

Endometrial Carcinoma

Ayakannu T*

Gynaecology Oncology Cancer Centre, Maidstone Hospital, UK

***Corresponding author:** Ayakannu T, Gynaecology Oncology Cancer Centre, Maidstone Hospital, Hermitage Lane, Maidstone, Kent, ME16 9QQ, UK, Email: thangesweran@hotmail.com, t.ayakannu@nhs.net

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Cancer is the number one leading cause of death (following heart disease) in more resourced countries, and the second leading cause of death in less resourced countries [1]. As the world's population grows and ages, the burden of cancer will inevitably increase and GLOBOCAN estimates that by 2030, there will be almost 21.4 million new cases diagnosed and 13.2 million deaths from cancer worldwide annually [2,3]. Gynaecological cancers remain an important cause of morbidity and mortality in the United Kingdom (UK) with Cancer Research UK statistics showing there were 2,000 deaths (more than 5 every day) from endometrial cancers alone. Endometrial cancer has shown the second biggest increase in incidence and mortality burden in the last decade where mortality has increased by 4 per 100,000 females and the age-standardised mortality rate has increased by 15% [4]. The population most affected is that of postmenopausal women, probably because of the current obesity epidemic and increasing number of women in the elderly population. Although the majority of women present symptomatically and are diagnosed with early stage disease, when the disease is diagnosed at later stages, the survival rates are as low as for ovarian cancer; A recent study comparing ovarian and endometrial cancer outcomes [5] showed that 99% of ovarian cancer patients diagnosed at stage I survived their disease for at least one year, whilst it was only 51% survival for patients diagnosed at stage IV. Similarly, 99% of the uterine cancer patients diagnosed at stage I survived their disease for at least one year, whilst it was only 45% for patients diagnosed at stage IV [5].

While significant progress has been made in reducing the incidence of some gynaecological cancers, especially cervical cancers, the same cannot be said for endometrial cancer. This is partly because of the lack of an appropriate early screening / diagnostic test [6,7]. The main screening tool for endometrial cancer in symptomatic patients is the measurement of endometrial thickness via ultrasound scan, which is a technique that demonstrates significant sensitivity but insufficient specificity. Consequently, therapeutic interventions are not provided sufficiently early and so prognostic outcomes are not good for this fatal disease. Interventions, such as minimal access surgery and other techniques that progress towards the use of robotic surgery, may provide the best surgical outcomes for such patients, especially if early diagnosis is possible.

There is close relationship between estrogen and the development of endometrial cancer. Although much is known about how this hormone interacts with the genome and alters epigenetic factors that predispose individuals to the disease, the search for other factors and mechanisms involved in the pathogenesis of endometrial cancer continues. For example, a recent report has identified the possible relationship between one of an emerging group of compounds, known as the endocannabinoids, and endometrial cancer [8]. This is not a surpris-

ing observation, in that the endocannabinoids have been linked with other forms of cancer, suggesting that other members of this group, their cognate ligands or the enzymes that regulate their steady state concentrations in blood, might have a role to play in the pathogenesis or progression of endometrial cancer. Furthermore, if this system is shown to be intimately involved in the initiation of disease, these factors may then form the basis of new disease-specific screening strategies that identify the women 'at most risk' or provide a better understanding of the role these factors play in endometrial cancer and could potentially aid the development of novel therapeutic interventions or the early deployment of existing surgical procedures.

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