# Comparative Survival Outcomes of Uterine Papillary Serous Carcinoma, Clear Cell Carcinoma, Grade 3 Endometrioid Adenocarcinoma, and Carcinosarcoma of Endometrial Cancer in Rajavithi Hospital

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***Background:*** *Uterine papillary serous carcinoma (UPSC), clear cell carcinoma (CC), grade 3 endometrioid adenocarcinoma (G3EC), and carcinosarcoma (CS) have been identified as high-grade endometrial cancers and account for the majority of uterine cancer deaths.*
***Objective:*** *To compare survival outcomes of patients with UPSC, CC, G3EC and CS in Rajavithi Hospital.*
***Material and Method:*** *A retrospective review was performed of all patients with FIGO stage I-IV endometrial cancer in Rajavithi Hospital between 1 January 2007 and 31 December 2012. Kaplan-Meier estimates were made of overall survival (OS) and progression-free survival (PFS), and log-rank tests were used to compare survival distributions between histological subtypes. Cox regression was used to estimate hazard ratios for histological subtypes, adjusted for other significant prognostic factors.*
***Results:*** *One hundred sixty-three patients had confirmed diagnosis of high-grade endometrial cancer: 45 had UPSC, 30 had CC; 58 had G3EC; and 30 had CS. The median age distribution of the four groups of patients was approximately 60 years. The body mass index, underlying disease, and parity were similar in each group. All patients underwent a hysterectomy and surgical staging procedure. The 2-year progression-free survival was poorest in the CS cases (79.4%), followed by CC (87.2%), G3EC (92.2%), and UPSC cases (95.5%), and these figures were statistically significantly different among the groups (p = 0.015). The 2-year overall survival was poorest in the CC cases (70.0%), followed by CS (76.7%), UPSC (86.7%), and G3EC (87.9%); however, there were no significant differences among the groups (p = 0.071). In multivariate analysis for OS, advanced stage and suboptimal surgery were significantly associated with increased risk of death. For PFS, advanced stage and positive peritoneal cytology were significantly associated with increased risk of recurrence.*
***Conclusion:*** *CS patients had a significantly lower rate of progression-free survival than other subtypes. These findings should be taken into account when considering counseling, primary treatment and appropriate adjuvant treatment in order to improve survival outcomes in these high-risk patients.*

***Keywords:*** *Overall survival, Progression-free survival, Grade 3 endometrioid adenocarcinoma, Carcinosarcoma, Clear cell carcinoma, Uterine papillary serous carcinoma*

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Endometrial cancer (EC) is the sixth most common female cancer worldwide. Approximately 320,000 new cases are found each year and 76,000 women die annually from this disease[1]. Unlike most cancers, the number of new cases has risen in recent years, with an increase of over 40% between 1993 and 2013[2].

There are two different clinic-pathologic types of endometrial cancer, which differ in incidence, responsiveness to estrogen, and prognosis. Type I EC is estrogen-responsive and has a favorable prognosis, and this type arises in women with obesity, hyperlipidemia, and signs of hyperestrogenism[3]. Type II EC accounts for approximately 20% of endometrial cancers,

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including grade 3 endometrioid adenocarcinomas (G3EC), tumors of non-endometrioid histology such as uterine papillary serous (UPSC), and clear cell (CC). These tumors are often high-grade, have a poor prognosis, and are not clearly associated with estrogen stimulation[3,4]. Although high-grade endometrial cancers are less common, accounting for approximately 25% of new cases, they are responsible for nearly 75% of EC deaths annually[5,6]. The similarities in the clinical behaviors of G3EC and type II cancers and the frequency of their coexistence have generated debate about whether G3EC should be classified as a type I or type II EC[7-11]. Regarding survival outcomes in patients with UPSC, CC, and G3EC, previous studies of comparisons between these histologic types have not always agreed. Some studies have shown that UPSC and CC are associated with an unfavorable prognosis compared with G3EC[5,7]; thus, UPSC and CC are classified as high-grade endometrial cancers. In contrast, a recent clinico-pathologic analysis revealed no difference in outcomes between UPSC and CC, and G3EC[8,9].

