Chapter XII
Informatics and Ovarian Cancer Care

Laurie Elit
McMaster University, Canada

Susan Bondy
University of Toronto, Canada

Michael Fung-Kee-Fung
University of Ottawa, Canada

Prafull Ghatage
University of Calgary, Canada

Tien Le
University of Ottawa, Canada

Barry Rosen
University of Toronto, Canada

Bohdan Sadovy
Princess Margaret Hospital, Canada

ABSTRACT

Ovarian cancer affects 2,400 women annually in Canada with a case fatality ratio of 0.70. There are several practice guidelines that indicate women with early stage ovarian cancer should be appropriately staged including removal of the gynecologic organs, multiple peritoneal biopsies, and pelvic and para-aortic lymphadenectomy. In advanced disease, removing as much disease as possible and leaving less than a centimeter of residual disease in any one area improves overall duration of survival in cohort studies. Single institution studies and now work using administrative datasets in many high resource countries, show that women are not receiving adequate surgical staging or debulking. Cancer Care Ontario has used the RAND approach for defining quality indicators as a step for evaluating quality of

care for several cancers including the management of women with ovarian cancer. The difficulty with current administrative datasets in the province is the lack of specific information such as stage, grade, histology, and size of residual disease. In this chapter, we will elaborate on the research that has brought ovarian cancer care to this juncture. We will highlight the importance of gathering information at the point of procedures and specifically in ovarian cancer at the point of the operation. Problems with the operative note and mechanisms to overcome these using templates, checklists, and synoptic notes will be reviewed. We will provide examples of pilot studies in Canada using synoptic operative notes in Cancer Care Alberta and Princess Margaret Hospital. We will also provide examples of computerized data entry across the spectrum of care from three projects in Ontario, Canada. Issues in building a disease site-specific electronic medical record will be discussed. The problems experienced in attempting to generalize such a system provincially will be addressed. We will elaborate on the potential benefits to the individual patient, the hospital and the province from such information system.

INTRODUCTION

Ovarian cancer (OC) is the fifth leading cause of cancer death in women and the leading cause of gynecologic cancer mortality. In 2007, there were estimated to be 2400 new cases diagnosed in Canada (Marrett, L., Dryer, D., Logan, H. et al., 2007) with a case fatality ratio of 0.70. The most common form of OC arises from the epithelial surface cells of the ovary.

The standard of care for malignant epithelial OC is surgery followed by adjuvant chemotherapy. Surgery plays a key role in the management of OC. Surgery is necessary for diagnosis, which includes determining the origin of the disease (i.e., ovary, colon, pancreas) and defining the histologic type of disease (i.e., epithelial, germ cell, or stromal type tumors) (A-1). This information influences a patient's prognosis and choice of adjuvant therapy. Surgery defines the extent of intra-abdominal disease; this is otherwise known as staging (A-2). The extent of disease spread or stage of disease at diagnosis is a major determinant of prognosis. Chemotherapy is administered after surgery when the disease has spread beyond the ovary. Surgery is also the means by which tumor is debulked to the smallest size possible. The size of the smallest tumor bulk in any one site in the abdomen at the completion of surgery influences the patient's prognosis. A standard operation to stage and debulk the tumor has been defined (National Institute of Health, 1994-1995; Trimbos, J. B., & Bolis, G., 1994; Allen, D. G., Baak, J., Belpomme, D., et al., 1993; Hoskins, W., Rice, L., & Rubin, S., 1997; Morgan, R. J., Copeland, L., Gershenson, D., et al., 1996; Trimbos, J. B., Schueler, J. A., van Lent, M., Hermans, J., & Fleuren, G. J., 1990).

Unfortunately, there is evidence that women are not being appropriately staged or optimally debulked and this can impact on their survival. Various efforts are a foot to improve the care of women diagnosed with ovarian cancer. In this chapter we will build the case for the use of informatics as a tool to reinforce completion of certain aspect of the operation and by collecting accurate detailed information, improving the data from which decisions are made concerning quality assurance. This will optimize the operative care to women with ovarian cancer by improving the accuracy and completeness of data collection at surgery.