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Review article

Patterns of cervical cancer care in Argentina: Applying ASCO recommendations adjusted by local resources

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ABSTRACT

There are significant differences in cervical cancer incidence and mortality between low-middle and high-income countries. The American Society of Clinical Oncology (ASCO) resource-stratified clinical practice guideline was designed to provide an appropriate cervical cancer treatment based on the best available evidence in scenarios with different diagnostic and therapeutic resources. Argentina, a Latin American high middle income country, shows however, that cervical cancer rates are similar to those of low-income countries. In addition, significant disparities in incidence and mortality are described throughout the country. The present article describes the current pattern of care of cervical cancer in Argentina and establishes recommendations adjusted to local resources in different regions of the country according to the ASCO guideline.

1. Introduction

Cervical cancer is the third leading cause of cancer mortality in women. Interestingly, a significant difference in incidence and mortality is observed between low-middle income countries (LMICs) and high-income countries (HIC). (Chuang et al., 2016; Gelband et al., 2015; WHO, 2014; Randall and Ghebre, 2016).

Natural history of cervical cancer, as well as their effective prevention and treatment strategies are well known. Thus, each cervical cancer death should be considered a preventable and unnecessary death. Complete and comprehensive control of cervical cancer requires the coordinated effort of multiple specialists and hospitals in the context of a consolidated health system, which allows universal access. (Randall and Ghebre, 2016).

According to the World Health Organization (WHO), therapeutic options should be selected in agreement with international, national or institutional guidelines based on a combination of evidence, the availability of trained professionals and equipment/infrastructure. (WHO, 2014) To this regard, the American Society of Clinical Oncology (ASCO) has recently launched a resource-stratified clinical practice guideline. The objective is to provide an appropriate cervical cancer treatment based on the best available evidence in scenarios with different diagnostic and therapeutic resources. (Chuang et al., 2016).

According to the World Bank, Argentina belongs to the group of high middle-income countries. (United Nations Development Programme, n.d.; http://economy.blogs.ie.edu/archives/2009/10/%C2%BFque-es-el-indice-de-desarrollo-humano-idh.php, 2017) However, according to official figures from the National Program for the Prevention of Cervical Cancer (PNPCCU), cervical cancer in Argentina has a similar incidence and mortality rate as low-income countries. (http://www.msal.gob.ar/cancer-cervico-uterino/index.php/equipos-de-salud/datos-epidemiologicos, 2017; World bank data, n.d.) The standardized mortality rate per 100,000 in 2009 was 7.5, remaining almost unchanged since 1980. (http://www.msal.gob.ar/cancer-cervico-uterino/index.php/equipos-de-salud/datos-epidemiologicos, 2017; Murillo et al., 2016) In addition, significant differences are observed in different regions throughout the country in terms of treatment access, human development index (HDI), economic development, density of population, as well as incidence and mortality for cervical cancer. (United Nations Development Programme, n.d.; http://economy.blogs.ie.edu/archives/2009/10/%C2%BFque-es-el-indice-de-desarrollo-humano-idh.php, 2017; http://www.msal.gob.ar/cancer-cervico-uterino/index.php/equipos-de-salud/datos-epidemiologicos, 2017; Informe nacional sobre desarrollo humano, 2013; International Atomic Energy Agency, 2014) Therefore, the aim of the present review is to describe the current pattern of care of cervical cancer in Argentina and to establish recommendations adjusted to local resources in different regions of the country.

2. Oncological control plans for cervical cancer in Latin America

The estimated worldwide annual incidence and mortality of cervical cancer in 2012 was 527,624 and 265,653, respectively. More than 80% of new cases and 88% of deaths occur in low and middle-income countries (LMIC). (Gelband et al., 2015; Gelband et al., 2016; Ferlay et al., 2015; Fitzmaurice et al., 2015; Soerjomataram et al., 2012) These differences are due to geographic, socioeconomic, and cultural variations that restrict access to preventive services in certain subgroups of population throughout the globe. Thus, conditioning differences in access to screening and treatment, represent a failure of the health system to implement a comprehensive preventive strategy. (Chuang et al., 2016; Gelband et al., 2015; WHO, 2014; Randall and Ghebre, 2016).

The treatment of cervical cancer can be complex, requiring the participation of multiple specialists from different areas. Both therapeutic resources and their access tend to vary between different countries and even within different regions of the same country. (Chuang et al., 2016) WHO recommends the development and implementation of population oncology control plans in each country, aimed to chart the necessary activities. In 2011, however, only 21% of Latin American countries had operational oncological population registries. Consequently, establishing precise estimates of needs and activities in these countries was not possible. (Gelband et al., 2015) The development of a cancer population registry cannot be an isolated effort but part of a set of policies to reduce health inequities, prioritize cancer control, and develop effective national plans. (Goss et al., 2013; Arrossi, 2015).

