Endometrial cancer (EC) is the most common malignancy of the female genital tract and occurs primarily in postmenopausal women [1]. Overall, about 2% to 3% of women develop EC during their lifetime [1]. The most common symptom present in patients with EC is abnormal uterine bleeding [2].

Based on clinical and pathological features, EC is classified into 2 types [3]. Type I EC, represents the majority of sporadic EC cases (70-80%), is usually well differentiated and endometrioid in histology [3]. Type II EC, represents the minority of sporadic EC cases (10-20%), is poorly differentiated and usually papillary serous or clear cell in histology [3].

Surgery is the primary treatment for patients with EC [2,4]. Systematic surgical staging for most of them is the baseline therapy and allows clear decision for stage related postoperative adjuvant therapy [5].

In patients with EC, systematic surgical staging includes: total hysterectomy, bilateral salpingo-oophorectomy, pelvic and para-aortic lymphadenectomy and complete resection of all diseases. Especially in patients with type II EC, systematic surgical staging includes additional omentectomy and biopsy of any suspected lesion [6]. Pelvic washings are no longer part of FIGO surgical staging system for EC, but may be reported separately [7].

Appropriate surgical staging provides prognostic and therapeutic benefits for women with EC [2,5]. It facilitates targeted therapy to maximize survival and to minimize the effects of under treatment (recurrent disease, increased mortality) and potential morbidity associated with overtreatment (radiation injury) [5].

Pelvic and para-aortic lymphadenectomy is essential for surgical staging in patients with EC [4,5]. It has diagnostic and therapeutic value [4,8]. It can be used to define accurately the extent of disease and determine the prognosis of EC patients [4]. As 15% to 20% of EC patients harbor para-aortic disease alone, the need for complete pelvic and para-aortic lymphadenectomy cannot be ignored [5,9,10]. Undoubtedly, it is the only way to identify stage IIIC patients with EC [7]. Also, it provides a rationale for the need, type and extent of postoperative adjuvant treatment [4,8,11].

Additionally, pelvic and para-aortic lymphadenectomy seems to have a therapeutic effect in women with EC [12-14]. It is associated with improved survival, in patients with type II EC and in patients with advanced stage disease [2,12,13,15,16]. However, it has no effect on survival, in patients with early stage type I EC [2,17,18].

The extension of pelvic and para-aortic lymph node dissection (more than 14 lymph nodes) is an independent risk factor for postoperative complications [17,19,20]. Also in elderly EC patients and in EC patients with relevant co-morbidities (obesity, diabetes, coronary artery disease), morbidity must be carefully weighed against any survival advantage [5,21,22].

It seems that pelvic and para-aortic lymphadenectomy can be safely omitted in patients with early stage well differentiated type I EC [5,7,18,20,23]. However it is obvious that pelvic and para-aortic lymphadenectomy should be performed in patients with advanced stage type I EC, as well as in all patients with type II EC [15,24,25]. Also in any case of doubt, lymphadenectomy should be performed rather than abandoned [24].

Traditionally, systematic surgical staging in EC patients is performed through a laparotomy [26,27]. However in EC patients with early stage disease, it may be performed with minimally invasive techniques (laparoscopy, robotic-assisted surgery) [2,26-29].

Laparoscopic approach in early stage EC offer many advantages especially in overweight and elderly patients [5,26-29]. It is associated with smaller incisions, shorter hospital stay, quicker recovery and lower risk of complications (blood loss, wound infection, herniation and ileus) [5,26-29]. Compared with laparotomy, it is associated with similar overall and disease-free survival [26,27]. However, there are relatively small differences in recurrence rates [26,27].

Minimally invasive surgery is an accepted integral surgical tool in the treatment of early stage EC [27,30]. Beginning with laparoscopy and continuing with robotic-assisted surgery, the surgeon may be able to achieve the goal of a systematic surgical staging, with reduced surgical morbidity [21,26,28,29].

In EC patients at increased risk for recurrence or with advanced stage disease, more aggressive management with postoperative adjuvant radiotherapy and/or chemotherapy is required [24]. Postoperative adjuvant radiotherapy includes external pelvic radiotherapy and/or brachytherapy.

External pelvic radiotherapy in EC patients with early stage disease reduces the risk of local recurrences but has no impact on overall survival [5,31-33]. Also, it is associated with significant morbidity and a reduction in quality of life [31,33]. It is used only in high risk EC patients or at advanced stage disease [34,35].

Vaginal brachytherapy in EC patients with early stage disease also reduces the risk of local recurrences but has no impact on overall survival [33]. However, it is well tolerated and associated with less side effects than external pelvic radiotherapy [33]. It is the adjuvant treatment of choice for high-intermediate risk EC patients [33,34].

Adjuvant chemotherapy is the mainstay of treatment for EC patients with locally advanced or metastatic disease [24,36]. The most active chemotherapeutic agents are: taxanes, anthracyclines and platinum compounds [36,37]. Although they achieve high response rates, they have only modest effect in progression free survival and overall survival [36].
However, the combination of adjuvant chemotherapy and radiotherapy is promising in high risk EC patients and at advanced stage disease [36,38]. It seems that combination is more effective than radiotherapy alone [36].

Molecular targeted therapies have still shown modest effect in unselected EC patients [36]. They usually target the inhibition of EGFR, VEGFR and PI3K/Pten/Akt/m TOR signals pathways [39]. Perhaps they may be clinically active as adjuvant therapy in well-defined subgroups of type II EC patients with EGFR and ErbB-2 over expression [40].

Conflict of Interest
I declare that I have no conflict of interest.

References

