

KNIGHTS OF THE YORK CROSS OF HONOUR

Long-Term Melanoma Immunity is Skin Deep



Special immune cells in the skin of some patients with melanoma may hold the key to fighting the disease and protecting against future melanoma tumors. With critical support from the Knights of the York Cross of Honour, Mary Jo Turk, PhD, and her team at Dartmouth-Hitchcock’s Norris Cotton Cancer Center are investigating this connection.

Turk’s interest in this research began with the question of why patients with melanoma who develop the disease vitiligo have such a good prognosis. Vitiligo is an autoimmune skin condition that targets normal healthy skin cells that produce pigment. Using mouse models of melanoma and vitiligo, Turk and her team found that memory T cells permanently reside in vitiligo-affected skin, where they kill melanoma cells. T cells that fight cancer had previously been thought to reside only in immune organs such as the spleen, lymph nodes and blood.

To see if this discovery holds true in humans, Turk has teamed up with oncology surgeon Christina Angeles, MD, to look for the special T cells in the skin of patients with melanoma—those who develop vitiligo and those who do not.

“If it wasn’t for the Knights’ support, this line of research—and the knowledge we gain from it—would be on hold,” says Turk. The Knights of the York Cross of Honour is an honorary and invitational masonic order. Since 1980, the Knights have donated more than \$1.8 million to support the work of researchers at the Cancer Center who are exploring promising new areas of cancer research. Their most recent gift of \$75,000 is making it possible for Angeles and Turk to continue their vitiligo research.

By learning more about the connection between vitiligo and long-term survival from melanoma, Turk and Angeles hope to uncover new, highly effective treatments for melanoma. Doctors may one day infuse T cells into patients' skin, Turk imagines, or even promote the development of vitiligo in patients with melanoma to induce long-term protection against the deadly disease.

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