Ovarian Cancer Early Detection Program Progress

Prostate Screening

Smarter Screening to Diagnose a Woman’s Ovarian Cancer Sooner

Early Detection to Improve Ovarian Cancer Outcomes

Ovarian Cancer = most lethal of all gynecological malignancies

Each year 225k+ women diagnosed: 140k die

Ovarian cancer = most lethal of all gynecological malignancies

Ovarian cancer = fifth leading cause of cancer death in women

Ovarian cancer = frequent remains asymptomatic until the disease is well advanced

When symptoms develop they are often non-specific and lead to clinical evaluation for other more common illnesses, which delays the diagnosis even further

*Include abdominal bloating or swelling, quickly feeling full when eating, weight loss, discomfort in the pelvis area, frequent need to urinate, and changes in bowel habits, such as constipation; any of these symptoms would likely occur as often as 3 times a week over a period of several months to a year

Challenge of screening = relative rarity of ovarian cancer in the general population

Annually 1 in 3000+ U.S. women > age 50 develops ovarian cancer = screening in the context of risk stratification

Future Multimodal Screening of High-Risk Women with Blood and Imaging Tests

Risk Stratification

- Genetics
- Markers
- Age
- Cancer family history
- Reproductive risk factors

Risk factors + Screening by blood test + Molecular ultrasound imaging with targeted microbubbles = Ovarian cancer mortality reduction

Multimodal Screening Strategy Requires Better Imaging

Canary: Advancing Imaging Methods for Detecting Ovarian Cancer

First Ever Phase 1 Clinical Trial Success

New Approach!

Ultrasound Molecular Imaging (USMI) enhances conventional transvaginal ultrasound with molecular imaging.

How?

- Early stage Ovarian Cancer recruits new blood vessels
- Ability to see new blood vessels during bedside exam = Big advantage for detecting ovarian cancer early
- Relatively inexpensive
- Portable
- Widely available

Goal

USMI = multi-modal ovarian cancer screening component

USMI: Doctors visualize new blood vessel development during ultrasound exam. But lacks the sensitivity to see early-stage cancer

Conventional transvaginal ultrasound = standard imaging technique, still need an imaging technique with enough sensitivity to make screening feasible

2 blood tests: CA-125 and HE4 select women for imaging in a multimodal screening strategy

We are addressing this remaining sensitivity challenge with molecular imaging

Completed 1st ever Phase I clinical trial evaluating feasibility + safety + optimal microbubble dosing for women during an ultrasound exam

Future Clinical Trials

Compare ultrasound molecular imaging vs. conventional ultrasound

Discriminate benign vs. malignant masses + eliminate unnecessary surgeries

Findings

Ultrasound molecular imaging (USMI) = visualization of targeted microbubbles in ovarian cancer noninvasively + high sensitivity

USMI differentiates malignant vs. benign lesions

Ultimately clinical trials will test the role of ultrasound molecular imaging in screening asymptomatic high-risk women

CA -125 & HE4 both detect cancer earlier than transvaginal ultrasound. Waiting for cancer to be visible on traditional ultrasound causes delays in diagnosis

See Cancer Earlier = Earlier Treatment