Retrospective analysis of treatment modalities and survival of patients with cervical cancer in Ain Shams University Maternity Hospital from 2012 to 2017

Thesis for partial fulfilment of Master degree
in Obstetrics & Gynecology

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2018

بسم الله الرحمن الرحيم

﴿وقل ربِّ زدْنِي عِلْماً﴾

سورة طـــــه الآيــة رقم ١١٤

Acknowledgement

First of all, all gratitude is due to **God** *almighty for blessing this work, until it has reached its end, as a part of his generous help, throughout my life.*

Really I can hardly find the words to express my gratitude to **Prof. Dr. Amr Hassan El-Shalakany**, *Professor of Obstetrics & Gynecology faculty of medicine, Ain Shams University, for his supervision, continuous help, encouragement throughout this work and tremendous effort he has done in the meticulous revision of the whole work. It is a great honor to work under his guidance and supervision.*

Really I can hardly find the words to express my gratitude to **Dr. Ahmed Mohamed Mamdouh** *Lecturer of Obstetrics & Gynecology,, Faculty of Medicine, Ain Shams University for his continuous directions and meticulous revision throughout the whole work. I really appreciate their patience and support.*

Last but not least, I dedicate this work to my family, whom without their sincere emotional support, pushing me forward this work would not have ever been completed.

Mostafa Mohamed Othman Helal

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List of Abbreviations

ACCS	:	Advisory Committee on Cervical Screening
AJCC	:	American Joint Committee on Cancer
CIN	:	Cervical intraepithelial neoplasia
CIS	:	Carcinoma in situ
DFS	:	Disease-free survival
DSI	:	Deep stromal invasion
FIGO	:	Federation of Gynecology and Obstetrics
GOG	:	Gynecologic Oncology Group
HPV	:	Human papilloma virus
PLND	:	Pelvic lymph node dissection
QLQ-C30	:	Questionnaire Core 30
QOL	:	Quality of life
SCC	:	Squamous cell carcinoma
SCJ	:	Squamo-columnar junction
US	:	United States of America

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Introduction

Cervical carcinoma is considered the second most common cause of gynecological malignancy death following ovarian carcinoma ***(Duenas-Gonzalez et al., 2014).***

Over a period of 20 years, the incidence of cervical cancer has reduced by a third and mortality by a half. It has been proven that the cervical screening programme is associated with improved rate of cure of cervical cancer ***(Andrae et al., 2012).***

The incidence of invasive cervical cancer is higher in low-income countries due to lack of screening programs. In developed countries, the incidence of invasive cervical cancer dropped after implementation of the Papanicolaou smear test; indeed, in the United States, cervix uteri cancer represents only 0.8% of all new cancer cases. It affects mostly women of reproductive age; 14.0% of patients diagnosed with cervical cancer are between 20 and 34 and 25.9% between 35 and 44 years of age ***(Bourgioti et al., 2016).***

Cervical cancer is a preventable disease; moreover, early cervical cancer is often treatable. In the past 30 years, the rate of cervical cancer has declined in most developed countries as a result of screening programs; however, it has increased or remained the same in most developing countries. ***(Sankaranarayanan et al., 2005).***

There are many treatments for cervical carcinoma, namely surgery (radical hysterectomy), chemotherapy and radiotherapy. Choice of treatment would be decided by attending physicians based on clinical cancer staging. Cervical carcinoma patients have both physical illness and many emotional issues. They reported anxiety, grief, anger and stress from progressive of disease, chronic treatment and follow up that cause psychological problems ***(Khalil et al., 2015).***

Survival rates of cervical cancer for each country differ throughout the world and they are commonly based on the country's development status. The five-year survival rate of a cervical cancer victim was recorded to be high in developed countries and this became lower in less developed countries. Among developed countries, United States of America (US), Germany and Spain have a five-year survival rate of more than 60%. ***(National Cancer***

Institute, 2013) and the five-year survival rate in England and Wales are 67.4% ***(Cancer Research UK, 2014)***. Developing countries such as China and Thailand observed a five-year survival rate exceeding 50%. ***(Xiang et al., 2011)***.

In contrast, developing countries such as Gambia and Uganda have a five year survival rate of less than 25% ***(Sankaranarayanan et al., 2011).***

Since, cervical carcinoma causes problems in many dimensions of life, therefore physical, psychological, social and spiritual problems of the patients should be considered before any treatments are given. Good treatments should cover all of the patients' problems for good compliance and good prognosis for patients. Many literatures discussed quality of life (QOL) evaluation in cervical carcinoma survivors ***(Lee Y et al., 2016).***

Aim of the Work

To review patients with cervical carcinoma at Ain Shams University Maternity Hospital from 2012 to 2017 regarding demographics, treatment modalities used, survival and morbidity.

Anatomy and Histology of the Cervix

The term cervix in Latin means "neck" which is the most inferior anatomical portion of the uterus protruding in the upper vagina measuring in adult nulligravida 2.5 to 3cm in length and around 2.5cm in diameter ***(Llewellyn-Jones, 2005).***

The vagina is attached obliquely around the centre of the cervix dividing it into two anatomical zones: upper supravaginal portion and lower vaginal portion ***(Llewellyn-Jones, 2005).***

The endocervical canal which is an elliptical shaped cavity, flattened from antero posteriorly, measuring in its largest width 7-8mm, opens with in the vagina via the external os whereas it is connected above with the body of the uterus at the internal os ***(Ferenczy, 2007).***

The vaginal cervix has both an anterior lip and posterior lip where the anterior lip is lower than the posterior lip with the external os in contact with the posterior vaginal wall ***(Ferenczy, 2007).***

The supravaginal cervix is separated from the bladder by a distinct layer of connective tissue (endo-pelvic fascia) named the pubovesicocervical fascia. Laterally at the same level, the cervix is in continuity with the paracervical ligaments which contain the uterine blood vessels, posteriorly the supravagainal cervix is covered by peritoneum as it reflects on the uterosacral ligaments downwards towards the vaginal apex ***(Jeffcoate, 2006).***

The part of the cervix that projects into the vagina, called ectocervix or portio, is covered by non-keratinized stratified squamous epithelium similar to that of the vagina. The endocervical canal is covered by tall mucus-secreting columnar cells. The junction between these two is termed the squamocolumnar junction ***(Kistner, 2007).***

Transformation zone (The squamo-columnar junction): The squamo-columnar junction (SCJ) is the transition from the columnar epithelium of the endocervix to the non-keratinizing squamous