. J Microbiol Infect Dis 1997;16:648-52).

Furthermore, since there is no clinical or epidemiological information on the control group in this study, it is important to know whether the CSD seropositivity of this group is similar to that of a healthy control group. Six of 28 (21%) controls were found to be seropositive, a higher seroprevalence than expected in a normal population. If, however, a similarly high proportion of seropositivity is found with this IFA assay in healthy controls without history of cat contact and without risk factors for B. quintana (homelessness, lice infestation), one may conclude that the assay has low specificity.

It is also possible that patients in the control group were less exposed to cats (perhaps due to their illness) thus were less seropositive compared with the study group. In summary, the authors should provide data on the performance of the IFA test and select a well characterized control group.

2. As interpretation of IFA tests is subjective and suffers from interobserver variation, was the technician blinded to the source of the specimen (HSP or control)? Were patients and controls tested with the same batch of antigen under the same conditions? When choosing a new control group both study patients and controls should be tested with the same batch of antigen.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct):

Background
1. Bacillary angiomatosis is not a "vasculitic rash" as the authors stated but an angioproliferative disease that may affect many organs.
2. The authors criticize the study of Ayoub et al (ref 5) that described for the first time an association between B. henselae infection and HSP because this study "looked at serologic rather than bacteriologic evidence of B. henselae infection...". This criticism seems somewhat not in place taking the fact that the authors based their study and conclusions primarily on the very same diagnostic modality, namely serology. Serology is the only non-invasive and therefore most commonly used mode of diagnosis in CSD. Microbiological cultures are almost always negative.

Methods

Study population
"Acute and convalescent sera were collected...". Although this term is commonly used to describe serum samples taken early and late in an infectious disease course, I prefer to use "Paired serum samples were collected..." in this specific paper since sera samples were collected early and late in the course of the HSP and not in the course of CSD which may have occurred weeks or months earlier.

Serology
1. Third line: what is the meaning of 0.1% formal saline?

Statistics
What statistical methods were used for comparisons?

Results
I would also analyze the distribution of CSD-seropositive and seronegative HSP patients and controls by seasons. Both CSD (autumn and winter) and HSP (spring) are diseases with seasonal peak incidence.

Discussion
Page 9 needs to be shortened, particularly, the paragraph that deals with PCR.

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes

Declaration of competing interests:
I declare that I have no competing interests