Original Article

Management of Locally Advanced Cervical Cancer: Survey of Practice among Thai Gynecologic Oncologists

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Objective: To assess current practice for the management of locally advanced cervical cancer (LACC) in Thailand.

Material and Methods: Thai gynecologic oncologists who had been practicing in the field for at least one year were invited to complete an on-line self-administered questionnaire. The survey encompassed general aspect and organ-specific aspect of care including management of cervical cancer, endometrial cancer, and ovarian cancer. This study represents a part of the main study that addressed LACC management.

Results: One hundred seventy gynecologic oncologists responded to the survey. Seventy-eight percent of the respondents treated the patients with bulky early-stage IB3 and IIA2 by concurrent chemoradiation, followed by neoadjuvant chemotherapy followed by radical surgery (22.4%), and surgery alone (11.8%). Almost all of respondents preferred to use concurrent cisplatin-based chemoradiation for the patients with locally advanced stage IIB to IVA. Only 1.8% of them would consider other treatment modalities. The more effective treatment modalities have been identified in order to improve outcome and reduce toxicity of standard treatment. Large disparity was observed about controversial treatment issues, including ovarian transposition, neoadjuvant chemotherapy followed by surgery, surgical staging for lymph nodes assessment, adjuvant chemotherapy after concurrent chemoradiation, and adjuvant hysterectomy.

Conclusion: Most Thai gynecologic oncologists have been treating patients with LACC by mostly following standard guideline. However, there are variations in practice pattern in some controversial issues.

Keywords: Cervical cancer, Gynecologic oncologist, Practice pattern

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Cervical cancer remains a major public health problem, with an estimated 570,000 cases and 311,000 deaths worldwide in 2018. This disease has been ranked as the fourth most frequently diagnosed cancer and the fourth leading cause of cancer death in women. Eighty-five percent of cases occur in developing countries[1]. The prognosis is depended on the stage of disease which was defined according to the International Federation of Gynecology and Obstetrics (FIGO) 2018 classification[2]. Because of the extensive screening programs of cervical cancer, the number of patients with early-stage has increased. However, thirty percent of cervical cancer were diagnosed with locally advanced cervical cancer (LACC)[3].

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Patients with LACC (stage IIB to IVA, stage IB3 and IIA2 included in some studies) had higher rate of relapse and worse five-year survival than patients with early-stage disease[4]. To date, concurrent cisplatin-based chemoradiation is a standard of care for LACC with an 8% five-year disease-free benefit and a 6% absolute survival benefit compared to radiotherapy alone. However, the side effect was increased and about 40% of patients had recurrence within five years[5].

In an attempt to improve oncological outcome, potentially effective treatment strategies have been widely examined. The most active area of investigation has been the role of adjuvant treatment before or after concurrent chemoradiation (CCRT). In one study, additional two cycle of cisplatin/gemcitabine chemotherapy after CCRT improved progression free survival (PFS) and overall survival (OS). However, there is substantial increase in toxicity[6]. Although the published guidelines have suggested that adjuvant hysterectomy may be considered following CCRT in patients with inadequate response to radiation due to uterine factors, there are insufficient data to demonstrate a survival benefit

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of the procedure[7,8]. Surgical staging for paraaortic nodes assessment may not only have a therapeutic role but its findings could help tailoring radiation field if positive nodes are detected[9,10]. Extended-field radiation therapy (EFRT) with CCRT has been recommended for patients with paraaortic nodes involvement, however, the increase toxicity is an issue to be concerned[11,12]. Another alternative treatment modality for patients with LACC is neoadjuvant chemotherapy (NACT) followed by radical hysterectomy in selected cases with good chemotherapeutic response. This treatment strategy could be of particular benefit for patients who opt not to proceed with primary radiotherapy[13].

