University of Minnesota Clinical Trials
Ovarian Cancer

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ALT-803 – Maintenance Immunotherapy

• Goal: To remain in remission for as long as possible by stimulating the immune system
• Maintenance therapy after frontline treatment
• 4 cycles total. 1 cycle includes:
  – ALT-803, given 1x per week for 1 month
  – 1 month of no treatment
  – 8 months total
• Phase 1 trial by Dr. Melissa Geller
• “IL-15 Superagonist”
  – developed by “Altor BioScience”
ALT-803 – Maintenance Immunotherapy

- IL-15 is a naturally produced molecule in humans
  - stimulates multiple facets of our immune system
- ALT-803 is a “superagonist” that mimics IL-15
  - Lives longer in our body
  - Specific to immune cells
  - Has minimal effects on non-immune cells
ALT-803 – MOCA FUNDED – THANK YOU!

• Melissa Geller, M.D., M.S., University of Minnesota.
• “IL-15 superagonist ALT 803 maintenance therapy to prevent recurrence of advanced stage ovarian cancer.”
• $100,000 for one year.
Tesaro FIRST – Frontline Treatment

- Newly diagnosed ovarian cancer patients undergoing NACT
  - NACT = neo-adjuvant chemotherapy, or chemo before surgery
  - Also patients that had “sub-optimal” tumor debulking at surgery
- Phase 3, Randomized, double blind comparison of 3 arms:
  - 25%: SOC (Standard of care chemotherapy)
  - 25%: SOC, followed by maintenance Niraparib
  - 50%: SOC + TSR-042, maintenance Niraparib + TSR-042
- TSR-042 is an immunotherapy agent given every 3 weeks
  - Similar to pembrolizumab / Keytruda
- Niraparib is a PARP-inhibitor, taken orally twice per day
- Patients do not know which arm they are assigned
NRG GY-005 – Platinum Resistant Recurrent

• Recurrent cancer that returned <6 months after last chemo
• Phase 3, Randomized, open-label comparison of 3 arms:
  – 33%: **SOC**: Standard of care chemotherapy (Per MD’s choice)
  – 33%: **Cediranib alone**
  – 33%: **Cediranib + Olaparib**
• **Cediranib** is a VEGF inhibitor that prevents
  – Similar to Avastin / bevacizumab, but in pill form taken daily
• **Olaparib** is a PARP-inhibitor, taken orally twice a day
• Patients and physicians know which arm the patient gets
• Any previous PARP-inhibitor or VEGF-inhibitor is exclusion
FATE-NK 100 – Any Recurrent Cancer

• Any recurrent cancer that has progressed after chemo
• Phase 1/2 immunotherapy trial piloted by Dr. Melissa Geller
• Natural Killer Cells (NKC) are naturally produced immune cells that are effective at killing cancer....
  – BUT cancer learns how to avoid detection from NKC’s
• NKCs can be isolated from a relative donor
  – Brother, sister, children
  – “New” enough that the cancer cannot hide from detection
  – Similar enough that they won’t attack your body’s healthy cells
  – Donors must be screened to find the best match
  – CMV exposure
FATE-NK 100 – Any Recurrent Cancer

• NKC’s are taken from identified donor and fused with FATE
• Patient is prepared to accept NK cells with low-dose chemotherapy
  – This makes “makes room” for the new NK cells
• FATE-NK 100 drug is given through an IP port
• IL-2 is then given 3 times per week for 2 weeks
  – IL-2 is a naturally produced protein
  – IL-2 keeps the FATE-NK 100 cells alive so they can keep working
• Re-scan at 1 month to evaluate effectiveness
(Upcoming)
Keytruda NanoString – Any Recurrence

- Phase 2 open label trial of “targeted” Keytruda
- Anyone with recurrent cancer qualifies for screening
- **Immuno-reactive subtypes** (should) respond well to Keytruda
  - “NanoString” testing of tumors determines if it is immuno-reactive
  - Roughly 20-25% of tumors are immuno-reactive
- Single agent study of Keytruda immunotherapy – no placebos
  - Given every 3 weeks until tumor progresses – no limit to doses
- Immunotherapy is well tolerated with minimal side effects
NovoCure – Platinum Resistant Recurrence

• Recurrent cancer that returned <6 months after last chemo
• Phase 1, open-label study of Novocure + Taxol
• Novocure is a belt that uses tumor treating fields (TTF) to disrupt cancer cell division and inhibit tumor growth
  – Worn for 18+ hours a day
  – Currently used for some brain cancers
  – Awaiting FDA approval for trials in other cancers
• Taxol is a chemo drug that also disrupts cellular division
  – Given once every 3 weeks
• Novocure + Taxol is expected to further disrupt cellular division and be more effective than either of these alone
(Upcoming)
NovoCure – Platinum Resistant Recurrence
(Upcoming)
mRNA Injection – Any Recurrence

- Anyone with recurrent cancer that has had 3+ treatments
- Phase 1 trial that was previously on all solid tumors
- Ovarian cohort had success, so now just moving forward with ovarian arm of study
- mRNA drug is injected into solid tumors using image-guided procedures such as ultrasound or CT
- Side effects have been significant, but there have been some good results
Pap Biomarker Study for Earlier Detection

- Amy Skubitz, Ph.D., University of Minnesota.
- “Verification of a biomarker panel for the early detection of ovarian cancer using serum samples from multiple sources.”
- $150,000 for one year.
Pap Biomarker Study for Earlier Detection

• **GOAL:** To determine a method to detect early ovarian cancer cells using routine Pap smears

• Cells, proteins, and biomarkers from ovaries and fallopian tubes can be detected on the cervix

• Patients consent to have a Pap test at the time of surgery
  – Benign samples are compared to malignant samples
  – Identifies biomarkers present in malignant that are not in benign

• Accrual goal is 1,000 (currently around 600)
Other Non-Therapeutic Studies

• **Precision Medicine:**
  – Identifies specific genetic differences that can better predict ideal therapies for patients based on their molecular subtype of cancer and personal genetic profile.
  – Offers enhanced genetic counseling including research genes

• **Avatar:**
  – Identifies genetic traits in the tumors that could determine why some patients respond better to chemotherapy than others
  – Uses PDX mouse models that are implanted with human tumors

• **GOLD:**
  – Understand long-term quality of life impacts after diagnosis of a gynecologic cancer
  – Surveys sent out every 6 months, events held every 3 months

• **CMV and NKC’s in Ascites:**
  – Identifies components in ascites fluid that may be able to be exploited for treatment of ovarian cancer, such as natural killer cells.
  – Ascites are collected at the time of surgery

• **Ubiquitin-Mediated Degredation:**
  – Investigating ubiquitin-mediated protein degradation pathways for treatment of Ovarian Cancer
  – Dr. Martina Bazarro’s Study, who spoke at MOCA Teal Strides this year!
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