Uterine carcinosarcomas (CS), also known as malignant mixed mullerian tumors (MMMT), have characteristics of both carcinomas and sarcomas. Several pathological clues have been found to support the idea that uterine carcinosarcomas can be categorized as types of metaplastic carcinoma, since they are monoclonal in origin[12,13].

In 2009, the International Federation of Gynecology and Obstetrics (FIGO) staging system was revised and classified uterine carcinosarcoma separately from sarcoma, putting it into the category of carcinoma[14]. The current treatment guideline recommended is to treat uterine carcinosarcoma according to the guideline for high-grade endometrial cancer[15]. Some studies have reported that the prognosis for carcinosarcomas was poor when compared to other high-grade endometrial cancers[16-19]. On the other hand, another study showed similar rates of recurrence-free survival, disease-free survival, and overall survival between CS, G3EC, CC, and UPSC cases[20]; however, the data in that study were limited and are still controversial.

The primary objective of this study was to compare rates of overall survival (OS) and progression-free survival (PFS) of four histologic subtypes of high-grade endometrial cancers in patients who underwent a hysterectomy. The secondary objective was to evaluate prognostic factors of high-grade endometrial cancers in order to predict the survival outcomes of these patients.

## Material and Method

The protocol of this research was reviewed and approved by the ethics committee of Rajavithi Hospital (No. 42/2557).

### *Patients*

After Institutional Review Board approval had been obtained, medical records were retrospectively reviewed to identify patients who underwent treatment for FIGO stage I-IV endometrial cancers at Rajavithi Hospital between 1 January 2007 and 31 December 2012. Patients were considered to be eligible if diagnosed as having G3EC, UPSC, CC, or CS. Patients who had synchronous cancer or mixed subtype were excluded. Histopathology was reviewed by a pathologist.

### *Primary treatment*

Staging was performed according to the revised 2009 FIGO surgical staging criteria. Adjuvant radiotherapy or/and adjuvant chemotherapy was used for cases with intermediate to high-risk factors depending on patient preference and physician's discretion. Radiotherapy was performed using vaginal brachytherapy alone (6 Gy in 2 fractions), full pelvic external beam radiation alone (50 Gy in 25 fractions), or a combination of the two. For histological type G3EC, CC and UPSC, chemotherapy was used consisting of a platinum-based regimen for six cycles. For histological type CS, chemotherapy consisted of a platinum-based regimen, or paclitaxel and ifosfamide for six cycles. None of the patients received chemotherapy or radiotherapy before surgery.

### *OS and PFS evaluation*

OS was measured from the date of surgery until last follow-up or death. The follow-up data were recorded from a patient's registration. If a patient were lost to follow-up, the registered date of death was recorded. PFS was defined as the period between initial treatment and the occurrence of pathologically confirmed relapse. If there was no biopsy confirmation, recurrence was clinically assumed when the imaging studies were highly suggestive of recurrence and tumor markers were elevated from the basal level.

### *Recurrence evaluation*

Local recurrence was defined as recurrence at the vagina or at the surrounding tissue of the vagina. Regional recurrence was defined as tumor recurrence

at the pelvic or para-aortic lymph nodes. Distant metastasis was defined as treatment failure at any other location apart from these areas.

For recurrences that were diagnosed by histological examinations, the test date was used as the failure date of the treatment. For recurrences that were diagnosed by imaging study, the failure date of the treatment was set as the date when the computed tomography (CT) was taken.

### *Statistical analysis*

The sample size of each group was 27 patients, calculated using the following formula[21]

$$n = \frac{\{Z_{\alpha/2}\sqrt{2\bar{\pi}(1-\bar{\pi})} + Z_{\beta}\sqrt{\pi_1(1-\pi_1) + \pi_2(1-\pi_2)}\}^2}{(\pi_1 - \pi_2)^2}$$

$\pi_1 = 0.750$, $\pi_2 = 0.380$, $\alpha = 0.05$, Power = 80%

$\pi_1 = 0.750$ is the number of 2-year overall survival of G3EC and $\pi_2 = 0.380$ is the number of 2-year overall survival of CS from the study by Evan George et al[22].

