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Could Anixa Biosciences (NASDAQ:ANIX) Be Developing The Vaccine To End One Of The Deadliest Types Of Breast Cancer?

SAN JOSE, CA / ACCESSWIRE / August 10, 2023 /Cancer is a disease that affects millions of people around the world. Historically, cancer vaccines have not been very successful in treating or preventing the disease. However, recent research on the human immune system has led to the development of innovative immuno-therapy drugs that have been approved and commercialized.

The principle behind these drugs is to modulate the immune system in ways that help the body fight cancer cells. Instead of attacking cancer cells directly, the focus is on activating the immune system to destroy or weaken cancer cells.

For a prophylactic vaccine, the aim is to eliminate the onset of cancer by training the immune system to detect and eliminate malignant cells before they have a chance to develop into tumors.

Cleveland Clinic researchers have identified a protein called alpha-lactalbumin that is present only in healthy breast tissue while a woman is lactating. The protein disappears when a woman stops nursing. In contrast, alpha-lactalbumin is present in many types of breast cancer cells, including Triple Negative Breast Cancer (TNBC), an aggressive and deadly form of the disease.

Additionally, research at the Cleveland Clinic has shown that AMHR2-ED, a protein in normal ovaries, can also be expressed in cancerous ovary cells. Researchers are developing vaccines to target these proteins in an effort to help the immune system destroy breast and ovarian cancer cells specifically. The goal is to prevent tumors from forming by activating the immune system to detect and eliminate cancer cells as soon as they arise.

Anixa Biosciences (NASDAQ:ANIX) is working with the Cleveland Clinic to further develop and eventually commercialize these vaccines to prevent two of the most deadly cancers that afflict women. The breast cancer vaccine is already being tested in humans, and the ovarian cancer vaccine is currently in preclinical development. The company recently shared positive data from a phase 1a trial of their breast cancer vaccine candidate, with a phase 1b study

currently underway.

Tested in collaboration with the renowned Cleveland Clinic, Anixa's experimental vaccine has shown promise by stimulating an immune response in all patients tested so far in the phase 1a trial. The trial participants were women who had been diagnosed with triple-negative breast cancer within the past three years and had undergone curative standard-of-care treatment.

The vaccine being developed by Anixa targets the α-lactalbumin protein. The company reported that T-cell responses specific to α-lactalbumin were observed in all dose levels tested. However, it is important to note that the phase 1 trial is still in its early stages, and it is too soon to determine whether this immune response will effectively prevent the recurrence of cancer.

As the company continues clinical trials, the phase 1 trial of the vaccine includes three patient cohorts. The first cohort consists of patients treated curatively for triple-negative breast cancer who are at high risk of recurrence. The second cohort comprises patients scheduled to undergo a mastectomy due to a genetic risk factor for developing triple-negative breast cancer. These patients will be vaccinated before their surgery, and then their surgically resected tissue will be studied. The third cohort will include women who have been treated for TNBC and who are also taking Keytruda, an approved drug marketed by Merck. Researchers believe the combination of Keytruda and the vaccine could potentially be synergistic.

The global breast cancer treatment market was worth $31.9 billion in 2022 and is expected to reach a value of $85.5 billion by 2032, growing at a compound annual growth rate of 10.3% over the ten-year period. These discoveries in cancer research offer hope for the development of new options that could potentially benefit patients concerned about breast cancer. The expansion of biotech companies like Anixa and like-minded innovators like Atossa Therapeutics is truly changing the landscape of cancer research.

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