Otterbein University

Digital Commons @ Otterbein

Nursing Student Class Projects (Formerly MSN)   Student Research & Creative Work

2019

Pathophysiology of Ovarian Cancer

Christina Eagle
eagle1@otterbein.edu

Follow this and additional works at: https://digitalcommons.otterbein.edu/stu_msn

Part of the Nursing Commons

Pathophysiology of Ovarian Cancer

Christina M. Eagle BSN RN

Otterbein University, Westerville, Ohio

Case Study

- A 20-year-old female presented to her gynecologist complaining of abdominal pain, pelvic pain, and pain in the small of her back, which had begun to worsen. She also felt bloated and was having frequent problems with indigestion and gas. In addition, she was tired all the time and rarely went to the gym anymore.

- Her medical history showed her to be a healthy and athletic female. She admitted to drinking occasionally at social events but denied having ever smoked. She had been receiving annual gynecological exams since she was 18 years old, and her menstrual history has been unremarkable. Her family history showed that her mother was a breast and ovarian cancer survivor. The patient was not on birth control medication, but she stated that she practices safe sex with the use of condoms.

- The gynecologist performed a pelvic examination of the patient's vagina, uterus, rectum and pelvis, including ovaries, and checked for masses or growths. He followed the pelvic exam with a transvaginal ultrasound to better detect the presence of abnormal growths in the reproductive organs. The transvaginal ultrasound revealed a mass on her right ovary (PRIME Education, 1997-2019).

Introduction

- Worldwide, approximately 240,000 women are diagnosed with ovarian cancer each year, and 140,200 were projected to succumb to this disease in 2016.

- This case-to-fatality ratio is nearly three times that of breast cancer, making ovarian cancer the most lethal gynecological malignancy in developed countries.

- Patients with stage III or IV disease have a dismal 25% 5-year survival rate (Kroeger, Jr. & Drapkin, 2017).

Percentage of Ovarian Cancer Cases Diagnosed by Age Group

<20 1% • 20-34 4% • 35-44 7% • 45-54 18% • 55-64 24% • 65-74 21% • 75-84 17% • >84 8%
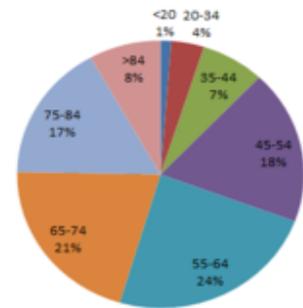
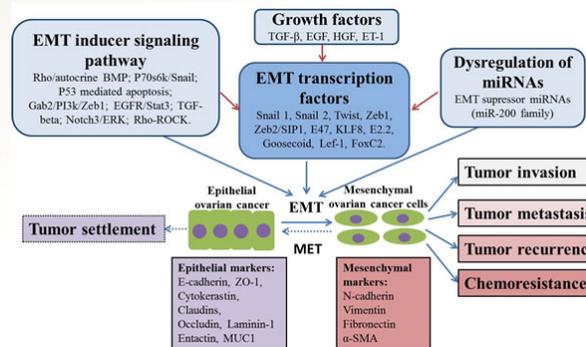This Photo by Unknown Author is licensed under CC BY-SA

Oncology became a way of life in 2002 with the diagnosis of this author's 4-year-old daughter with metastatic Ewing's Sarcoma, a form of bone or soft tissue cancer. During this life journey, this author made the decision to pursue an education in nursing. After the passing of said daughter in 2003, everything oncology-related became this nurse's passion. For the past seven years this nurse has practiced in radiation oncology with the hope and desire to be more of an advocate to those battling a cancer-related diagnosis as an advanced practice nurse.

Signs & Symptoms

Ovarian cancer is difficult to detect, especially in the early stages (National Ovarian Cancer Coalition). This is partly due to the fact that the ovaries – two small, almond-shaped organs on either side of the uterus – are deep within the abdominal cavity (NOCC). The following are often identified by women as some of the signs and symptoms of ovarian cancer:
- Bloating
- Pelvic or abdominal pain
- Trouble eating or feeling full quickly
- Feeling the need to urinate urgently or often (NOCC).

Other symptoms of ovarian cancer can include:
- Fatigue
- Upset stomach or heartburn
- Back pain
- Pain during sex
- Constipation or menstrual changes (NOCC).

When the symptoms are persistent, when they do not resolve with normal interventions (like diet change, exercise, laxatives, rest) it is imperative for a woman to see her doctor (NOCC). Persistence of symptoms is key (NOCC).

This Photo by Unknown Author is licensed under CC BY

Underlying Pathophysiology

- The majority of ovarian cancers are of epithelial origin, whereas fewer ovarian cancers develop from the remaining cell types, such as sex-cord stromal, germ cell, or mixed cell-type tumors.
- The most common histological subtypes of epithelial ovarian carcinomas are serous (68-71%), endometrioid (9-11%), clear cell (12-13%), mucinous (3%), transitional (1%), and mixed histologies (6%).
- Several groups have now convincingly established that there are 2 distinct types of epithelial ovarian carcinoma: type I and type II.
- Type I tumors arise via well-recognized sequence either from borderline serous tumors or from endometriosis and include low-grade serous carcinoma, endometrioid, and clear-cell carcinoma.
- These tumors are often early stage and low-grade tumors, with a relatively indolent disease course.
- Type II carcinomas are more frequent, usually of serous histology, are high grade, and seem to originate from the fimbrial epithelium in up to 60% of the cases.
- Subsequently, high-grade serous carcinomas present clinically as stage 3 or 4 disease, consistent with the hypothesis of peritoneal seeding by malignant cells from the fimbriated end of the tubes.
- At the time of diagnosis, the majority of epithelial ovarian cancers are advanced-stage, high-grade serous carcinomas and have a poor prognosis compared with early-stage carcinomas (Nezhar, Apostal, Nezhat & Pajovic, 2015).

Significance of Pathophysiology

- Clinical observations and the new recent evidence for the pathogenesis of ovarian cancer have set ground for implementing new strategies for screening and prevention programs to reduce the incidence of epithelial ovarian cancer .

- Until specific markers are developed, able to detect different histological epithelial cancers, it is reasonable to monitor women for risk factors and pursue risk-reducing medical and surgical treatment options to reduce the risk of these types of cancers (Nezhar, Apostal, Nezhat & Pajovic, 2015).

Implications for Nursing Care

Becoming familiar with and educating women about risk factors and the elusive symptoms of ovarian cancer can increase patient autonomy and advocacy, as well as potentially improve patient outcomes for those affected by ovarian cancer (Stewart, Ralyea & Lockwood, 2019).

Conclusion

- There is no screening test for ovarian cancer and with diagnosis often in the late stages, recurrence is high in this population.
- Early identification can range from knowing the vague symptoms associated with the cancer to prophylactic surgical removal of at-risk tissue.
- Standard treatment for ovarian cancer is surgery followed by combination chemotherapy.
- Although advances are being made, ovarian cancer remains the most fatal female gynecologic cancer (Stewart, Ralyea & Lockwood, 2019).

References

OTTERBEIN UNIVERSITY