Imported diseases in elderly immigrants

Jose Boga\textsuperscript{1}, Jonathan Fernandez-Suarez\textsuperscript{2}, Mercedes Rodriguez-Perez\textsuperscript{3}, Alicia Garcia\textsuperscript{2}, Juan Alonso\textsuperscript{2}, Zulema Perez-Martinez\textsuperscript{2}, Ana Coto-Montes\textsuperscript{4}, Azucena Rodriguez-Guardado\textsuperscript{*}\textsuperscript{5}

\textsuperscript{1}Hospital Universitario Central de Asturias, Servicio de Microbiologia, Oviedo, Spain
\textsuperscript{2}Hospital Universitario Central de Asturias, Oviedo, Spain
\textsuperscript{3}Hospital Universitario Central de Asturias, Microbiology, Oviedo, Spain
\textsuperscript{4}Universidad de Oviedo, Departamento de Morfologia Y Biologia Celular, Oviedo, Spain
\textsuperscript{5}Hospital Universitario Central de Asturias, Infectious Diseases Unit, Oviedo, Spain

**Background:** The arrival of new immigrants, which are mostly young people, is a growing phenomenon in Europe. When this first population is established in the new country appears a second migratory phenomenon due to the arrival of their relatives, which sometimes include elderly immigrants. The aim of this study is to describe the characteristics of imported diseases in this group of immigrants.

**Material/methods:** A prospective, descriptive study was designed to include all the immigrants older than 56 years attending in Tropical Medicine Unit of Hospital Central de Asturias, Spain, from 2007 to 2014. Screening for all individuals comprised blood count, biochemistry, and routine microbiological detection. Qualitative variables were compared using the Chi\textsuperscript{2} test or the Fisher exact test, when necessary. For quantitative variables, the Student t test or the Mann-Whitney U test were used. Significance was designated at p<0.05.

**Results:** 55 (5.8\%) of 939 immigrants were analyzed (78\% women, average age 60 [4.6] years, limits 56-76). The average time in Spain were 996 [1362] days, limits (12-6570). The origins of the immigrants were Central Africa (56.4\%), South America (25.5\%), West Africa and Centro America (5.5\% each), and North- Africa and East Africa (3.2\% each). The most frequent countries of origin were Equatorial Guinea (56.4\%), Ecuador (7.3\%), Bolivia and Colombia (5.5\% each), and Dominican Republic, Kenya and Venezuela (3.6\% each). Regarding cosmopolitan diseases, 26 (47.2\%) individuals were immune to HBV, 13 (23.6\%) had HCV hepatitis, 6 (11\%) had a HIV infection and one (1.8\%) had chronic HBV. Latent syphilis, which was present in 34.5\% of patients, was significantly more frequent in sub-Saharan patients (p=0.001). While, 11 patients had a latent TB, only one had a disseminated TB. Twenty-two patients had intestinal parasites: Amebiasis (24.5\%), \textit{Trichuris trichuria} (14.5\%), \textit{Strongyloides stercoralis} (11\%) \textit{Ascaris lumbricoides} (9\%), \textit{Blastocysits hominis} and Hookworm (3.6\% each), and \textit{Dientamoeba fragilis} (1.8\%). 19\% of Subsaharian patients had a \textit{Mansonella perstans} infection and 11\% had a Loa-Loa. Only 3 patients had a Schistosomiasis, all of them by \textit{Schistosoma intercalatum}. Other parasitic diseases were: 8 (14.5\%) patients had malaria; six of them by \textit{Plasmodium falciparum}, two patients had a neurocisticerscotic and three a Chagas disease. 55\% of patients are infected by two or more parasites. The presence of HCV infection, syphilis, and intestinal parasites was significantly higher in subsaharian patients (p=0.001). Only in two patients the screening didn’t show any disease.
**Conclusions:** Imported diseases are frequent in elderly immigrant patients. The prevalence of HIV infection, HCV hepatitis, syphilis and intestinal parasites are high in this group. Given the high prevalence of certain parasites infections and the potential lack of suggestive symptoms and signs, selected screening for infectious diseases may be appropriate in this group of patients.