BURDEN OF DISEASE OF OVARIAN CANCER IN SPAIN. The OvarCost Study Methodology.

Delgado-Ortega L1, Gasco A1, Hidalgo A1, González-Domínguez A4, Villoro R4, Jimenez M5, Cordero L1, Cajal R1

1 AstraZeneca Spain, Madrid, Spain; 2 Univ. Castilla La Mancha, Toledo, Spain; 3 Webfer, Economia y Salud, Madrid, Spain

1. INTRODUCTION

Despite the decrease in incidence and mortality rates in the past years, which is mainly due to the implementation of early detection programs, cancer is still one of the most important public health problems in developed countries.

In 2012, 8 million people died due to cancer, with an annual incidence and prevalence rates of 460.8 and 381.6 per 100,000 inhabitants, respectively.1 Lung, breast, colorectal, prostate and stomach cancers have the highest prevalence rates.1 However, other types of cancer with relatively lower incidence and prevalence rates have high mortality rates and impose an important economic burden on society.

In Spain, ovarian cancer has relatively low prevalence and incidence rates (11.21 and 10.28 per 100,000 inhabitants, respectively), but it is associated with a high mortality rate in women. It is the 2nd most frequent gynecological malignant tumor, just behind breast cancer, and the 6th leading cause of death due to cancer.1

The economic burden of the disease in Spain is currently unknown. According to a recent published study on the economic burden of all types of cancer in Spain, the total cancer annual cost is €9,257 million; €4,224 million are direct healthcare costs (46%) and €5,033 million are direct non-healthcare and indirect costs (54%).

Using this data and the ovarian cancer prevalence in Spain, we can approximate the proportional theoretical economic burden per patient in Spain.

Of total cancer in Spain, the 1 and 5 years prevalence rates of ovarian cancer are 1.5% and 1.4%, respectively. Proportionally, this could imply a total cost of €138 million at 1 year and €631 million at 5 years. Considering direct healthcare costs, it would be €63 million per year and €288 million at 5 years, while direct non-healthcare and indirect costs would reach €75 and €343 million euros, at 1 and 5 years, respectively. Following this calculation, the theoretical cost of ovarian cancer per patient per year would be in the range of €52,061 to €67,684.

2. OBJECTIVES

As this calculations corresponds to a theoretical approach we have implemented the OvarCost Study. Its main objective is to estimate the economic burden of ovarian cancer from a sociopolitical perspective.

3. METHODOLOGY

1. Model: A Markov model with a social perspective, a 10 year time horizon, and 3 weeks cycles was designed (Figure 1).

The model focuses on epithelial ovarian cancer (which represents 90% of total ovarian cancer cases), and includes the four stages of the pathology (Stages I to IV) in which diagnosis may occur, and their corresponding “stable” and “post-progression” health states.

Transition probabilities between health states were calculated using an exponential distribution based on progression-free survival and global survival.

Epidemiological data and resource use for each health state and disease stage were obtained from national and international published literature and validated through a multidisciplinary Advisory Board using a Delphi Methodology.

2. Population: We estimated the number of women with ovarian cancer at each stage from available prevalence and incidence data (Tables 1-2).

3. Costs: Direct healthcare costs, direct non-healthcare costs and indirect costs were included (Figure 2).

The base year for all costs will be the year when the model is carried out. An annual rate of labor productivity growth of 1%9 and an annual discount rate of 3%10 will be used.

Figure 2. Types of costs considered in the model.