Despite the various therapeutic strategies mentioned above, management of patients with LACC in Thailand has been influenced by several factors such as local tradition, hospital setting, available resources, and physicians' experience. This survey, for the first time, specifically address the perception of Thai gynecologic oncologists in practice on current management of women with LACC which included patients with bulky early-stage disease (IB3, IIA2) and those with stage IIB to IVA disease. The survey data would be helpful for understanding the current practice and identifying the areas needing further improvement in Thailand.

Materials and Methods

An on-line cross-sectional nationwide survey on practice pattern of Thai gynecologic oncologists was conducted by Thai Gynecologic Oncology Group (TGOG) in 2019. This study was part of the main survey focusing on management of patients with LACC. Gynecologic oncologists who were members of Thai Gynecologic Cancer Society (TGCS) and had been practicing for at least one year were invited to participate in the on-line survey accessible through: https://forms.gle/e1WsBLcX5jVsXVgG8 from August to October, 2019. Exclusion criteria were those who did not practice in the country at the time of this survey and those who treated only benign gynecologic conditions.

For this study, pattern of care for early-stage cervical cancer with bulky lesion (FIGO stage IB3 and IIA2) and FIGO stage IIB-IVA disease were explored separately taking into account practice setting and practitioners' experience. The pattern of treatment in this survey focusing on treatment modalities, chemotherapy regimen uses during CCRT, ovarian transposition, surgical staging, field of radiotherapy, and adjuvant treatment after CCRT were explored. The study protocol was approved by Human Research Ethics Committee of collaborating institutions (COAs/IRBS: Phramongkutklao Hospital, IRBRIA 698/2563; Rajavithi Hospital, 104/2562; Faculty of Medicine Chiang Mai Hospital, OBG-2562-06506).

Secondary data extracted from the main data were analyzed using SPSS statistical software, version 22 (IBM Corporation, Armonk, NY, USA). Descriptive statistics were used to analyze demographic data, which were expressed as numbers with percentage. Chi-square or Fisher exact tests, as appropriate, were used for hypothesis testing of categorical data comparing two groups. The *p*-value <0.05 was considered significant.

Results

Characteristic of respondents

One hundred seventy gynecologic oncologists responded to the survey questionnaires. Median age of the respondents was 39 years (30 to 74 years) and approximately two-thirds of them (63.5%) were female. Length of their career as a gynecologic oncologist ranged from one year to 42 years with a median of five years. Ninety-nine respondents (58.2%) had practiced for five years or longer. Most respondents worked mainly at tertiary care hospitals (83.5%) in public setting (89.4%). Eighty-six respondents (50.6%) worked in institutions that had fellowship training program.

Treatment of early-stage diseases with bulky lesion (stage IB3 and IIA2, FIGO 2018)

The modality of treatments for patients with bulky early-stage cervical cancer is shown in Table 1. The majority of respondents preferred to offer CCRT (78%) followed by NACT before surgery and surgery alone. Two respondents selected other modalities, which were radiation therapy alone and treatment depending on pathological cell type. We analyzed the modality of treatments according to work setting and experience of the respondents, as presented in Table 2. Respondents who work in institutions that had fellowship training program selected to used surgery alone significantly less than the respondents who work in non-fellowship training institutions (6% vs. 22.7%, *p*-value = 0.02). Although statistical significance was not reached, we found that the respondents who worked in tertiary-level hospitals desired to use NACT followed by surgery more than respondents who worked in secondary-level hospitals (23.9% vs. 14.2%). Similarly, the respondents who had practiced for more than five years more commonly chose NACT followed by surgery than the respondents with less experience (27.2% vs. 15.4%).

Table 1. Primary treatment for bulky early-stage cervical cancer stage IB3 and IIA2

Treatment	n (%)
CCRT	134 (78.8)
NACT	38 (22.4)
Surgery	20 (11.8)
Others*	2 (1.2)

CCRT = Concurrent chemoradiation, NACT = Neoadjuvant chemotherapy

* Others included radiation therapy alone (n = 1) or pending on pathologic type (n = 1). One responder may select more than one type of primary treatment.

