

# **EVOLUTIONS OF PREVALENCES AND INCIDENCES OF HTLV-I IN BLOOD DONORS; IMPACT ON DONATION SCREENING STRATEGIES.**

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**INTRODUCERE:** First retrovirus directly associated with a human malignant haemopathy(ATL), HTLV-I is endemic in some parts of the world, and specifically in South-West Japan, Caribbeans, South America and parts of Africa, where the carrier rate is high. Screening the blood donors for HTLV in Europe and North America was introduced primarily due to immigration from endemic areas and subsequently some areas of moderate /high endemicity unknown before were identified. According to the new criteria issued by ECDC (2012 and 2015) an area with „a prevalence of 1% in the general population or a prevalence of over 1/10.000 first-time blood donors( FTBD)”is considered a „high prevalence” area with „strong evidence of HTLV-I infection” and testing of blood and tissue donors is recommended. In Romania screening of blood donations for HTLV was introduced in 1999 and additionally patients with suggestive malignant haemopathies, polytransfused patients, some of their contacts, as well as potential stem cell and bone marrow donors were investigated. Our last communication on the results of HTLV screening up to 2010 reported a prevalence of 4.8/10.000 in FTBD and together with the unusually closely related circulating virus isolates are consistent with the existence of an endemic area and a specific HTLV-1 clade. Updates on prevalence and incidence of HTLV-I are reported here together with their impact on donation screening strategies. .

**METHODS:** The current screening is performed with sandwich enzyme immunoassay(EIA) or CLIA exclusively based on recombinant antigens. The confirmation of EIA/CLIA reactives is done with a Line-Immuno-Assay (LIA), observing the H.E.R.N. recommendations. Results of HTLV screening in 2011-2014 were analysed as compared to previous data.

**REZULTS:** During 2011-2014, 1655732 donations have been screened and 108 FTBD were confirmed positive for HTLV-I, with a resulting prevalence of 2.83/10.000 as compared to 4.8/10.000 registered previously. Two additional incident cases were identified in 2011 and 2014. The corresponding incidence for the considered period is 0.2/100.000 donations. HTLV-I positive donors were confirmed in 25 districts from all parts of the country. Local prevalences over 5/10000 were still registered in the South-East and the 2 incident cases originate from the same area. Bucharest together with other 3 districts in this area concentrate 72% of all cases while accounting for only 36% of all blood donations.

**CONCLUSIONS:** The general prevalence for HTLV-I among FTBD have decreased as compared to that previously reported but is still significant and strongly supports the existence of an endemic area centered on the South-East of Romania, at least among blood donors. Nevertheless, over time, isolated cases have been confirmed all over the country. Due to lack of incident cases among RBD, in some blood services in EU the possibility of discontinuing the anti-HTLV screening of all donations had been considered and switching to donor testing had been proposed. The incident cases registered over the last four years prevent us from considering such a strategy for blood screening, at least for the next years.