MARY CROWLEY
CANCER RESEARCH CENTERS
HOPE LIVES HERE.

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MARY CROWLEY QUARTERLY

GETTING *PERSONAL* ABOUT *PERSONALIZED* THERAPY

Going, Going, and Almost Gone are the days when patients were treated on the basis of which organ was the origin of the cancer; when all lung cancers were treated with the same regimens, as were all breast cancers, prostate cancers...you get the picture! Now, as a result of major advances in technology, we can relatively quickly (at a constantly decreasing cost) determine the mutated genes and qualitatively and quantitatively abnormal proteins produced by each individual cancer. Lo and behold, each cancer is unique; in essence each has its own molecular fingerprint. Although many of these identified genes and proteins are non-participating bystanders, some are what we call *drivers* in that they are necessary for cancer maintenance, growth, and spread. We are getting better at selectively identifying this latter group. So we treat a patient with lung cancer with a mutated gene for the EGFR protein receptor (which when turned on by the epidermal growth factor - EGF, stimulates cell growth) differently, using an inhibitor of the EGFR, than a patient without that mutation.

However, things are not that simple. Patients with a mutation in another gene, KRAS, do not respond to the same EGFR inhibitor. Cancer cells, like normal cells, are comprised of a dense network of genes and the proteins they produce. The proteins form pathways bringing growth stimulatory or inhibitory signals from the cell surface to the cell nucleus where the information is translated into action. Not only do these pathways interact with each other but within each pathway there can be positive and/or negative feedback signals-that is, block a specific protein and another protein higher in the same pathway can be turned off or on, respectively, thereby neutralizing the desired effect. Understanding this complex web of interactions is the job of "systems analysis", a sophisticated, computerized approach to integrate millions of bits of biomedical data. Mary Crowley Cancer Research Centers has been in the forefront of applying this approach and is now in the process of incorporating the next generation of technology. Providing the best available care to our patients has always been something personal!

- Neil Senzer, Scientific Director for Mary Crowley

UPDATES

RAPID ASCENT OF TARGETED THERAPIES

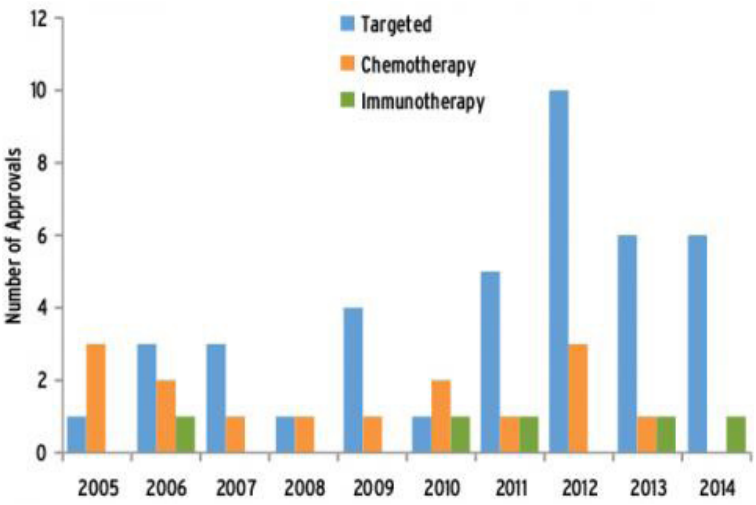


Figure Above: FDA approvals by cancer drug class and year

Over the last decade, there has been a steady and sharp increase in the number of new targeted therapies approved by the FDA, strongly outpacing new chemotherapy drug development (Fig 2). Roughly 40 new targeted drugs became available in this time period, and many of them transformed the patterns of care, dramatically improving outcomes for patients with a wide range of cancers.

DRUGS TARGETING MULTIPLE MOLECULAR PATHWAYS: A RISING TREND

Researchers are discovering increasing numbers of cancer treatments that can block more than one molecular target or pathway at the same time, making them powerful weapons against cancer. For example, vandetanib (approved in 2011 for the treatment of thyroid cancer) blocks EGFR, VEGFR (a protein involved in the growth of tumor blood vessels), and RET. The colorectal cancer drug regorafenib (approved in 2012) blocks six different cancer pathways: VEGFR1-3, TIE2, PDGFR, FGFR, KIT, and RET.

IMMUNOTHERAPY COMES OF AGE

Scientists have known for more than a hundred years that the immune system could be a powerful ally in the fight against cancer. But it was not until the last decade that what is now referred to as immunotherapy truly began to revolutionize cancer care. Progress is now being made on several fronts, with new treatments ranging from off-the-shelf oral drugs to cell-based therapies custom made for each patient.