The withdrawal adjustment rate was 5%, and 28 patients were required per group. Frequency distributions between categorical variables among the groups were compared using the Chi-square test, and Fisher's exact test was used if the expected frequency was less than 5. The survival curves were calculated according to the Kaplan-Meier method, and the log-rank test was used to compare survival between groups of factors. The Cox proportional-hazards model was used for multivariable analyses, and G3EC was the reference histological subtype. Statistical analyses were performed with SPSS ver. 17.0 (SPSS Inc., Chicago, IL, USA). A *p*-value of less than 0.050 was used to determine the statistical significance for all tests.

## Results

### *General characteristics*

One hundred and sixty-three patients had a diagnosis of high-grade endometrial cancer confirmed by pathologists: 58 had G3EC; 30 had CS; 30 had CC; and 45 had UPSC. The disagreement between the review and primary diagnoses were cases of mixed subtype such as endometrioid adenocarcinoma mixed serous carcinoma or clear cell, grade 2 endometrioid adenocarcinoma, sarcoma, endometrial stromal sarcoma, adenosarcoma, and metastatic endometrioid adenocarcinoma to the intestine.

Distributions of demographic and clinical characteristics are shown by histological subtype in Table 1. The age distribution of the patients varied from 30 to 77 years (median, 60 years). All patients in our study underwent a hysterectomy and surgical staging procedure. Type of surgery and surgicopathological characteristics classified by histological type are shown in Table 2.

Of the patients with G3EC, CC, CS, and UPSC, 87.9, 86.7, 83.3, and 100%, respectively underwent lymphadenectomy (Table 2). Types of adjuvant therapy after primary surgery were as follows: patients with G3EC more often received postoperative radiotherapy (29.3%) and patients with CC more often received postoperative chemotherapy (46.7%). We found significant differences in trans-peritoneal spread among the four histological subtypes, including lympho-vascular space invasion, peritoneal cytology, omental

**Table 1.** Clinical characteristics features classify by histologic types

| Characteristics | G3EC n = 58<br>n (%) | CS n = 30<br>n (%) | CC n = 30<br>n (%) | UPSC n = 45<br>n (%) | *p*-value |
|---|---|---|---|---|---|
| Age >50 years | 49 (84.5) | 26 (86.7) | 26 (86.7) | 41 (91.1) | 0.874 |
| Mean ± SD | 58.74±9.40 | 59.10±7.05 | 61.60±8.50 | 60.69±9.46 | |
| BMI (kg/m$^2$) | | | | | 0.444 |
| Underweight (below 18.5) | 4 (6.9) | 3 (10.0) | 1 (3.3) | 2 (4.4) | |
| Normal weight (18.5-24.9) | 31 (53.4) | 13 (43.3) | 14 (46.7) | 21 (46.7) | |
| Overweight (25.0-29.9) | 16 (27.6) | 10 (33.3) | 9 (30.0) | 18 (40.0) | |
| Obese (30 and above) | 7 (12.1) | 4 (13.3) | 6 (20.0) | 4 (8.9) | |
| Other medical illnesses (DM, HT, DLP) | 30 (51.7) | 15 (50.0) | 16 (53.3) | 29 (64.4) | 0.214 |
| Nulliparous | 22 (37.9) | 7 (23.3) | 7 (23.3) | 8 (17.8) | 0.118 |

G3EC = grade 3 endometrioid adenocarcinoma; CS = carcinosarcoma; CC = clear cell carcinoma; UPSC = uterine papillary serous adenocarcinoma; DM = diabetes mellitus; HT = hypertension; DLP = dyslipidemia

