Progression of Cerebral Atrophy in Hemodialysis Patients: What about Hypertension?

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Dear Sir,

Recently, we have read with interest the paper by Savazzi et al. [1] about the progression of cerebral atrophy (CA) in hemodialysis patients evaluated by computed tomography (CT). Although the authors draw their conclusions on presence and development of CA in their patients, we believe that the occurrence of hypertension (HT) in some of them deserves some comments. Actually, blood pressure fluctuations and their effects on cerebral blood flow during dialysis have been related to some degree of CA and CT findings [2, 3].

The term leukoaraiosis [4] refers to the appearance of bilateral and symmetric peri-ventricular white matter lucencies observed by CT. Leukoaraiosis has been associated with a wide variety of pathologies, but, at present, cerebrovascular disorders and mainly high blood pressure are the most important factors associated with its development [3, 5]. Recently, we have described a hemodialysis patient who presented with dementia after 2 years of substitutive treatment; her CT showed leukoaraiosis together with a moderate degree of CA. As single precipitating factor, the patient’s clinical record disclosed a severe uncontrolled HT during the previous 5 years [6].

In their paper, the authors give a very complete description on their patients’ clinical and analytical profiles in order to discard any possible etiological factor that explains their CT findings but uremia ‘per se’. However, taking into account HT, it is surprising that despite the fact that 6 out of the 15 patients presented were HT, the authors did not indicate any possible effect of HT on the presence of CA. When the 6 HT patients (Nos. 1, 4-6, 8, 9) were analyzed, some interesting features were observed: in both CT a higher percentage of HT patients showed a higher degree of CA (33.2% HT vs. 0% non-HT patients in their first CT and 83.2% HT vs. 22.2% non-HT patients in their second CT showed more than grade 2 of CA), the 2 patients who deteriorated more were HT (No. 6 from grade 0 to 3; No. 9 from grade 0 to 6), and the only patient (No. 11) that did not deteriorate was not HT. However, due to the fact that 50% of HT and 44.4% of non-HT patients worsened their CA 2 or more degrees, we point out that other factors together with HT could be contributing to the CA process. On the other hand, the authors did not describe any leukoaraiosis lesion in their HT patients; this could be attributed to the fact that during the two study periods none of the
patients was older than 55 years. Some authors have described an early onset of these lesions in HT patients [3].

Finally, we believe that based on the information and data obtained by Savazzi et al. [1] and Savazzi [2], together with the high prevalence of HT among hemodialysis patients [7], it would be interesting to look upon the presence of leukoaraiosis in their patients, either in the already performed CT or in following studies.

References