Is There a Need to Conduct Still More Clinical Trials on the Benefit of Extended Antibiotic Therapy for the Treatment of Persistent Post-treatment Symptoms of Lyme Disease?

Lyme disease activists have taken issue with the results reported by Berende et al., claiming that these authors ignore evidence to support the view that extended antibiotic therapy is beneficial for the treatment of persistent post-treatment symptoms associated with Lyme disease (https://www.lymedisease.org/lymepolicywonk-lyme-european-please-trial-you-know-its-spin-when-treatment-success-is-called-failure/). Let's take a close look at the results of that recentlyreported study (http://www.nejm.org/doi/pdf/10.1056/NEJMoa1505425).

The data of Table 1 providebaselinevalues for the Physical Component Summary -- the primary outcome measure of the study-- for all three of the experimental groups considered. Baseline values, are testvalues for each treatment group, at the outset of the study, i.e., before any treatment whatsoever is given. They include: thePlacebo Group (31.8 +/- 8.1); the Doxycycline Group (30.3 +/- 6.3); and, the Clarithromycin-hydroxychloroquine Group (32.7 +/-7.5). All of these baseline values are significantly below the normal base line values for the general population (50 +/- 10), and thus well below the normal range for the Physical Component. If a given treatment regime is truly beneficial, one would expect to see a significant increase in the Physical Component Summary.

Since 30 (11%) of the 280 patientsenrolled in the study were not given the recommended antibiotic therapy at the time of their initial episode of early acute Lyme disease, all patients– for ethical considerations – were given a 2 week course of ceftriaxone (i.v.) to offer at least some benefit to those who were never treated with antibiotics in the past. Then, they were randomly assigned to experimental groups that were given either placebo, doxycycline, or clarithromycin-hydroxychloroquine orally.

Initial treatment with ceftriaxone resulted in a smallincrease in the baseline values (see Table 2). Such increases were not judged to be statistically significant and amounted to 9.4% (34.8 vs 31.8), 16.5% (35.0 vs 30.3), and 8.8% (35.6 vs 32.7) for the Placebo Group, the Doxycycline Group, and the Clarithromycin-hydroxychloroquine Group, respectively. Since a placebo effect of 36% was reported in a previous study on the beneficial effects of extended antibiotic therapy for the treatment of post-treatment symptoms associated with Lyme disease (Klempner et al. NEJM 2001: 345; 85-92), the small increases observed by Berende et al. could be attributed to a placebo effect, to the well-known anti-inflammatory properties of doxycycline (http://www.emedexpert.com/classes/antibiotics.shtml#7), or to a beneficial effect attributed to the portion of previously untreated patients assigned to that experimental group who were given the initial 2 week course of ceftriaxone (i.v.). In any event, the baseline values for all three experimental groups were well below that of the general population.

More important, the data summarized in Figure 2 show no significant differences (relative to the placebo group) for Physical Component Summary Scores determined 14, 26, 40, and 52 weeks after the completion of antibiotic therapy (doxycycline or clarithromycin-hydroxychloroquine). These findings, which are consistent with the published results of 4 other independent studies cited by the authors, demonstrate – quite convincingly—that extended antibiotic treatment is not beneficial for the treatment of persistent post-treatment symptoms associated with Lyme disease. In view of these considerations, it would be wise to consider other therapeutic approaches such as those recommended by the Institute of Medicine and that are now being explored by the National Institutes of Health

(http://www.aldf.com/wpcontent/themes/ALDF/pdf/The_Pain_of_Chronic_Lyme_Disease_FASEB_full_article.pdf). In so doing, one must be extremely cautious to avoid unproven unorthodox alternative therapies marketed to treat persistent post-treatment symptoms that some ascribe to Lyme disease (http://cid.oxfordjournals.org/content/early/2015/04/06/cid.civ186.full.pdf+html).