Dear Sir,

Parvovirus B19 has been identified as the fifth disease agent since 1975. Although benign throughout childhood, the infection may notably lead to fetal death in pregnant women, erythroblastopenic crisis in case of erythropathy, and chronic anemia in immunocompromised patients [1]. In hemodialyzed patients, neither immunity [2] nor red blood cells’ lifetime are normal. Inter-human virus transmission is both aerogenic and by blood contact [3], and consequently possibly through hemodialysis sessions. Now, some anemias in hemodialyzed patients are resistant to synthetic erythropoietin [4].

A biological assessment, including electrophoretic antigenemia, IgM and IgG specific by way of immunoenzymatic technique (Institut National de Transfusion Sanguine, A.M. Courouce, Paris), was carried out on our center’s 62 hemodialyzed patients (f/m sex ratio: 38/24) in November 1994. The number of blood units received, the age at the beginning and at taking of samples were noted and the length of exposure to dialysis was calculated for each patient; non-parametric tests were used.

No patient carries the antigen or specific IgM; 45 are protective IgG carriers, 17 show no serologic trace of contact with the virus; these two groups have similar sex ratios (1.5 vs. 1.8, NS), number of transfusions (0.58 ± 1.01 vs. 0.82 ± 1.01, NS), weekly erythropoietin dosages (3,600 ± 3,150 vs. 3,176 ± 3,086 IU, NS), ages at the beginning of dialysis (56.5 ± 16.1 vs. 52.7 ± 21.8, NS) and at the taking of samples (62.2 ± 15.5 vs. 56.3 ± 22.3, NS).

On the other hand, hemoglobinemia is higher in patients who had a contact (95.24 ± 17 vs. 83.2 ± 14.9 g/l, p < 0.008), and their exposure to dialysis is longer (2,090 ± 1,645 vs. 1,323 ± 1,417 days, p = 0.0477).

So parvovirus B19 does not seem, here, to be involved in the pathogenesis of chronic anemia in hemodialyzed patients. The sero-positivity rate, slightly higher than that usually reported in adults, 72 vs. 25-60%, matches the longer hemodialysis treatment in seropositive patients, in favor of a low intensity transmission during hemodialysis. However, no patient seems to have been infected during the last 3 months, when sampling was done at the beginning of southern summer. Besides, the general local population seroprevalence is not yet known.
It remains to be established whether the usual precautions, such as equipment disinfection and surface decontamination, both systematic between two patients, are sufficient to prevent transmission through hemodialysis apparatus. A serological follow-up is being introduced for new and seronegative patients. Seroconversions will allow specification of the type of transmission, direct (through air or transfusion) or indirect (through dialysis equipment), as well as clinical and biological manifestations associated to initial infection in this particular population.

References