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## **Risk Factor Of Ovarian Cancer: Exposition The Pathogenesis Of Age Correlation With Ovarian Cancer**

It is usually not possible to know the exact reason why one person develops cancer and others do not. However, studies have examined the reasoning for why certain risk factors may increase or decrease a person's chances of developing cancer. A few important reasons such as a person's lifestyle behaviors, environmental and dietary factors, and occupational exposure are contributed to the number of cancer cases and deaths (Huether & McCance, 2017). Research conducted by the American Cancer Society states that age is the most dominant risk factor for ovarian cancer (Ovarian cancer risk factors.2018).

A risk factor can be defined as anything or something that changes an individual's chance of getting a disease such as cancer (Tew & Fleming, 2015). A more complex definition of a risk factor suggests that all cancers have originated from both the environment and genetics of an individual. This means that there are both external factors as well as internal genetic changes that can play a role in the reason humans develop cancer (Huether & McCance, 2017). Since there are so many different types of cancers out there, there is no single reason for why someone gets cancer. However, there is much research stating that there are common key associations with the causes of cancer. Cancer is a term for a disease that means that abnormal cells divide without control and can invade nearby tissues (Huether & McCance, 2017). Furthermore, cancer cells can also spread to other parts of the body through the blood and lymph system. This research is sought to examine one risk factor of ovarian cancer, expose the pathogenesis of age correlation with ovarian cancer, state the risk factors' effects on epigenetics, as well as to emphasize on methods of detection and prevention.

One key association is age and the correlation with numerous types of cancer, explicitly in regards to ovarian cancer. In 2017, around 22,440 women in the United States have been diagnosed with ovarian cancer and about 14,080, unfortunately, have died from this type of cancer (Tortorella & Vizzielli,). Ovarian cancer is a type of cancer that begins in the ovaries. There are over 30 kinds of ovarian cancer and they are classified by the cell type from which they begin (Tew & Fleming, 2015). The ovaries are made up of three types of cells; epithelial tumors, stromal tumors, and germ cell tumors. The most common types of ovarian cancers come from epithelial tumors. Roughly about 90 percent of ovarian cancers are epithelial tumors that form on the outer layer of the ovaries (Tew & Fleming, 2015).

Statistics have shown that the number of older women with ovarian cancer is rapidly increasing and around half of these patients are over the age of 65 years (Tortorella & Vizzielli). A longitudinal study was conducted on 49, 932 women with ovarian cancer diagnosed from 1975 to 2011, and the results showed that for women with stage III and IV tumors, excess mortality is much greater for older women (Tew & Fleming, 2015). Among all stages, survival decreased with increasing age and with time since diagnosis. The decrease in relative survival was more common for women with advanced-stage tumors (Tortorella & Vizzielli). The reason for the poorer prognosis of older patients is not well explained; a number of factors may influence the outcome. It has been showing that increasing age is associated with a more advanced stage at diagnosis and an increased rate of mortality (Pal & Tyler, 2016).

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The number of elderly people diagnosed with cancer and living with cancer is expected to grow in the oncoming decades due to longer life expectancy and increased survival (Tew & Fleming, 2015). Women of the older generation tend to be more commonly undertreated meaning that they receive less chemotherapy and surgery even though this is technically considered to be the optimal treatment for these patients (Tew & Fleming, 2015). This may be predominantly due to minimal amounts of evidence behind this as well as the physician's assurance about the overall administration of elderly women who have ovarian cancer (Tortorella & Vizzielli). This emphasizes the importance of more research conducted with the elderly population to help further knowledge to create more treatment and management plans for these patients.

When thinking about what the definition of "aging" truly means, it can sometimes be difficult to set a specific definition to it. To sum it all up, aging basically means it is the process of becoming older in which it is a biological process and environmental factors also play a role as well. There are many different consequences that come with aging, especially one's health (Pal & Tyler, 2016). Epigenetic alterations serve as one extremely important mechanism behind the functions distinguished during aging and in age-related disorders (Pal & Tyler, 2016).

Epigenetics serves as the opposite genetic mechanism that occurs without any adjustment of the underlying DNA sequence (Pal & Tyler, 2016). Epigenetic changes are stemmed from a nature influence or by external or internal influences. Many scientists claim that epigenetics may serve as the missing piece when explaining the pattern of aging and the difference genetically between two identical people (e.g., identical twins) (Pashayan, Reisel, & Widschwendter, 2016). Different environmental conditions can cause differential alterations of stored epigenetic information to create vast differences in physical appearance, even though these two individuals have identical DNA content (Pashayan, Reisel, & Widschwendter, 2016). Therefore, examining and comprehending the epigenetic changes that happen during aging is a crucial continuous area of study that may possibly lead the way to the development of therapeutic approaches to slow down the aging process and age-related diseases (Pal & Tyler, 2016).