Data were expressed as number (percentage)

Table 2. Treatment modality for bulky early-stage cervical cancer by work setting and experience of respondents

Practice	n (%) n = 170	Year of practice			Type of hospital			Level of hospital			Type of service		
		<5 year n = 71	≥5 year n = 99	*p*-value	Gov n = 152	Private n = 18	*p*-value	2nd n = 28	3rd n = 142	*p*-value	FTP n = 84	No FTP n = 86	*p*-value
Surgery	20 (11.8)	9 (12.6)	11 (11.1)	0.76	18 (11.8)	2 (11.2)	1.00	3 (10.7)	17 (9.4)	0.85	5 (6.0)	15 (22.7)	0.02
NACT	38 (22.4)	11 (15.4)	27 (27.2)	0.07	33 (21.7)	5 (27.7)	0.56	4 (14.2)	34 (23.9)	0.26	19 (22.6)	19 (22.1)	0.93
CCRT	134 (78.8)	63 (88.7)	71 (71.7)	<0.01	121 (79.6)	13 (72.2)	0.47	21 (75.0)	113 (79.5)	0.59	67 (79.8)	67 (77.90)	0.77

Gov = Government, 2nd = Secondary – level hospital, 3rd = Tertiary care hospitals, CCRT = Concurrent chemoradiation, NACT = Neoadjuvant chemotherapy, FTP = Fellowship training program
Data were expressed as number (percentage)

Table 3. Chemotherapy regimens use during concurrent chemoradiation

Practice	n (%) n = 170	Year of practice			Type of hospital			Level of hospital			Type of service		
		<5 year n = 71	≥5 year n = 99	*p*-value	Gov n = 152	Private n = 18	*p*-value	2nd n = 28	3rd n = 142	*p*-value	FTP n = 84	No FTP n = 86	*p*-value
Cisplatin	161 (94.7)	71 (100.0)	90 (90.9)	0.01	144 (94.7)	17 (94.4)	1.00	27 (96.4)	134 (94.3)	1.00	79 (94.0)	82 (95.3)	0.75
Carboplatin	83 (48.8)	25 (35.2)	58 (58.6)	<0.01	75 (52.8)	8 (44.4)	0.69	15 (53.5)	68 (47.8)	0.58	41 (48.8)	42 (48.8)	1.00
Others*	6 (3.5)	0 (0.0)	6 (6.0)	0.04	6 (3.9)	0 (0.0)	1.00	2 (7.1)	4 (2.8)	0.26	4 (4.8)	2 (2.3)	0.44

Gov = Government, 2nd = Secondary – level hospital, 3rd = Tertiary care hospitals, FTP = Fellowship training program
* Others included 5-FU, oxaliplatin (n = 1), paclitaxel (n = 1), cisplatin with etoposide for small cell type (n = 1), depend on radiologist preference (n = 2)
One responder may select more than one type of chemotherapy regimens. Data were expressed as number (percentage)

Chemotherapy regimens using during radiotherapy

Table 3 shows chemotherapeutic agents used during radiotherapy. Platinum-based chemotherapy regimen was preferred during external beam radiation therapy (EBRT), as radiosensitizer. Cisplatin was the most commonly selected regimen (94.7%), followed by carboplatin (48.8%). Respondents who had practiced for five years or longer selected to used carboplatin more than respondents with less experience (58.6% vs. 35.2%, *p*-value = 0.003). Besides, six of respondents (3.5%) selected other chemotherapeutic regimens which included 5-FU (n = 1), oxaliplatin (n = 1), paclitaxel (n = 1), cisplatin with etoposide for small cell type (n = 1), and a chemotherapy regimen depending on radiologists' preference (n = 2). All respondents who selected the other chemotherapeutic regimens for CCRT had practiced for five years or longer and worked in government hospitals.

