MALE MICROCHIMERISM AND HLA COMPATIBILITY IN FRENCH WOMEN WITH SCLERODEMA: A DIFFERENT PROFILE IN LIMITED AND DIFFUSE SUBSET

J.M. Rak[1], *P.P. Pagni[1], K.Tiev[2], Y. Allanore[3], D. Farge[4,5], J.R. Harlé[6], D. Launay[7], E. Hachulla[7], R. Didelot[8], J. Cabane[2], A. Kahan[3], M. Martin[1], J. Roudier[1,9] and N.C. Lambert[1].

[1]INSERM U639, Marseille ; [2]Service de Médecine Interne, Hôpital St Antoine, Paris; [3]Service de Rhumatologie, Hôpital Cochin, Paris ; [4]Service de Médecine Interne et Pathologie Vasculaire, Hôpital St Louis, Paris ; [5]INSERM U697, Hôpital St Louis, Paris, [6]Service de Médecine Interne, Hôpital La Conception, Marseille; [7]Service de Médecine Interne, Centre National de Référence des Atteintes Vasculaire de la Sclérodermie Systémique, Hôpital Claude Huriez, Lille ; [8]Centre d'Examen de Santé Assurance Maladie, [9]Service de Rhumatologie, Hôpital La Conception, Marseille.

**** J.M. R. and P.P. P. have equally contributed to this work.***

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OBJECTIVES- Male microchimerism (Mc) persisting from pregnancy has been found at greater frequencies and/or higher quantities in women with scleroderma (SSc) compared to controls, suggesting a possible role in disease development. Moreover, women with an HLA compatible child have a higher risk to develop SSc. We tested the hypothesis, on our French SSc cohort, that women with limited cutaneous SSc (lcSSc) and diffuse cutaneous SSc (dcSSc), two distinct clinical subsets, have a different profile in terms of Mc and HLA compatibility in families.

METHODS- We studied 98 women (52 lcSSc and 46 dcSSc) for male Mc, by real-time PCR, in their whole blood and/or PBMC. Similarly, 91 matched healthy women were analysed. Complete HLA-DRB1 typing was obtained for 58 SSc and 68 control families (proband/children).

RESULTS- Women with lcSSc (N= 50) had more often male Mc in their whole blood than women with dcSSc (N= 40, 20% versus 5%, *p= 0.038*). In contrast, women with dcSSc (N= 36) hold Mc more often in PBMC (25% versus 9%), but not significantly and have greater quantities than controls (N= 82, *p=0.048*). This contrast is also visible in fœto-maternal HLA-DRB1 compatibility, which was increased only among women with lcSSc (N=33) compared to controls (N=68, *p=0.003*).

CONCLUSION- For the first time, we showed that women with lcSSc and dcSSc hold male Mc in different blood compartments. Furthermore, a distinct pattern between the two SSc subtypes is observed for fœto-maternal HLA-DRB1 compatibility. These results suggest a different mechanism behind each type of disease.

Key words: microchimerism, limited cutaneous scleroderma, diffuse cutaneous scleroderma, blood, PBMC, Y-chromosome.