2 Skin Cancer 'Blockers' Identified, Researchers Report

By Erik Lief — April 25, 2017

Judging from our readers' strong response to a recent article on why pancreatic cancer kills so quickly [1], we thought we'd turn our attention to another form of fast-acting cancer and what takes place at the cellular level.

Melanoma, the deadliest form of skin cancer, claims between 9,000-10,000 American lives annually. And a primary reason it does is that, like in the pancreas, its cancer cells swiftly coalesce into tumors. Another important reason: like pancreatic cancer, early diagnosis often eludes its victims, of which there are many thousand in the U.S. each year.

However, we might soon see progress in defending against both of these killers.

That's because new findings from researchers at the University of Iowa have identified two antibodies that, in their words, "blocked tumor creation" in melanoma and breast cancer.

Their recent study [2] of melanoma's fast-moving formation, published last month in the journal PLOS One, found that "anti-beta 1 integrin/(CD29) and anti-CD44" were effective in walling off both melanoma and breast cancer, which Iowa researchers studied in 2015. In this study, researchers identified these two "monoclonal" (cells coming from a single clone) antibodies from 51 that were screened.

"What's so cool is the same drug that stops breast cancer cells from undergoing coalescence also stops melanoma cells from undergoing coalescence," said biology professor David Soll. "That
means there’s a commonality despite the different origins. And that also means there might be a magic bullet (to stop tumor formation) for all cancers.”

The research team, using real-time technology, employed “unique computer-assisted 3-D reconstruction software to chronicle how both breast tissue cancer cells and melanoma cells form tumors,” as described in a statement released by the university. “The group found the two cancers act similarly in the joining stages of tumor formation.”

"Any novel approach that yields new information in cancer research, like the 3D Matrigel model and reconstruction software used here, is an important step forward," says Julianna LeMieux, ACSH's Senior Fellow in Molecular Biology. "The demonstration, using that technology, of coalescence in multiple cell types and the ability to block that process with monoclonal antibodies is exciting."

The Centers for Disease Control and Prevention reports that in 2013, the most recent year data are available, nearly 72,000 Americans were diagnosed with melanoma of the skin, the sixth-most common cancer in America among men and women. That year, melanoma killed 9,394 people, two thirds of them men.

Meanwhile, pancreatic cancer strikes more that 50,000 adults each year, and an astounding 93 percent do not survive five years after being diagnosed, according to the Mayo Clinic. Given these similar annual death totals – 46,500 pancreatic cancer fatalities over five years is an
average of 9,300 annually – there's a reason these frighteningly efficient killers have gotten our attention.

While the new findings about these two tumor blockers is encouraging, it would be prudent to temper our enthusiasm somewhat. Earlier research in this area has shown that some cancer cells don't always respond in unison, providing for the possibility that these dormant cells can "avoid" being blocked, only to emerge at a later time.