Treatment of locally advanced cervical cancer stage IIB to IVA

Current management of LACC stage IIB to IVA is revealed in Table 4. Among 170 gynecologic oncologists who responded, 73.5% of the respondents treated the patients with standard CCRT. Fifty-three of respondents (31.2%) considered performing ovarian transposition before CCRT to prevent ovarian failure for the patients with premenopausal subgroup. We found that respondents who work in institutions that had fellowship training program would likely perform this operation more than respondents who work in institutions that had no fellowship training program (42.9% vs. 20.9%, *p*-value = 0.007).

Surgical staging to assess pelvic and paraaortic lymph node metastatic status before CCRT was performed by 14.1% of respondents. When analyzed by work setting, respondents who work in secondary-level hospital performed surgical evaluation of lymph nodes status more frequently than respondents who work in tertiary-level hospital (21.4% vs. 12.7%), similar to respondents who work in private hospital when compare with in government hospital (22.2% vs. 13.2%). Forty-seven percent of respondents treated patients with LACC by CCRT with EFRT. Considering hospital setting, the respondents who work in government hospital tended to use CCRT with EFRT for LACC patients more frequently than those who worked in private hospitals (48.7% vs. 33.3%).

Concurrent chemoradiation followed by adjuvant chemotherapy or followed by hysterectomy was used in order to improved oncological outcome in selected patients. Almost one-third of respondents (31.2%) used adjuvant chemotherapy in the patient with LACC. There is no significant difference in the number of respondents who used adjuvant chemotherapy after CCRT stratified by hospital setting and experience. Adjuvant hysterectomy after CCRT was selected by 122 respondents (71.7%). Most of them (75%) reported to performed adjuvant hysterectomy after CCRT in about 5% to 10% of eligible patients in their care. Respondents who had practice for five years or longer selected to performed adjuvant hysterectomy more than respondents who had practice for less than 5 years (78.6% vs. 62%, *p*-value = 0.02). Similar trend was observed when compared respondents who work in government hospital to private hospital (75% vs. 44.4%, *p*-value = 0.006), and compared respondents who work in institutions that had fellowship training program to those in non-fellowship training institutions (92.9% vs. 51.2%, *p*-value = 0.001). Three respondents (1.8%) selected other treatment modalities, which included radical hysterectomy with pelvic lymphadenectomy (RHPL) (n = 1), NACT followed by RHPL (n = 1) and referral to tertiary hospital (n = 1).

Discussion

In the recently published guidelines of National Comprehensive Cancer Network (NCCN) and European Society for Medical Oncology (ESMO), CCRT is classified as the standard treatment for patients with stage IB3 and IIA2[8,14]. Primary surgery alone does not seem to be a self-fulfilling curative option because patients with bulky early-stage IB3 and IIA2 tumors are likely to have high-risk or intermediate-risk pathological factors such as positive lymph nodes, positive parametrium, positive surgical margins, or combinations of large tumor size, deep stromal invasion, and lymph-vascular space invasion. Around 84% of these bulky early-stage patients required adjuvant radiotherapy after operation to reduce risk of recurrence and improve survival. Although, there is comparable oncological outcomes for the patients treated with radiotherapy alone versus surgery with (or without) postoperative radiation, but the combined modality treatment increases complication rate[15]. The PFS and OS benefit of cisplatin-based chemotherapy given concurrently with pelvic radiation was demonstrated in both primary radical pelvic radiotherapy setting and post radical hysterectomy pelvic radiotherapy setting[16]. Another alternative treatment option for LACC has been upfront chemotherapy followed by radical surgery, the NACT approach. From meta-analysis data, NACT may reduce the need of postoperative adjuvant radiotherapy by decreasing tumor size and lymph node metastasis[17]. However, the two recently randomized controlled studies comparing NACT followed by surgery with CCRT in patients with LACC concluded that NACT followed by surgery did not show an increase in five-year OS but was associated with a decrease in disease free survival[18,19]. Although NACT has not been recommended as a standard treatment for LACC, it can be considered an alternative strategy in an attempt to minimize the need for pelvic radiation[13]. In our survey, most of respondents used CCRT for bulky early-stage disease. However, surgery alone and NACT followed by surgery appeared acceptable and were chosen by approximately 35% of respondents. In a similar study from Korea, this approach was employed in about 25% of patient with LACC[20]. Interestingly, a higher rate of respondents from a German survey (91%) and European Society of Gynaecological Oncology (ESGO) survey (61%) chose to perform upfront surgery or NACT followed by surgery in this similar situation[21,22].