**Table 2.** Surgico-pathological findings and types of surgery classify by cell types

| Characteristics | G3EC n = 58 n (%) | CS n = 30 n (%) | CC n = 30 n (%) | UPSC n = 45 n (%) | *p*-value |
|---|---|---|---|---|---|
| Lymphadenectomy | 51 (87.9) | 26 (86.7) | 25 (83.3) | 45 (100.0) | 0.020* |
| Primary treatment | | | | | 0.002* |
| Surgery alone | 19 (32.8) | 4 (13.3) | 5 (16.7) | 17 (37.8) | |
| Surgery+ adjuvant RT | 17 (29.3) | 4 (13.3) | 1 (3.3) | 5 (11.1) | |
| Surgery+ adjuvant CMT | 10 (17.2) | 11 (36.7) | 14 (46.7) | 15 (33.3) | |
| Surgery+ adjuvant combination | 12 (20.7) | 11 (36.7) | 10 (33.3) | 8 (17.8) | |
| Optimal surgery optimal | 51 (87.9) | 23 (76.7) | 21 (70.0) | 44 (97.8) | 0.002* |
| Cervical involvement | 13 (22.4) | 8 (26.7) | 13 (43.3) | 9 (20.0) | 0.119 |
| Myometrium | | | | | |
| No myometrium involvement | 3 (5.2) | 4 (13.3) | 0 (0.0) | 9 (20.0) | 0.001* |
| <1/2 MI | 17 (29.3) | 5 (16.7) | 15 (50.0) | 20 (44.4) | |
| >1/2 MI | 38 (65.5) | 21 (70.0) | 15 (50.0) | 16 (35.6) | |
| Tumor size ≥2 cm | 55 (94.8) | 27 (90.0) | 27 (90.0) | 37 (82.2) | 0.227 |
| LVSI positive | 26 (44.8) | 16 (53.3) | 18 (60.0) | 14 (31.1) | 0.012* |
| Peritoneal cytology positive | 2 (3.4) | 3 (10.0) | 8 (26.7) | 2 (4.4) | 0.004* |
| Omental positive | 2 (3.4) | 5 (16.7) | 4 (13.3) | 0 (0.0) | 0.006* |
| Pelvic lymph node positive | 5 (8.6) | 4 (13.3) | 10 (33.3) | 8 (17.8) | 0.007* |
| Para-aortic lymph node | 8 (13.8) | 5 (16.7) | 8 (26.7) | 4 (8.9) | 0.091 |
| Extrauterine disease | 27 (46.6) | 18 (60.0) | 20 (66.7) | 14 (31.1) | 0.011* |
| 2009 FIGO staging | | | | | 0.006* |
| Stage 1 | 31 (53.4) | 12 (40.0) | 9 (30.0) | 31 (68.9) | |
| Stage 2 | 6 (10.3) | 3 (10.0) | 2 (6.7) | 4 (8.9) | |
| Stage 3 | 17 (29.3) | 9 (30.0) | 12 (40.0) | 10 (22.2) | |
| Stage 4 | 4 (6.9) | 6 (20.0) | 7 (23.3) | 0 (0.0) | |
| Advanced stage | 21 (36.2) | 15 (50.0) | 19 (63.3) | 10 (22.2) | 0.002* |

G3EC = grade 3 endometrioid adenocarcinoma; CS = carcinosarcoma; CC = clear cell carcinoma; UPSC = uterine papillary serous adenocarcinoma; LND = lymph node dissection; LVSI = lympho-vascular invasion; RT = radiotherapy; CMT = chemotherapy; MI = myometrium involvement

[a] Number may not be added up the total number due to missing data

* Significant at $p<0.05$

status and pelvic lymph node status. The CC group was most likely to spread to pelvic and para-aortic lymph nodes. Extra-uterine disease was significantly most frequent in CC followed by CS, G3EC, and UPSC, respectively (66.7%, 60.0%, 46.6%, 31.1%; $p = 0.011$).

G3EC and UPSC were more often in stage I of 2009 FIGO surgical staging, while CC and CS were more commonly in stage III. Sixty-three percent of CC cases were advanced stage compared to 50.0% of CS, 36.2% of G3EC, and 22.2% of UPSC cases.

***Survival, recurrence pattern and prognostic variables***

The median follow-up duration was 37.5 months (range, 1.07-88.0 months). The median time to recurrence was 46.4, 36.8, 28.6, 24.1 months in G3EC, UPSC, CS, and CC, respectively. CS cases had the highest prevalence of recurrence (23.3%), followed by CC (20.0%), G3EC (8.6%), and UPSC (6.7%). All histological subtypes had more distant recurrence than loco-regional recurrence: G3EC 5/5 [100.0%]; CS5/7 [71.4%]; UPSC 4/6 [66.6%]; and CC 2/3 [66.6%] ($p = 0.301$) (Table 3). The 2-year progression-free survival was poorest in the CS cases (79.4%), followed by CC (87.2%), G3EC (92.2%), and UPSC (95.5%), and the differences were statistically significant among the groups ($p = 0.015$).

