**Relationship between pemphigus and American tegumentary leishmaniasis: insights from serological and genetic profiles**

**Abstract**

Background: Antibodies against Leishmania peptides (Lbr-peps) and desmogleins (Dsgs) have been reported in pemphigus foliaceus (PF) and leishmaniasis patients, respectively. We aimed to compare serological and genetic features in a Brazilian region endemic for American tegumentary leishmaniasis (ATL) and pemphigus. Methods: Commercial anti-Dsg ELISA and in-house ELISA with Lbr-peps were used to determine the serological profile, in addition to immunoblotting (IB) and indirect immunofluorescence (IIF) assays. HLA-DRB1 and -DQA1/DQB1 alleles were characterized by PCR combined with sequence-specific oligonucleotide probes (PCR-SSOP). The serological and genetic profiles were compared using 78 PF, 62 pemphigus vulgaris (PV) and 58 ATL patients against 163 and 1592 healthy controls, respectively. Results: Some ATL patients showed positive results for anti-Dsg1 and/or anti-Dsg3 antibodies. They also revealed 130, 160 and/or 230 kDa epidermal peptides in IB. Moreover, some ATL samples exhibited pemphigus or a bullous pemphigoid pattern in IIF, ELISA and IB assays showed Lbr-peps in pemphigus patients. HLA-DQA1[*]01 and -DQA1[*]01:02 were protective and susceptibility alleles for ATL, respectively, but the opposite for pemphigus. Conclusions: Anti-Dsgs in ATL may represent epiphenomena. Anti-Lbr-pep antibodies in pemphigus suggest a previous infection. A differential association of the HLA profile may contribute to the lack of co-association between pemphigus and ATL. (AU)