Table 4. Current management for locally advanced cervical cancer

Practice	n (%) n = 170	Year of practice			Type of hospital			Level of hospital			Type of service		
		<5 year n = 71	≥5 year n = 99	*p*-value	Gov n = 152	Private n = 18	*p*-value	2nd n = 28	3rd n = 142	*p*-value	FTP n = 84	No FTP n = 86	*p*-value
CCRT only	125 (73.5)	50 (70.4)	75 (75.8)	0.44	112 (73.7)	13 (72.2)	1.00	19 (67.9)	106 (74.6)	0.46	67 (79.8)	58 (67.4)	0.19
CCRT with ovarian transposition	53 (31.2)	19 (26.8)	34 (34.3)	0.29	47 (30.9)	6 (33.3)	0.84	9 (32.1)	44 (31.0)	0.90	35 (41.6)	18 (20.9)	0.01
CCRT with PN ±PAN surgery evaluation	24 (14.1)	10 (14.1)	14 (14.1)	0.99	20 (13.2)	4 (22.2)	0.29	6 (21.4)	18 (12.7)	0.24	14 (16.7)	10 (11.6)	0.41
CCRT with EFRT	80 (47.1)	37 (52.1)	43 (43.4)	0.26	74 (48.7)	6 (33.3)	0.22	12 (42.9)	68 (47.9)	0.68	45 (53.6)	35 (40.7)	0.16
CCRT with adj CMT	53 (31.2)	25 (35.2)	28 (28.3)	0.34	47 (30.9)	6 (33.3)	0.84	9 (32.1)	44 (31)	0.90	26 (31.0)	27 (31.4)	0.79
CCRT with adj hysterectomy	122 (71.8)	44 (62.0)	78 (78.8)	0.02	114 (75.0)	8 (44.4)	0.01	18 (64.3)	104 (73.2)	0.34	78 (92.9)	44 (51.2)	<0.01
Others	3 (1.8)	0 (0)	3 (3)	0.27	3 (2.0)	0 (0)	1.00	1 (3.6)	2 (1.4)	0.42	1 (1.2)	2 (2.3)	0.62

Gov = Government, 2nd = Secondary – level hospital, 3rd = Tertiary care hospitals, FTP = Fellowship training program, CCRT = Concurrent chemoradiation, NACT = Neoadjuvant chemotherapy, PN = pelvic nodes, PAN = paraaortic nodes, EFRT = external field radiotherapy, CMT = chemotherapy

* Others include radical hysterectomy with pelvic lymphadenectomy (RHPL) (n = 1), NACT followed by RHPL (n = 1) and refer to tertiary hospital (n = 1)

One responder may select more than one type of chemotherapeutic regimens

Data were expressed as number (percentage)