The CS group had the highest prevalence of death (53.3%), followed by CC (50.0%), G3EC (39.7%), and UPSC (26.7%). The 2-year overall survival was poorest in the CC cases (70.0%), followed by CS (76.7%), UPSC (86.7%), and G3EC (87.9%); however, there were no significant differences among the groups ($p = 0.071$) (Fig. 1). Kaplan-Meier survival curves for OS and PFS outcomes according to histological type are shown in

**Table 3.** Survival and pattern of recurrence

| | G3EC n = 58 n (%) | CS n = 30 n (%) | CC n = 30 n (%) | UPSC n = 45 n (%) | *p*-value |
|---|---|---|---|---|---|
| Death | 23 (39.7) | 16 (53.3) | 15 (50.0) | 12 (26.7) | 0.080 |
| Recurrence | 5 (8.6) | 7 (23.3) | 6 (20.0) | 3 (6.7) | 0.081 |
| Local | 0 (0.0) | 2 (28.6) | 2 (33.3) | 1 (33.3) | 0.525 |
| Distant | 5 (100.0) | 5 (71.4) | 4 (66.7) | 2 (66.7) | |

G3EC = grade 3 endometrioid adenocarcinoma; CS = carcinosarcoma; CC = clear cell carcinoma; UPSC = uterine papillary serous adenocarcinoma

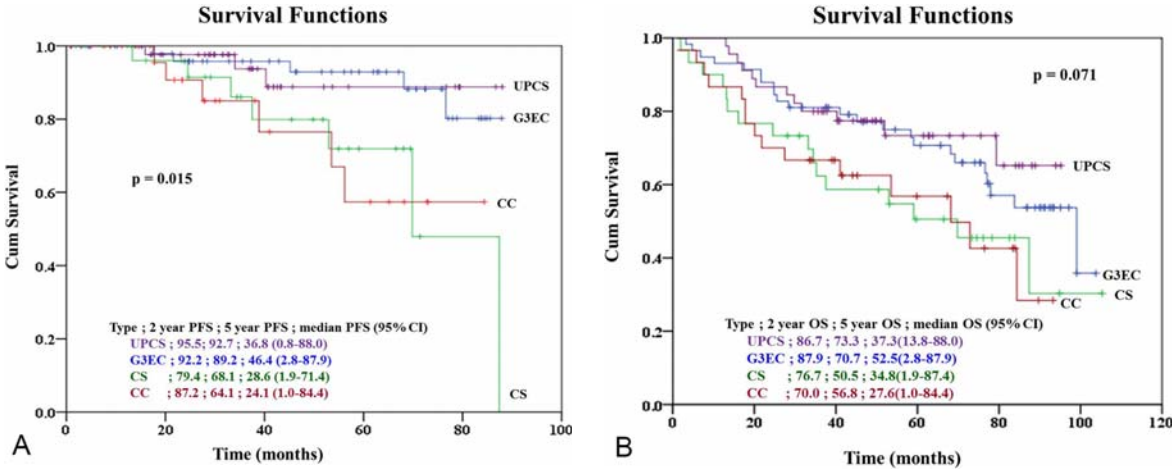


**Fig. 1** Survival outcome according to the histologic type after adjusting for clinicopathologic factors. G3EC = grade 3 endometrioid carcinoma; CS = carcinosarcoma; CC = clear cell; UPSC = uterine papillary serous carcinoma. (A) Progression-free survival, (B) Overall survival.

Fig. 1.

Univariate and multivariate Cox regression models for PFS and OS are summarized in Table 4. In univariate analysis for PFS, CS cases had significantly poorer outcomes compared to G3EC cases (HR, 3.23; 95% CI, 1.02-10.21) ($p = 0.046$). In multivariate analysis for PFS, advanced stage and positive peritoneal cytology were significantly associated with increased risk of recurrence (adjusted HR, 5.27; 95% CI, 1.12-24.75) ($p = 0.035$), (adjusted HR, 2.73; 95% CI, 1.22-6.12) ($p = 0.014$). In multivariate analysis for OS, advanced stage and suboptimal surgery were significantly associated with increased risk of death. In both univariate and multivariate analysis for OS and PFS, we found that only advanced stage was significantly associated with poorer outcomes and histological subtype was not a significant prognostic factor.

