

Autoimmune Reactivity in Vitiligo

I. Caroline Le Poole, Ph.D.,
Assistant Professor of Pathology
Loyola University Medical Center

In my lab, we are interested in the role of the immune response in vitiligo. In the past year, we have co published that we can find immune cells in the skin whenever patients with the most common form of the disease (generalized vitiligo) are actively losing pigment). These immune cells are found exactly where the skin is turning white, and they seem to be in direct contact with the cells that normally produce skin pigment. This tells us it is likely that immune cells play an active role in the process that leaves patients with white skin. If we can define what it is these immune cells are responding to, we may be able to interfere and possibly prevent further loss of skin pigmentation. We think immune cells are responsive to proteins found exclusively in pigment cells, which we are trying to demonstrate in a collaborative project with Dr. Gisela Erf from the University of Arkansas.

Of course, we also need to figure out why pigment producing cells are attacked in vitiligo patients, and not in other people. We (as well as others) have been speculating that pigment cells from vitiligo patients are relatively more sensitive to unfortunate conditions such as excessive sun exposure. Recent experimental results have not provided us with support for this thought. Maybe we need to look under different conditions, or maybe we need a totally different explanation. Time will tell, as experiments continue.

Finally, we have produced a cell line that can be very useful to vitiligo researchers. Cells put into culture from patients or from controls have only a limited life span. By the time an interesting finding is ready to be reported, the cultured cells have come to the end of their journey, and other researchers cannot use the same cells to verify the work. So we have 'immortalized' vitiligo cells and extensively characterized the resulting cell line to enable different research groups to compare notes when they use these cells.

I have been very fortunate that many of you have been willing to share your experiences with me by mail and e-mail. Your support for our research is very important to us. We are pleased to continue our vitiligo research in 2001!

Dr. I. Caroline Le Poole
Assistant Professor of Pathology
Loyola University Chicago
Email ilepool@lumc.edu

Publications:

- 1 Van den Wijngaard R et al, Local immune response in skin of generalized vitiligo patients. Destruction of melanocytes is associated with the prominent presence of CLA+ T cells at the perilesional site. *Lab Invest* 80: 1299-1309(2000).
- 2 Van den Wijngaard RMJJ et al, Expression and modulation of apoptosis regulatory molecules in human melanocytes: significance in vitiligo. *Br J Dermatol* 143:573- 81 (2000)
- 3 Le Poole IC et al, PIG3V, An immortalized human vitiligo melanocyte cell line expresses dilated endoplasmic reticulum. *In Vitro Cell Dev Bioi Anim* 36: 309-319(2000)