



## **Update for Queen of Hearts Foundation Submitted by Dr. Robert Bristow, Chair, Gynecologic Oncology April 2014**

**Ann's Clinic:** Ann's Clinic is thriving and continues to be the only high-risk ovarian cancer screening and survivorship clinic in Orange County. Since October, 8 additional patients have been seen, bringing the total number of patients evaluated for ovarian cancer screening services and cancer survivorship counseling at the clinic to 75.

**Ovarian Cancer Care Bags:** The Canvas Tote Care Bags with two-sided printing (Queen of Hearts & UC Irvine Health) continue to be distributed, providing patient resources and comfort items, to help manage their care. The MP3 players continue to be well utilized by patients during chemotherapy infusions to pass the time. Patients typically bring their totes to appointments to log notes in their three-ringed binder and carry their necessary items. Thanks and appreciation for the resources is always shared with staff. Since our supplies were depleted we recently ordered a 100 of each item that is included in the bag.

**Physician Education Course:** An advanced course in Cytoreductive Surgery for Ovarian Cancer and Peritoneal Surface Malignancies—Radical Pelvic and Upper Abdominal Procedures with Cadaver Dissection took place on October 18 and 19, 2013. The course was a great success. We had 44 registrants from 13 different countries around the world including Mexico, Ghana, Australia, Poland, Germany and Norway.

**Outreach Events:** We are working with Ms. Jennifer Ivask to plan one or two community outreach events, either devoted exclusively to ovarian cancer or as a combined event including broader topics in women's health in addition to ovarian cancer. One of the events will take place in south Orange County, and the others will be in another part of the community, to be determined. These events will publicize the existence of Ann's Clinic and educate the public about the importance of early detection of ovarian cancer. Ideas for the events include faculty presentations to women's groups as well as a Women's Health Conference. A meeting with the Queen of Hearts should be scheduled in this spring to discuss details of these outreach efforts. Possible ideas, in addition to those above, include physician presentations, survivor presentations, including breast cancer experts for a combined educational event, and organizing a presentation to health care providers (e.g. medical students) regarding the importance of early ovarian cancer detection.

**Research Grants:** The second cycle of research grant applications was completed in May 2013 with the awarding of two grants. Awardee Dr. Ramez Eskander study will focus on identifying

predictors of 30-day re-admission in patients with gynecologic cancer utilizing a national patient care database.

Awardee Dr. Lauren Krill will study the NRP2 inhibition in ovarian cancer.

Study Updates:

Hospital Readmission (30-day) Following Surgery for Advanced-State Ovarian Cancer; Analysis of Risk Factors and Cost Using the SEER-Medicare Database RN Eskander, MD

Unanticipated 30-day readmission is rapidly evolving into an important quality of care metric, and it is a clinical and policy priority to try and identify modifiable risk factors for readmission for various medical conditions. Through the generosity of the Queen of Hearts Foundation, we were able to examine 30-day readmission rates in a cohort of patients with advanced stage ovarian cancer using the SEER-Medicare linked database. Our study results showed unplanned readmission rates of 17.2% in this patient population, rising to 19.5% when multiple readmissions were accounted for, with a cost of approximately \$9220 per admission. The most common diagnoses associated with readmission included infection, dehydration and gastrointestinal complications. Interestingly, over the study period spanning from 1992-2009, there was a decline in the median length of hospital stay after surgery, which was associated with a rise in unanticipated hospital readmission, potentially implying that pressure for rapid disposition after surgery may be leaving patients vulnerable for hospital readmission. Lastly, those patients readmitted within 30-days of discharge had a significantly higher 1- and 5-year mortality, even when controlling for covariates.

This is the first study exploring readmission rates in a large cohort of ovarian cancer patients after primary surgery. The results are thought provoking, and may help catalyze additional investigation into modifiable factors, and creation of interventions to help prevent readmission, improving patient quality of life and controlling costs. We look forward to expanding on this work in the near future.

Neurolipin Inhibition in Ovarian Cancer L Krill, MD

The on-going project entitled Neurolipin Inhibition in Ovarian Cancer that is supported by the Queen of Hearts Foundation Award is proceeding very well under the supervision of Dr. Zi. The purpose of this study is to investigate the regulation of NRP2 expression by Wnt inhibitors WIF1 and Dkk3 and to establish the functional effects of NRP2 expression on tumorigenesis in an ovarian cancer mouse model. We believe this work will enhance our understanding of the 'Wnt signaling pathway,' which has been implicated in many other cancers, and also provide more information on the development and progression of metastatic ovarian cancer.

In order to test our hypotheses, we modified ovarian cancer cells (SKOV-3) in several ways. SKOV-3 cells that do not usually express WIF1 or Dkk3 were stably transfected with the following genes: control (pcDNA3.1), *WIF1*, *Dkk3* genes or *NRP2* short hairpin RNA (shRNA). This

will inhibit the expression of NRP2 in one cell line and promote abnormal expression of WIF1 or Dkk3 in the others so that we can measure differences in the corresponding tumor growth. Ovarian cancer cells expressing either WIF1, Dkk3, vector controls (pcDNA3.1) or NRP2shRNA (i.e. NRP2 inhibitor) were grown in cell culture and used to create our mouse model. In-vivo studies are still on-going but our preliminary results demonstrate differential anti-tumor effects in the two different Wnt inhibitors. We will be completing experiments in the next few months and performing additional analyses to figure out the differences in their mechanisms of action and effects on NRP2.

We anticipate that the results of the final analysis should be available in the summer. Then, we plan to submit an abstract to present our findings at the 2015 SGO Annual meeting; the manuscript will be prepared and submitted for publication shortly thereafter.

**Ovarian Cancer Research Laboratory:** We have moved forward and made an offer to our lead candidate. We are currently in the negotiation phase and have responded with a counter-offer to the candidate's list of needs. It is our top priority to move this initiative forward in a timely manner. We will provide a monthly update regarding the status of the hire.