## Discussion

UPSC, CC, G3EC and CS have been identified as high-grade endometrial cancers and are responsible for the majority of uterine cancer deaths[5]. This study is one of a series that have compared survival outcomes and prognostic factors of patients with UPSC, CC, G3EC and CS. We found that the CS and CC groups had a worse overall rate of survival than the UPSC and G3EC groups. These findings are similar to those of Ashley SF et al[20] and George et al[22], but different from those of the study by Soslow et al[8]. The explanation may be that in our study G3EC and UPSC were more often in stage 1 of FIGO surgical staging, while CC and CS were more commonly in stage 3. The present study also found that the G3EC group had better prognosis than the other groups, similar to the findings of some other research[7,23]. However, in our study, overall survival was not significantly different between the groups, and this is in keeping with the results of some other reports[8,20].

We also found that the CS group had a worse prognosis than the other groups. The 2-years PFS of

**Table 4.** Univariate and multivariate analyses for progression-free survival and overall survival outcomes according to individual parameters

| Parameter | Progression-free survival | | Overall survival | |
|---|---|---|---|---|
| | HR (95% CI) | *p*-value | HR (95% CI) | *p*-value |
| Uni-variate analysis | | | | |
| Histology | | | | |
| G3EC | 1 | | 1 | |
| CS | 3.23 (1.02-10.21) | 0.046* | 1.73 (0.91-3.28) | 0.094 |
| CC | 3.00 (0.91-9.88) | 0.071 | 1.77 (0.92-3.40) | 0.090 |
| UPSC | 0.79 (0.19-3.30) | 0.743 | 0.82 (0.40-1.65) | 0.568 |
| Suboptimal Sx | 3.39 (1.11-10.39) | 0.033* | 4.01 (2.29-7.04) | <0.001* |
| PW positive | 8.86 (3.01-26.08) | <0.001* | 2.82 (1.43-5.57) | 0.003* |
| LVSI positive | 4.43 (1.65-11.87) | 0.003 | 2.05 (1.22-3.46) | 0.007* |
| Stage (3-4) | 4.31 (1.76-10.56) | 0.001* | 2.94 (1.80-4.80) | <0.001* |
| Multi-variate analysis | | | | |
| Histology | | | | |
| G3EC | 1 | | 1 | |
| CS | 2.29 (0.66-7.96) | 0.191 | 1.69 (0.86-3.32) | 0.125 |
| CC | 1.33 (0.33-5.30) | 0.684 | 1.05 (0.50-2.18) | 0.888 |
| UPSC | 0.71 (0.16-3.11) | 0.653 | 0.85 (0.41-1.78) | 0.680 |
| Suboptimal Sx | 0.96 (0.26-3.59) | 0.955 | 2.45 (1.23-4.89) | 0.010* |
| PW positive | 4.92 (1.39-17.38) | 0.013* | 1.75 (0.84-3.65) | 0.135 |
| LVSI positive | 0.46 (0.11-2.03) | 0.312 | 1.79 (0.65-4.89) | 0.253 |
| Stage (3-4) | 5.27 (1.12-24.75) | 0.035* | 2.73 (1.22-6.12) | 0.014* |

G3EC = grade 3 endometrioid adenocarcinoma; CS = carcinosarcoma; CC = clear cell carcinoma; UPSC = uterine papillary serous adenocarcinoma; HR = hazard ratio; Sx = surgery; PW = peritoneal washing; LVSI = lympho-vascular invasion
* Significant at $p<0.05$

CS was 79.4%, followed by CC (87.2%), G3EC (92.9%), and UPSC (95.5%) ($p$ = 0.015). Similarly, several reports[16-19] found that uterine CS cases tended to show poor prognosis compared to the other high-grade endometrial carcinomas.