With regard to regimen of chemotherapy during CCRT, the most commonly used regimen was weekly cisplatin (94.7%). This probably resulted from a randomized trial data showing that weekly cisplatin at 40 mg/m^2 in combination with radiation achieved similar outcome with cisplatin plus 5-FU plus hydroxyurea but with a better toxicity profile[23]. As mention previously, concurrent weekly cisplatin chemoradiation was established as a standard for treatment of LACC[4,23-25]. In this article, nine of 170 of our respondents, all had practiced for five years or longer, did not use cisplatin for CCRT in their practice. Apart from cisplatin, the second most common chemotherapeutic regimen for CCRT was carboplatin, used by 48.8% of respondents. Carboplatin chemoradiation regimen was most selected as an option for patients who may not tolerate cisplatin side effects well[5,26,27]. From the results of a meta-analysis, non-platinum based chemoradiotherapy also provided benefit when compared with radiotherapy alone[5]. Our survey found that six respondents (3.5%) who selected non-platinum based regimens for CCRT worked in government hospitals and had practiced for five years or longer. One explanation would be that more complicated cases such as those who could not tolerate platinum regimens are managed in government hospitals especially in academic setting with more experience oncologists and broader chemotherapy choice. In general, decision regarding the choice of chemotherapy for CCRT is based on patient condition and provider preferences.

For two decades, CCRT had been the standard treatment for patients with LACC stage IIB to IVA based on the results of five large randomized trials since 1999[28]. The subsequent result from meta-analysis confirmed the benefit of CCRT for patients with LACC, which was superior to radiotherapy alone. There were a 6% improvement in 5-year OS for stage IIB and 3% for stage III to IVA[5]. In our survey, almost all of the respondents treated these patients by using CCRT as a sole treatment or CCRT in combination with other treatment modalities. Only three of our respondents (1.8%) would consider other treatment modalities including surgery in two RHPL and NACT followed by RHPL, each) and referral to tertiary hospital in one. In European countries, there was the result from the German survey, in which 46% of respondents would refer the patients with cervical cancer stage IIB for upfront surgery[21]. Nevertheless, our questionnaire was not classified the treatment options of LACC by stage.

Nowadays, cervical cancer increasingly occurs in young premenopausal women. According to SEER data, more than 40% of cervical cancer is diagnosed in reproductive-age patients[29]. Concurrent chemoradiation would predictably cause ovarian failure in these premenopausal women. To minimize long-term morbidities from early menopause, patients younger than 45 years of age with early-stage disease and squamous cell type may have a choice to preserve intrinsic hormonal function by performing ovarian transposition[30,31]. Nevertheless, the reported incidence of ovarian metastasis in patients with stage IIB was around 2% for squamous cell carcinoma and almost 10% for adenocarcinoma[32]. In the present survey, CCRT with ovarian transposition was chosen by approximately one-third of respondents. Higher proportion of respondents who worked in institutions that had fellowship training program performed this operation before CCRT compared to the respondents who worked in non-fellowship training institutions. However, meaningful explanation could not be achieved from our data.

Despite the OS benefit and good tolerability associated with CCRT, acute and long-term side effects have been reported[5]. Moreover, the disease could be expected to recur in approximately 40% of patients and the prognosis is poor in recurrent setting[5]. Therefore, identifying more effective treatment modalities is mandatory. The important prognostic factor in the patient with LACC is lymph node metastatic status especially to paraaortic group. The incidence of paraaortic nodes metastasis increases by stage which is found in up to 50% of cases[33]. For patients with paraaortic nodes involvement, the five-year survival rate ranged from 50% to 85%[34]. The revised FIGO staging system clearly reflects the importance of nodes metastasis as a major prognostic factor and has reclassified the stage for patients with nodal metastasis as stage IIIC[2]. The information on paraaortic nodal status is also essential for treatment planning in order to define the radiation fields before initiation of CCRT. The gold standard for lymph nodes evaluation is histological diagnosis, however, radiographic determination of paraaortic nodes involvement is acceptable for treatment planning[2]. To date, laparoscopic paraaortic lymphadenec tomy has been increasingly used for surgical staging in patients with LACC. However, surgical evaluation of lymph node involvement, particularly through minimally invasive (laparoscopic/robotic), requires advanced surgical skill and sophisticated facilities. Therefore, the procedure has not been widely adopted in daily practice[9,10]. Meanwhile a randomized trial comparing pre-therapeutic laparoscopic surgical staging followed by CCRT and positron emission tomography/computed tomography (PET/CT) radiologic staging followed by CCRT has been ongoing and hopefully would provide valuable information about the role of these pre-CCRT approaches[35]. In the present survey on LACC patients, surgical staging for retroperitoneal node evaluation was chosen by 14.1% of respondents, compared with 37.3% in multiple cohort study from France[36], and 24% in the German survey[21]. These findings reflect a higher acceptance of surgical staging prior to CCRT in the management of LACC in Europe when compare to Thailand. In patients with paraaortic nodes metastasis, extended field radiotherapy with platinum-based CCRT is recommended to improve loco-regional control, prevent distant metastasis, and increase survival[14]. However, there is no randomized controlled trial that compared EFRT vs. pelvic external beam radiotherapy (EBRT) alone. In some reports, EFRT were associated with a high risk of serious acute and late toxicities[11,12]. Therefore, decision to employ EFRT, would have to balance between the possible benefits on oncological outcomes and potential morbidities. In our survey, we found that almost half of the respondent would offer EFRT for the patient with paraaortic