There is a current initiative in Latin America and the Caribbean to develop a unique network of national cancer institutes known as the Network of National Institutes of Cancer of Latin America (RINC). This network is expected to include 18 countries with the objective of developing oncological control activities, improve practices, exchange information and knowledge, and identify needs by promoting coordination among its members. (Gelband et al., 2015; http://www2.rinc-unasur.org/wps/wcm/connect/fa41dd8044a541a-b960ebe2537792882/INFORME_FINAL_Junio_+2012.pdf?MOD=A-JPERES&CACHEID=fa41dd8044a541ab960ebe2537792882, 2012).

3. Radiotherapy deficit in low and middle-income countries

Radiation therapy represents one of the three main cancer treatment strategies. It is estimated that radiotherapy could benefit between 48 and 62% of cancer patients in terms of cure and palliation of symptoms. (Rosenblatt, 2014) There is, however, a marked inequity in the availability and access to radiotherapy among low and middle-income countries around the world, and even within countries. Thus, in sub-Saharan African countries or some places in Latin America less than 4% of patients have access to radiation treatment. In contrast, access is around 59–79% in some middle-income countries in Europe or Asia. (Jaffray and Gospodarowicz, 2014; Zubizarreta et al., 2015).

In addition, special attention also needs to be paid to avoid waiting times longer than 14 days due to an increase in the risk of local recurrence. (Rosenblatt, 2014; Chen et al., 2008) Brachytherapy, moreover, poses an even greater access problem. (Rosenblatt, 2014) It is estimated that, in those patients who do not have access to this treatment, there is a negative impact on prognosis and a loss in 4-year specific cause survival of almost 13%. (Han et al., 2013) Therefore, national cancer plans should ideally define the required number of professionals, departments and equipment according to population density, and the actual and expected burden of cancer in certain geographic areas. (Gelband et al., 2015).

4. ASCO recommendations according to local resources

ASCO considerations regarding cervical cancer care according to the

different local resources, have introduced a series of treatment alternatives with respect to the traditional and universal guidelines of management of cervical cancer. Thus, ASCO guideline highlights relevant concepts in different fields. For example, the possibility of providing less radical surgeries in case of not having adequately trained surgical teams, or the option of using neoadjuvant chemotherapy as a resource to achieve greater operability and decrease the number of patients requiring radiotherapy. Other recommendations include new radiation treatment fractionation that could increase their availability. (Chuang et al., 2016).

5. Situation of cervical cancer in Argentina

According to the World Bank, Argentina belongs to the group of high middle-income countries. (World bank data, n.d.) In addition, the United Nations Development Program states that this country has evolved in terms of human development since 1990. At present, Argentina is among the countries with a very high HDI's of 0.836. Economic development among regions is, however, considerably different. This generates distinct scenarios with respect to cervical cancer within the country. (United Nations Development Programme, n.d.; http://economy.blogs.ie.edu/archives/2009/10/%C2%BFque-es-el-indice-de-desarrollo-humano-idh.php, 2017) Thus, incidence and mortality rates in Argentina are more in accordance with high or even medium HDI countries rather than with very high HDI ones. (United Nations Development Programme, n.d.; Ferlay et al., 2015; Fidler et al., 2016).

The incidence of cervical cancer in Argentina had a crude rate of 18.4/100,000 and an age standardized ratio of 17.5/100,000 being the second most common cancer during 2003–2007. (Murillo et al., 2016; IARC, 1997) Nevertheless, Argentina, does not have a population-based cancer registry. The existing data come mainly from two cities in which cancer registries allow a rough estimation of the incidence and mortality of cervical cancer.

According to the PNPCCU, cervical cancer is the third cause of cancer mortality in Argentina. (http://www.msal.gob.ar/cancer-cervico-uterino/index.php/equipos-de-salud/datos-epidemiologicos, 2017; Murillo et al., 2016) The standardized mortality rate per 100,000 was 7.5 in 2009, ranging from 6.80 in 2005 to 8.23 in 1992. This rate, however, remained almost unchanged since 1980 but varies widely between regions within the country. The central region, including the City of Buenos Aires (CABA), has a rate of 6.0/100,000 versus 15.6 for the northeast region of the country. This diversity is due to the significant socio-economic differences among those regions. Thus, the HDI is 0.807 and 0.889 for the CABA and the northeast region, respectively. (http://www.msal.gob.ar/cancer-cervico-uterino/index.php/equipos-de-salud/datos-epidemiologicos, 2017; Informe nacional sobre desarrollo humano, 2013).

A retrospective cross-sectional survey among 120 patients with cervical cancer performed in Buenos Aires, demonstrated that this disease is associated with a considerable socio-economic impact and negative consequences on treatment compliance. (Arrossi et al., 2007).

6. Prevention resources for cervical cancer in Argentina

Cervical cancer prevention must be considered a public health priority in Argentina (Arrossi et al., 2007). Previous studies performed in urban areas have documented that factor such as poverty, single social status, unemployment or inactive, lower levels of education as well as reduced access to health care and women over the age of 65 were associated with lower probability of Pap smear coverage. The study also identified that, in the poorest regions there were 1.7 to 2.6 times more possibilities of having never been screened (Arrossi et al., 2008). Since 2011, PNPCCU is working in coordination with 14 provinces, including the province of Buenos Aires. It is focused on cervical cancer prevention including HPV vaccination and population-based screening in the public health care. Thus, the HPV test, as a