Previous studies[5,7,24] have shown that women with UPSC had progression-free and overall survival rates that were significantly worse than women with G3EC. In contrast, we found that G3EC groups had a progression-free survival rate which was significantly worse than the UPSC group (92.9% vs. 95.5%, $p$ = 0.015). The explanation may be that the G3EC cases had had much more suboptimal surgery and had more advanced stages than the UPSC cases (12.1% vs. 2.2%, and 36.2% vs. 22.2%).

Thomas et al[25] reported that 52% of patients with CC who presented with disease clinically confined to the uterus were found to have extra-uterine disease during comprehensive surgical staging. The present study confirmed this finding and found that the majority of the members of the CC group had an advanced stage at the time of diagnosis and had a high incidence of extra-uterine disease as shown in Table 3.

Using univariate analysis for OS and PFS, CS histologic subtypes, suboptimal surgery, positive peritoneal cytology, presence of LVSI, and advanced stage (III-IV) appeared to determine the outcomes. Cox regression multivariate analysis for OS and PFS suggested that only advanced stage was of prognostic significance (Hazard ratio (95% CI) were 2.73 (1.22-6.12) ($p$ = 0.014) and 5.27 (1.12-24.75) ($p$ = 0.035)), respectively. These findings are similar to those of Amant et al's study[26] which revealed that both stage III-IV disease and histological type (carcinosarcoma) were of prognostic significance for PFS in high-risk endometrial cancer patients.

To determine whether significant discrepancies resulted from the large number of pathologists involved, all cases in our study had their slides reviewed by a single pathologist. This study had some limitations: first, the number of patients was relatively small, which may have affected the results;

second, this was a retrospective study, and may have some recall bias; third, the difference between basic data, such as stage, may have affected the results of survival; and fourth, comprehensive surgical staging was performed in only 87.7% of cases, and occult disease could have been missed in those patients who did not undergo comprehensive surgical staging.

**Conclusion**

CS patients had a significantly lower progression-free survival rate compared to other histological subtypes. These findings should be taken into account in considering patient counseling, primary treatment and appropriate adjuvant treatment in order to improve survival outcomes in these high-risk patients.

**What is already known on this topic ?**

UPSC, CC, G3EC and CS have been identified as high-grade endometrial cancers and account for the majority of uterine cancer deaths. Some studies reported that the prognosis of carcinosarcomas was poor when compared to other high-grade endometrial cancers. On the other hand, another study showed similar recurrence-free survival, disease-free survival, and overall survival between CS, G3EC, CC, and UPSC cases. However, the data were limited and controversial until now.

**What this study adds ?**

We observed that the CS patients had a significant lower progression-free survival compared to other histological subtypes. These findings should be considered in the counseling, primary treatment and appropriate adjuvant treatment in order to improved survival outcomes in these high-risk patients.

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**Potential conflicts of interest**

None.

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# การเปรียบเทียบอัตรารอดชีวิตระหว่างมะเร็งเยื่อบุโพรงมดลูกได้แก่ ชนิดแพบพิลลารี่ซีรัส เคลียร์เซลล์ เอนโดเมทริออยด์ อดิโนคาร์สิโนมาร์ระดับสาม และคาร์สิโนซาร์โคมา ในโรงพยาบาลราชวิถี

*นิสา พฤกษะริตานนท์, วสุ จันทร์เทพย์*

***ภูมิหลัง:*** *มะเร็งเยื่อบุโพรงมดลูกชนิดแพบพิลลารี่ซีรัส เคลียร์เซลล์ เอนโดเมทริออยด์อดิโนคาร์สิโนมาร์ระดับสาม และคาร์สิโนซาร์โคมาจัดเป็นมะเร็งเยื่อบุโพรงมดลูกที่มีความรุนแรงสูงและเป็นสาเหตุส่วนใหญ่ของการเสียชีวิตในผู้ป่วยมะเร็งเยื่อบุโพรงมดลูก*

***วัตถุประสงค์:*** *เพื่อศึกษาเปรียบเทียบอัตราการรอดชีวิตระหว่างมะเร็งเยื่อบุโพรงมดลูกชนิดรุนแรง 4 ชนิดได้แก่ ชนิดแพบพิลลารี่ซีรัส, เคลียร์เซลล์, เอนโดเมทริออยด์อดิโนคาร์สิโนมาร์ระดับสามและคาร์สิโนซาโคมา ในโรงพยาบาลราชวิถี*

