Authors' reply

Dear Editor,

There is a consensus that, although shigellosis is often self-limited and successfully treated with fluid and electrolyte replacement therapy only, more severe cases of dysentery require the administration of antimicrobials, especially undernourished patients or those with a compromised immune system. In fact, the World Health Organization recommends early establishment of antibiotic therapy directed against *Shigella* for individuals with inflammatory diarrhea.[1]

In Brazil, the Ministry of Health still recommends the trimethoprim-sulfamethoxazole association as the first choice treatment for patients with shigellosis whenever the use of antimicrobial drugs is indicated. In cases of bacterial resistance, quinolones should be used, but these are non indicated for pregnant woman and children.[2]

Carrari et al.[3] described the use of ceftriaxone for the treatment of patients hospitalized with dysentery, given the high rates of trimethoprim-sulfamethoxazole resistance found by those authors. Indeed, a high prevalence of *Shigella* samples that are resistant to this association of antimicrobials has been observed in different regions of Brazil.[4-8] Thus, considering the great possibility of therapy failure when trimethoprim-sulfamethoxazole association is employed for patients with *Shigella* dysentery, other options should be considered.

In Brazil, *S. sonnei* and *S. flexneri* are almost exclusively observed. Our results corroborate data found in the literature, which show that the distribution of *Shigella* species in different Brazilian regions is uneven. We observed a predominance (≈ 80%) of *S. flexneri* among children with shigellosis in Teresina,[9] while in Belo Horizonte, *S. sonnei* was associated with almost 90% of the cases.[10]

In addition, our experience points to differences in the antimicrobial susceptibility profiles of *S. sonnei* and *S. flexneri*. All samples included in our study groups were susceptible to nalidixic acid, ceftriaxone, and ciprofloxacin. Regarding trimethoprim-sulfamethoxazole and ampicillin, rates of about 85 and 100% were observed for S. sonnei, and of 50 and 70% for *S. flexneri*, in southeastern and northeastern Brazil, respectively. Ampicillin resistance, in turn, was not found in any sample of *S. sonnei* and in approximately 65% of *S. flexneri* strains in the state of Piauí; in Minas Gerais, resistance rates of approximately 15 and 100% were observed for *S. sonnei* and *S. flexneri*, respectively.[9,10]

According to the recommendation of the Brazilian Ministry of Health, antimicrobial drugs should be indicated for the treatment of patients with shigellosis regardless of diagnostic confirmation via coproculture and antibiogram.[2] Taking into consideration that, in most cases, treatment is initiated prior to a result of a coproculture – a poorly sensitive, expensive and time-consuming test – and thus without the establishment of the antimicrobial susceptibility profile of the etiologic agent in question, safe treatment options, based on local epidemiological data, should be adopted.

In this scenario, nalidixic acid, ceftriaxone, and ciprofloxacin emerge as suitable options; treatment definition should be based on the particularities of each patient. Ceftriaxone is available only in an parenteral formulation, and therefore it is more suitable for hospitalized patients; however, the high cost of this antimicrobial and the scarcity of data pointing to its efficacy limit its use.[1] Moreover, nalidixic acid and ciprofloxacin are recommended for outpatient treatment. With regard to ciprofloxacin, although there is not a consensus,[1] the Brazilian Ministry of Health imposes restrictions on its use in children.[2] Finally, nalidixic acid has been shown to have a low therapeutic efficacy, even when susceptibility of the etiologic agent is confirmed in vitro.[1]

In view of the above, as mentioned by Nunes et al.,[9] indeed the use of sulfamethoxazole-trimethoprim for the empirical treatment of patients with dysentery in Brazil is not appropriate and should be restricted to cases for which antimicrobial susceptibility results are available. These data also suggest that the recommendation of the Ministry of Health regarding the use of this antimicrobial for the treatment of patients with shigellosis should be revised.

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