nodes involvement.

In this survey, adjuvant chemotherapy following CCRT would be offered to patients with LACC by one-third of respondents (31.2%). The reason of additional chemotherapy after completed CCRT is to control micrometastatic disease leading to reduced relapse rate and improved survival outcome. In the previous study, the significant improvement in both PFS and OS were observed in patients with LACC, who were treated with gemcitabine/cisplatin during CCRT followed by adjuvant two cycles of gemcitabine/cisplatin chemotherapy. However, grade 3 and 4 toxicities were more frequent in the CCRT followed by adjuvant chemotherapy regimen when compared with standard CCRT treatment (86.5% vs. 46.3%, respectively; *p*-value <0.001)[6]. The international randomized trial (OUTBACK trial) is being conducted to properly address the role of adjuvant chemotherapy after CCRT. To date, this treatment modality has not been a standard recommendation in the published guideline[8]. We found in the present survey that the rate of using adjuvant chemotherapy seemed to be comparable across the different type of hospital and experience of physician.

Adjuvant hysterectomy following CCRT in patients with LACC is a procedure still under debate. According to the published guidelines, this procedure may be performed in selected patients with high risk for recurrence such as in those with uterine anatomy that precludes adequate coverage by brachytherapy or when post treatment residual disease is suspected[8]. However, there is no evidence to prove that adjuvant hysterectomy after CCRT would improve survival outcome[7]. Surprisingly, 71% of our respondents would consider performing adjuvant hysterectomy after CCRT for these patients.

Although this survey is very useful to assess current practice for the management of patients with LACC in Thailand, certain limitations exist. Due to the exploratory nature of this survey, more in-depth information that could provide explanation for some findings are clearly lacking. Also, there was discordant between the number of respondents in various categories of work setting. Most Thai gynecologic oncologists work at government-based tertiary-level hospital, so the survey results might not properly represent the practice pattern of the oncologists who work in other settings.

Conclusion

This nationwide survey demonstrates that the majority of Thai gynecologic oncologists treated the patients with LACC by mostly following the standard guidelines. Our survey confirmed the variation of practice pattern in some controversial issues, including NACT followed by surgery, surgical staging for retroperitoneal nodes assessment, adjuvant chemotherapy after CCRT, and adjuvant hysterectomy.

What is already known on this topic?

Although the current standard treatment of patients with LACC is concurrent cisplatin-based chemoradiation, various treatment strategies have been used. The decision to select the modality of treatment has been influenced by several factors included local tradition, hospital setting, available resources, and physicians' experience. However, there is no data regarding perception and practice pattern of Thai gynecologic oncologists on current management of patients with LACC.

What this study adds?

This survey confirmed that the majority of Thai gynecologic oncologists treated patients with LACC following the standard treatment guideline. However, there have been disparities among them with regard to certain practices with insufficient research evidence to establish universal guidelines. The difference could not be explained by hospital setting and practice experience.