***วัสดุและวิธีการ:*** *ทบทวนเวชระเบียนย้อนหลังของผู้ป่วยมะเร็งเยื่อบุโพรงมดลูกที่เข้ารับการรักษาด้วยการผ่าตัดที่โรงพยาบาลราชวิถีตั้งแต่ วันที่ 1 มกราคม พ.ศ. 2550 ถึง 31 ธันวาคม พ.ศ. 2555 ทำการวิเคราะห์ข้อมูลอัตราการรอดชีวิตโดยรวม อัตราการรอดชีวิตโดยปราศจากโรค และปัจจัยต่าง ๆ ที่มีผลต่ออัตราการรอดชีวิต*

***ผลการศึกษา:*** *ผู้ป่วยที่ได้รับการยืนยันจากการตรวจทานทางพยาธิวิทยาว่าเป็นมะเร็งเยื่อบุโพรงมดลูกชนิดรุนแรง มีจำนวน 163 ราย โดยแบ่งเป็นชนิดแพบพิลลารี่ซีรัส 45 ราย ชนิดเคลียร์เซลล์ 30 ราย ชนิดเอนโดเมทริออยด์อดิโนคาร์สิโนมาร์ระดับสาม 58 ราย และชนิดคาร์สิโนซาโคมา 30 ราย ผู้ป่วยทั้ง 4 กลุ่ม มีอายุเฉลี่ยประมาณ 60 ปี มีดัชนีมวลกาย, โรคประจำตัว, จำนวนบุตรไม่แตกต่างกันทางสถิติ อัตราการรอดชีวิตโดยปราศจากโรคที่ 2 ปี พบว่าในกลุ่มชนิดคาร์สิโนซาโคมาต่ำที่สุด (ร้อยละ 79.4) รองลงมา คือ ชนิดเคลียร์เซลล์ (ร้อยละ 87.2), ชนิดเอนโดเมทริออยด์ อดิโนคาร์สิโนมาร์ระดับสาม (ร้อยละ 92.2) และชนิดแพบพิลลารี่ซีรัส (ร้อยละ 95.5) ซึ่งมีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติ ($p = 0.015$) ส่วนอัตราการรอดชีวิตโดยรวมที่ 2 ปี ในกลุ่มชนิดเคลียร์เซลล์มีค่าต่ำที่สุด (ร้อยละ 70.0) รองลงมาคือ ชนิดคาร์สิโนซาโคมา (ร้อยละ 76.7), ชนิดแพบพิลลารี่ซีรัส (ร้อยละ 86.7) และชนิดเอนโดเมทริออยด์อดิโนคาร์สิโนมาร์ระดับสาม (ร้อยละ 87.9) แต่ไม่มีความแตกต่างกันทางสถิติ ($p = 0.071$) ปัจจัยที่มีผลต่ออัตราการรอดชีวิตโดยรวมอย่างมีนัยสำคัญทางสถิติได้แก่ โรคระยะลุกลามและการหลงเหลือก้อนมะเร็งหลังผ่าตัด ส่วนตัวแปรที่มีผลต่ออัตราการรอดชีวิตโดยปราศจากโรคอย่างมีนัยสำคัญทางสถิติ ได้แก่ โรคในระยะลุกลามและการตรวจพบเซลล์มะเร็งในน้ำในเยื่อบุช่องท้อง*

***สรุป:*** *ผู้ป่วยมะเร็งเยื่อบุโพรงมดลูกในกลุ่มชนิดคาร์สิโนซาโคมามีอัตราการรอดชีวิตโดยปราศจากโรคต่ำกว่าผู้ป่วยมะเร็งเยื่อบุโพรงมดลูกชนิดรุนแรงอื่น ๆ อย่างมีนัยสำคัญทางสถิติ การวิจัยนี้จึงมีประโยชน์ในการพิจารณาวางแผนการรักษาหลักและการรักษาเพิ่มเติม เพื่อให้ผู้ป่วยเหล่านี้มีอัตราการรอดชีวิตที่สูงขึ้น*