

University of Minnesota Clinical Trials Ovarian Cancer

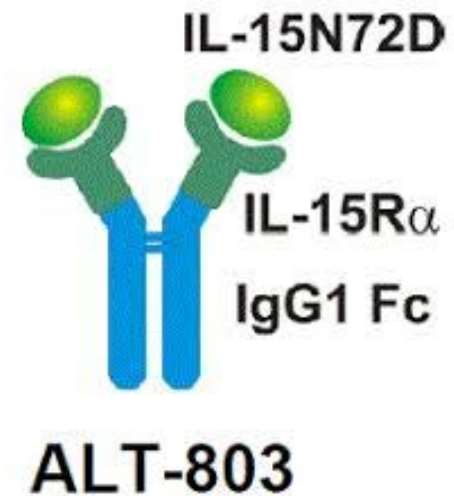
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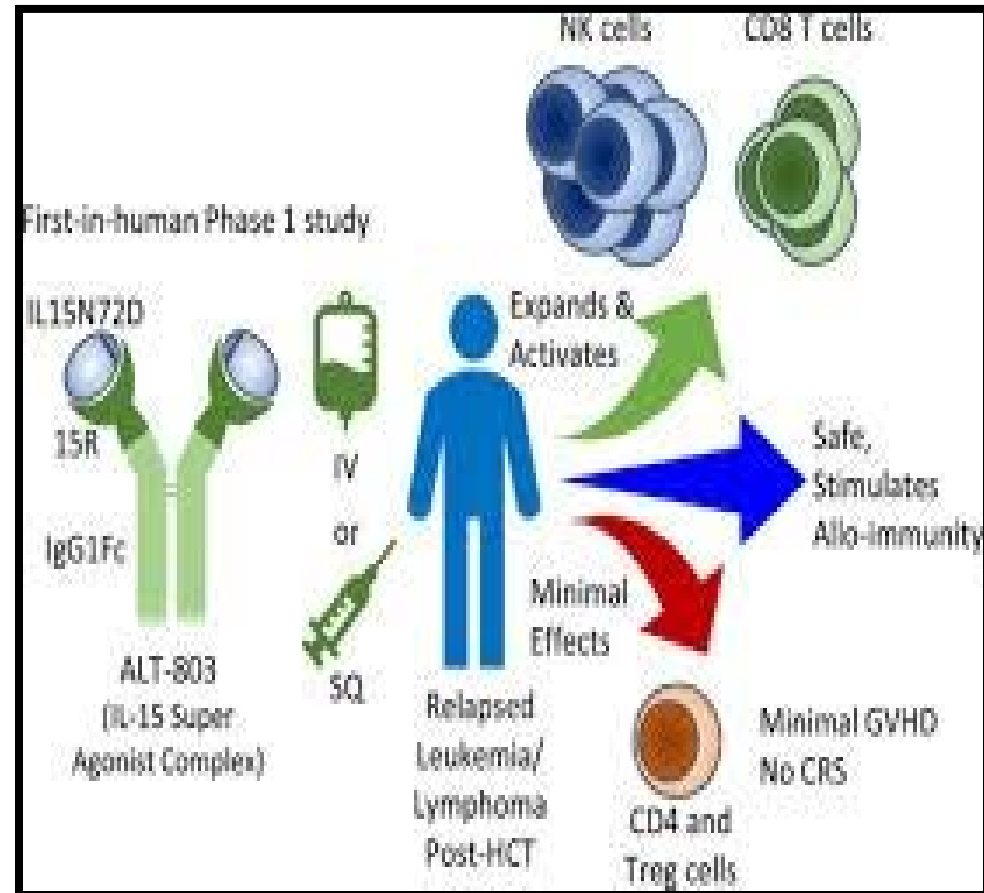
ALT-803 – Maintenance Immunotherapy

- **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

KEYTRUDA[®]
(pembrolizumab) Injection 100 mg



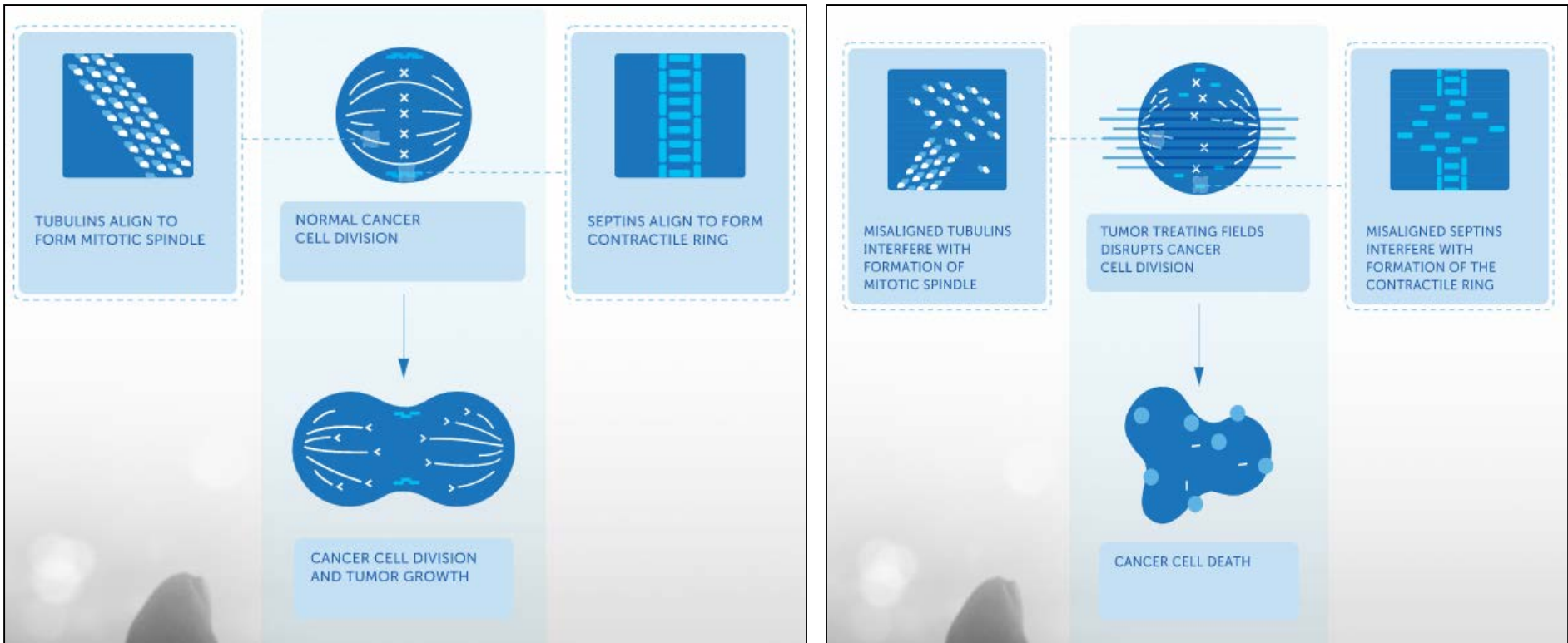
(Upcoming)

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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