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Potential conflicts of interest

The authors declare no conflicts of interest.

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การดูแลมะเร็งปากมดลูกระยะลุกลามเฉพาะที่: การสำรวจแนวปฏิบัติของแพทย์มะเร็งนรีเวชไทย

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วัตถุประสงค์: เพื่อศึกษาแนวปฏิบัติของการดูแลมะเร็งปากมดลูกระยะลุกลามเฉพาะที่ในประเทศไทย

วัสดุและวิธีการ: แพทย์มะเร็งนรีเวชที่ปฏิบัติงานในประเทศไทยมาเป็นเวลาอย่างน้อย 1 ปี ได้รับการเชิญเข้าร่วมโครงการวิจัย โดยตอบแบบสอบถามออนไลน์ด้วยตนเอง แบบสอบถามประกอบด้วยเนื้อหาเกี่ยวกับการปฏิบัติงานทั่วไปและการรักษามะเร็งจำเพาะ ได้แก่ มะเร็งปากมดลูก มะเร็งเยื่อบุโพรงมดลูก และมะเร็งรังไข่ การศึกษานี้เป็นส่วนหนึ่งของการศึกษาหลัก ซึ่งศึกษาเกี่ยวกับการดูแลมะเร็งปากมดลูกระยะลุกลามเฉพาะที่

ผลการศึกษา: จากผู้ตอบแบบสอบถามทั้งหมด 170 คน พบว่าร้อยละ 78 เลือกรักษาผู้ป่วยมะเร็งปากมดลูกระยะเริ่มแรกที่มีก้อนมะเร็งขนาดใหญ่ที่อยู่ในระยะ IB3 และ IIA2 ด้วยรังสีรักษาร่วมกับยาเคมีบำบัด รองลงมาเลือกการให้ยาเคมีบำบัดนำตามด้วยการผ่าตัดร้อยละ 22.4 และมีเพียงร้อยละ 11.8 เลือกการผ่าตัดเพียงอย่างเดียว สำหรับการรักษาผู้ป่วยมะเร็งปากมดลูกระยะลุกลามเฉพาะที่ระยะที่ IIB ถึง IVA ผู้ตอบแบบสอบถามเกือบทั้งหมดเลือกการรักษาด้วยรังสีรักษาร่วมกับยาเคมีบำบัดกลุ่มซิสพลาตินมีเพียงร้อยละ 1.8 ของผู้ตอบแบบสอบถามเลือกการรักษาเบื้องต้นด้วยวิธีอื่น สำหรับการรักษาเพื่อช่วยเพิ่มประสิทธิภาพหรือลดภาวะแทรกซ้อนในผู้ป่วยมะเร็งปากมดลูกระยะลุกลามเฉพาะที่ที่ได้รับการรักษาด้วยรังสีรักษาร่วมกับยาเคมีบำบัด พบว่ามีความหลากหลายของการเลือกวิธีการรักษาที่ยังเป็นข้อถกเถียง ได้แก่ การผ่าตัดย้ายรังไข่ก่อนการฉายรังสีรักษา การผ่าตัดประเมินการแพร่กระจายมายังต่อมน้ำเหลืองก่อนเริ่มการฉายรังสีรักษา การฉายรังสีรักษาให้ครอบคลุมต่อมน้ำเหลืองกลุ่มพาราเอออติก การให้ยาเคมีบำบัดหรือการผ่าตัดมดลูกตามหลังการฉายรังสีรักษาร่วมกับยาเคมีบำบัด

สรุป: แพทย์มะเร็งนรีเวชโดยส่วนใหญ่เลือกการรักษาผู้ป่วยมะเร็งปากมดลูกระยะลุกลามเฉพาะที่ตามแนวทางการรักษามาตรฐาน อย่างไรก็ตามยังคงมีความหลากหลายในการรักษาบางประเด็นที่ยังมิได้มีแนวทางมาตรฐานในการรักษา