

14. Sabrina Hoa¹

Camille Guertin², Sasha Bernatsky³, Maggie Larché⁴, Murray Baron³, May Choi⁴, Mohammed Osman⁵, Janet Pope⁶, Carter Thorne⁷, Marie Hudson³, on behalf of the Canadian Scleroderma Research Group.

¹Centre hospitalier de l'Université de Montréal, Montréal, QC; ²Université de Montréal; ³McGill University, Montreal, QC; ⁴University of Calgary, Calgary, AB; ⁵University of Alberta, Edmonton, Ab; ⁶University of Western Ontario, London, ON; ⁷Southlake Regional Health Centre, Newmarket, ON.

Distinct Systemic Sclerosis Phenotypes Related to Race/Ethnicity: An Opportunity to Personalize Care?

Aim: To describe and compare systemic sclerosis (SSc) phenotypes according to race/ethnicity.

Methods: SSc patients enrolled in the Canadian Scleroderma Research Group cohort from 2004 to 2020 were included. Demographic, clinical and serological characteristics at baseline were collected using standardized questionnaires. Race/ethnicity was self-reported by participants, who were asked to identify with 1 (or more) of the following groups: White, Chinese, South Asian, Black, Filipino, Latin American, Southeast Asian, Arab, West Asian, Japanese, Korean, Indigenous (First Nations, Metis, Inuit) or none of the above. We compared clinical characteristics and serology, according to race/ethnicity.

Results: Of the 1727 CSRG participants, 80% indicated White race/ethnicity (n=1385), 5 % Indigenous (n=79), 3% Latin American (n=58), 1.6% Middle Eastern (n=27), 1.5% East/Southeast Asian (n=26), 1.2 % Black (n=21) and 0.8 % South Asian (n=12). White individuals were older at cohort entry and more frequently had limited SSc. Most SSc subjects were women, but men were affected in higher proportions among South Asians (39%) and East/Southeast Asians (23%). Although Raynaud's phenomenon is almost universal in SSc, its prevalence was slightly lower among East/Southeast Asians (86%), who also had numerically lower frequency of digital ulcers (29%). Arthritis was relatively common among Latin Americans (55%), Blacks (47%) and possibly Indigenous individuals (39%) versus Whites (29%). Blacks also had higher frequency of diffuse SSc (67%), telangiectasias (79%) and myositis (40%), and the lowest mean pulmonary function test values. Indigenous individuals had higher prevalence of lower gastrointestinal involvement, including malabsorption (22%), bacterial overgrowth (15%) and need for hyperalimentation (9%). In regard to serological profiles, anti-centromere autoantibodies were positive in about one third of SSc patients, but rare among Black individuals (6%). Anti-topoisomerase I autoantibodies were present in about one third of Latin American, Black, East/Southeast Asian, Middle Eastern and South Asian patients, but in only 13% of White and Indigenous individuals. Finally, anti-RNA polymerase III autoantibodies were overrepresented among Indigenous individuals (30%).

Conclusions: In this Canadian cohort, race/ethnicity was associated with distinct SSc phenotypes. Some of these findings may be due to genetic factors, but some findings may be related to referral patterns or migration trends. Additional investigations are underway to better understand our findings. If validated, the results could help personalize care in SSc.