According to the Surveillance, Epidemiology and End Results (SEER) the National Cancer Institute program, ovarian cancer is the 11th most frequent cancer among women, the fifth leading cause of cancer-related death among women, and is the deadliest of gynecologic cancers. Further statistical research from the American Cancer Society has shown that the mortality rates for Caucasian women are somewhat higher than African-American women (Ovarian cancer risk factors.2018). For women aged 55-64 years have the highest rates of being diagnosed with ovarian cancer (Ovarian cancer risk factors.2018). Furthermore, survival rates for ovarian cancer are much lower than other cancers that affect women (Ovarian cancer risk factors.2018). The survival rates vary enormously depending on the stage of the diagnosis, which incline means women diagnosed at an early stage (before cancer has spread) have a much higher chance of survival rate than those diagnosed at a later stage (Tew & Fleming, 2015).

Unfortunately, there is no specific treatment or pharmaceutical drug that can delay or completely stop the biological aging process (Pal & Tyler, 2016). However, there are many methods for prevention that may help try to decrease one's chances of getting ovarian cancer from the risk factor of undergoing the inevitable aging process. One vital method for prevention is participating in a healthy lifestyle which consists of consuming the proper nutrition and exercising regularly. According to the National Resource Centre on Nutrition, Physical Activity can help an individual's body from aging quickly. Many people are unaware of the importance of living a healthy lifestyle. Statistics have shown that 1 in 4 Americans of the older generations

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have poor nutrition. Malnutrition puts you at risk of becoming overweight or underweight, which needs to be stressed more to people of all ages. (Bloom & Lawrence, 2018) It can weaken your muscles and bones. It also leaves you vulnerable to disease (Clark, blister, & Greene). The Study of Exercise and Nutrition in Older Rhode Islanders the SENIOR project II, was a study that was done to stress the importance of both exercise and healthy eating in older adults (Clark, blister, & Greene). The study found 1277 community members that were older adults to engage in different interventions focused towards behavior that was designed to increase exercise as well as higher consumption of fruits and vegetables (Clark, blister, & Greene, ). The demonstrated with adequate food and exercise intake older adults can lead a healthy and productive life. One-third of the senior participants stated that their joint pain drastically decreased and many of their common medical conditions (e.g., hypertension, high cholesterol), as well as psychosocial variable (e.g., depression, resilience, life satisfaction), decreased tremendously (Clark, blister, & Greene, ). Children are our future, in which they must be educated on these topics so the rates of cancers start to decrease.

Another method for the prevention of ovarian cancer is to restrain from any type of tobacco use. Tobacco smoking causes cancer in more than 15 organ sites and cigarette smoking remains the most important cause of cancer (Huether & McCance, 2017). Even exposure to secondhand smoke and parental smoking causes cancer in other non-smokers (Huether & McCance, 2017). The largest preventable cause of cancer is tobacco use. Tobacco smoking is pandemic and affects more than 1 billion people of all ages (Huether & McCance, 2017). The greatest people at risk are those who begin to smoke when young and continue throughout life (Huether & McCance, 2017). Smoking nearly affects every organ in the body. It is so important that people of all ages are educated on these facts regarding tobacco use because it could help prevent people from getting cancer. Therefore, by restraining smoking of any type a person is dramatically decreasing their chances of being diagnosed with cancer.

Lastly, a remarkably important method for prevention, which also goes with a method of detection is going to one's primary care physician for regular good examinations. As simple as that sounds, routinely going for good exams is essential to a person's health. Regular good exams and tests can help find diseases or conditions before they are even in full effect (Bloom & Lawrence, 2018). They can also help find diseases or conditions early, which means a person's chances for treatment and cure are higher (Huether & McCance, 2017). The Centres for Disease Control and Prevention (CDC) states by staying on track with all the right health services, screenings, and treatments, there is a much greater chance of living a longer and healthier life (Ovarian cancer risk factors.2018).

To conclude, this research sought to determine one risk factor of ovarian cancer. The research exposed the pathogenesis of age correlation with ovarian cancer, as well as stating the risk factors' effects on epigenetics. Ultimately, leading to the emphasis on methods of detection and prevention. The overall limitation of the risk factor of age is that no specific treatment or pharmaceutical drug can delay or stop the inevitable biological aging process (Pal & Tyler, 2016). However, there has been a ton of research conducted that states there are many ways of significantly decreasing your chances of cancer by following the proper methods for prevention. Possibly in the next ten years, further research will be conducted to educate and help the population decrease their risk factors for cancer even more. It is our goal to make sure that people grow up starting at a young age understanding the importance of a healthy lifestyle.

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