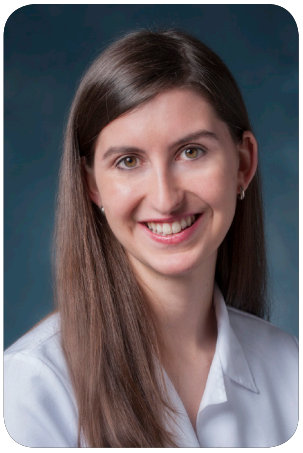
Source: American Society of Clinical Oncology (ASCO) - CancerProgress.net

VISITOR TRIBUTES MARY CROWLEY STAFF

"Dear Melissa, I was recently at the Mary Crowley Center with my friend Janice while she received a treatment for her cancer. As an observation of Lent, I am writing (or trying to!) a note a day to tell someone how much I appreciate them. I don't know you, but I do know that you have a heart for what you do - something that very few people could do. You exude hope and humanity. Janice and I both talked about how the MC center "felt" different - and you were a big part of that. Thank you for doing what you do. Hope is a big deal - thank you for sharing it!" - Lauren

STAFF

WELCOME OUR NEW PHYSICIAN ASSISTANT



Analesa Grace Lyles, PA-C,MPAS, joined Mary Crowley in January 2015 as one the newest additions to the highly qualified research team. As a certified Physician Assistant, she will assist the physician investigators in the management of patients on clinical trials. Grace completed her bachelor's degree at Sewanee: University of the South with a major in Biology and a minor in Psychology, graduating Magna Cum Laude. She went on to receive her Master's in Physician Assistant Studies from the University of Texas Pan American (UTPA) in December 2014.

ONCOLOGY NURSE NAVIGATORS - MAKING THE CANCER JOURNEY SMOOTHER

At Mary Crowley, an Oncology Nurse Navigator is on-staff to provide resources and support for cancer patients. Nurse Navigator, Wanda Strange , RN, OCN, has been serving patients in this role for 3 years. She serves as a single point of contact for referring physicians, patients and caregivers to provide resources for travel and lodging, spiritual and psychological guidance, and education. Wanda also provides assistance with accessing clinical care and resource materials offered within Medical City Hospital and in the community. She provides patients with overall support, guidance and smooth navigation throughout the difficult cancer journey – from diagnosis, to survivorship or end of life. *This year, Oncology Nursing Society (Dallas Chapter) presented Wanda Strange with the Founder's Award for her significant contributions to oncology nursing.*

PHILANTHROPY

Bringing Hope

PEDIATRIC PROGRAM TO ACCELERATE

Mary Crowley has been selected as a 2015 beneficiary of $500,000 from the Crystal Charity Ball. This will accelerate the existing pediatric clinical initiative to bring more investigational options to children and adolescents having advanced cancers. Due to the fact that large pharmaceutical companies see pediatrics as a small market potential for cancer drug development, the pediatric population is currently lacking new innovative treatment options. This funding will help drive that research development to the forefront and initially to Ewing's Sarcoma patients who have exhausted all other treatment modalities.

"Mary Crowley is privileged for the opportunity to serve and align these patients with the newest molecular based therapies", says Maurizio Ghisoli MD, Principle Pediatric Investigator for the program. *Pictured Above: Sarena Saad, Eric Jenkins, Dr. Maurizio Ghisoli, Cailee Hinkle, Nicholas Jenkins, Sela Smith, Daniel Ghisoli, Brock Gumm, Cohen Lirette, Samantha Rangel*

A BEAUTYKIND OF DAY AT MARY CROWLEY

It was indeed a special day on March 30th, 2015 for patients and staff who each received a $50 gift card from BEAUTYKIND! It was a delightful surprise for everyone, thanks to an introduction to this start-up company by Charlotte Huthnance, a Mary Crowley patient who was on-hand to present the gifts. BEAUTYKIND is an on-line retailer that allows one to buy beauty products brands while supporting the charitable cause of choice. They donate 5% of the product purchase price to a specified charity and of course, Mary Crowley Cancer Research Centers is now is one of those deserving charities that may be selected. For more information, go to: www.beautykind.us

MARK AND MARSHA KING DONATION

Recently, Mark and Marcia King, through their private foundation, made a $75,000 gift to the Mary Crowley Cancer Research Center. The MMK Foundation is a private, non-profit 501(c) foundation established by the King's in 2007 to support initiatives that enhance the health and lives of children, citizens, and communities worldwide. Mark King said: "Cancer touches so many lives and the important work being done by the Mary Crowley Cancer Research Center to develop new treatments, apply personalized therapies, and bring hope and quality of life improvements to those dealing with a diagnosis of cancer is essential. Marcia and I are very pleased to support their efforts through our gift and look forward to an ongoing and long-term relationship with the Mary Crowley Cancer Research Centers".

DON'T MISS IT! The Event of the Year is Silver Dollar At The Ranch on May 16, 2015 benefitting Mary Crowley and Cook Children's. Plan now for a spectacular western evening on a working ranch and support pediatric cancer research! For more information and tickets, visit *silverdollarattheranch.com*

SECOND MANUARY PARTY RAISES OVER $60,000 FOR MARY CROWLEY

Charlotte and Rob Huthnance gathered friends and family for another Stache Bash on Manuary 23, 2015, to celebrate Charlotte's fight against Ovarian Cancer and to raise money for Mary Crowley's innovative clinical trial program. Grow one, or buy one at the door, a mustache was required for entry! A festive time was held by all as they raised over $60,000 to support new treatment options for cancer patients.

COLON CANCER ALLIANCE | UNDY™ RUN & WALK

STAY TUNED! Mary Crowley is the beneficiary of $20,000 for the 2014 UNDY 5000. These funds brought new, innovative clinical trials for to 36 colorectal cancer patients 2014. Stay tuned for more information on the upcoming race this fall.

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DONATE NOW!
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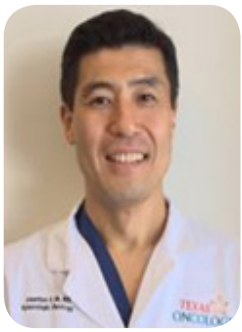
ARTICLE

Autologous Vaccine Delays Progression Following Surgery for Ovarian Cancer


Dr. Jonathan Oh

Treatment with the immunotherapy Vigil™, formally known as FANG™, delayed time to progression in all patients with stage III/IV ovarian cancer who were treated with the autologous tumor cell vaccine compared with those who were not, according to an open label phase II trial.

In the 31 patient trial, which was presented at the 2015 Society of Gynecologic Oncology Annual Meeting, patients were randomized to receive the vaccine or no treatment following surgery. Of the 20 patients who received the vaccine, a median time to progression had not yet been reached compared with a median of 14.5 months in those who were not treated.

Additionally, the Vigil™ vaccine, composed of granulocyte macrophage colony-stimulating factor [GMCSF] bi-shRNAi furin vector-transfected autologous tumor cells, demonstrated an acceptable safety profile, and participants showed a high rate of immune response via T-cell activation.

Lead author Jonathan Oh, MD, of Texas Oncology in Dallas, called the study findings encouraging. "Results in phase II ovarian cancer suggest Vigil™-mediated prolongation of time to recurrence," he said during a scientific plenary session.

A preceding trial discovered longer-than-expected survival duration that correlated with ELISPOT reactivity. This earlier trial examined a variety of advanced tumors, ranging from adenoid cystic carcinoma to synovial sarcoma. Ovarian cancers represented a small percentage of the study total.

"We believe further randomized assessment is justified based on a 93% ELISPOT [Enzyme-Linked ImmunoSPOT assay] conversion in phase II to minimal residual disease in ovarian cancer. That's compared to a phase I result of 54% conversion in patients with bulky disease."

Oh, et al, narrowed the phase II study's focus to ovarian cancer for several reasons. "Approximately 75% of stage III/IV patients with ovarian cancer who achieve clinical complete response (cCR) relapse within 2 years, and there is no standard of care for maintenance therapy," he noted. "We thought there was potential to determine regression-free survival (RFS) difference by running a 2:1 randomized phase II trial."

Study participants were patients with stage III/IV ovarian cancer who achieved cCR following surgical debulking and chemotherapy. Tumor tissue was harvested during surgical debulking to use in vaccine construction. Once patients achieved cCR and were confirmed to be ELISPOT-negative, 20 patients were randomized to receive the Vigil™ treatment, and 11 patients were randomized to the non-Vigil™ group.

Patients in the active treatment group received 1.0 x 10^7 cells/intradermal injection once monthly for up to 12 doses. Patients in the control group received no maintenance therapy. The trial design allowed for patients to be transferred to the active treatment group if they experienced disease progression during the trial.
- Darcy Lewis | www.onclive.com