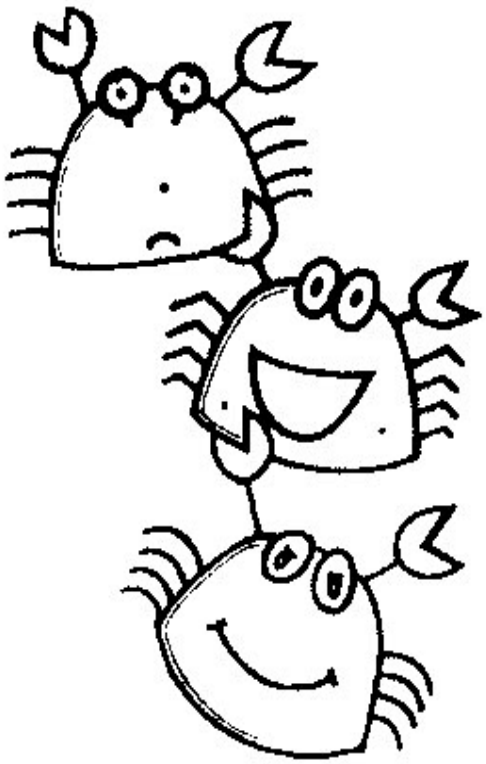
ANNUAL REPORT
ON
GYNECOLOGIC ONCOLOGY
2013



DIVISION OF GYNECOLOGIC ONCOLOGY

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

FACULTY OF MEDICINE, CHIANG MAI UNIVERSITY

CHIANG MAI, THAILAND

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GYNECOLOGIC ONCOLOGY

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คณะแพทยศาสตร์ มหาวิทยาลัยเชียงใหม่

อนุสาขามะเร็งวิทยานรีเวช

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PREFACE

The Department of Obstetrics and Gynaecology was founded in 1958, the same time as the establishment of Faculty of Medicine which is the third medical school in Thailand. The Faculty of Medicine and Maharaj Nakorn Chiangmai Hospital, Chiangmai University has grown continuously and become the biggest medical school in Northern Thailand. The department consists of 26 staff responsible for teaching and training of 33 residents, 13 clinical fellows, 4 interns and 739 medical students. There is also a growing number of visiting residents, clinical fellows, interns and medical students from others departments and institutes.

This annual report shows data from the Division of Gynecologic Oncology. The gynecologic cancers, in particular cervical cancer, have a high prevalence in Northern Thailand. Many patients come for the treatment. A lot of specialized procedures and operations were performed each year. Therefore, the department has become a well-known training center for gynecologic oncologist. In addition, the Division of Gynecologic Oncology acquired over 30 million bahts of funding from Thailand Research Fund (TRF) and National Research Council of Thailand (NRCT) into the department, generating several scientific publications and textbooks during the recent years.

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PREFACE

This Annual Report 2013 is the seventeenth volume of our work in gynecologic oncology. We served around 521 new gynecologic cancer patients in this year which slightly decreased from the last year's number. The leading cancer is still cervical cancer, followed by uterine cancer and ovarian cancer. However, it is to be noted that cervical cancer was less than last year for 60 cases.

Sixty-eight Wertheim operations were performed in our hospital. Of these patients, 8 cases were operated via laparoscopic route and 2 case via Robotic surgery . Eleven original studies were published in the peer-reviewed journals in 2013.

This report is divided into 2 sections. The first section provides the statistics of all gynecologic cancer patients in the year 2013 in which the data has been accumulated since 1997. The latter section presents the infrastructure, diagnostic procedures and operations in gynecologic cancer, abstracts of the publications in 2013. This report used the new version of FIGO staging system.

I gratefully acknowledge the contributions of the following individuals, without whom this Annual Report could not have been possible. Dr. Manatsawee Manopunya who collected the research data. My research team, Khun Narisa Sribanditmongkol, Khun Sukanya Yanunto and Khun Orathai Baisai gave their help greatly to collect and analyze the patients' data. All staff in Radiation Oncology, Gynecologic Pathology, Medical Oncology, and Oncology Nursing Divisions consistently collaborated on our patients care. I would like to take this opportunity to appreciate my colleagues and fellows for their perseverance and dedication. Finally, a special word of thankfulness goes to our Head Department of OB&GYN, Assoc. Professor Doctor Wirawit Piyamongkol for his continuous support.

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  - Cancer of the Peritoneum
  - Cancer of Two Primary Gynecologic Organs
  - Gestational Trophoblastic Disease

TABLE 1 : Gynecologic Oncology Registry :Chiang Mai University 1997-2013

Site	1997 Number (%)	1998 Number (%)	1999 Number (%)	2000 Number (%)	2001 Number (%)	2002 Number (%)	2003 Number (%)	2004 Number (%)	2005 Number (%)	2006 Number (%)
Cervix	547 (75.3)	483 (72.9)	497 (75.3)	502 (71.3)	500 (70.8)	521 (69.7)	624 (71.7)	532 (66.9)	525 (66.4)	488 (66.8)
Ovary	87 (12.0)	83 (12.5)	82 (12.4)	96 (13.6)	90 (12.7)	110 (14.7)	111 (12.8)	126 (15.8)	121 (15.3)	114 (15.6)
Corpus	48 (6.6)	47 (7.1)	49 (7.4)	56 (8.0)	63 (8.9)	61 (8.2)	67 (7.7)	89 (11.2)	97 (12.3)	84 (11.5)
Vulva	20 (2.7)	21 (3.2)	15 (2.2)	29 (4.1)	23 (3.3)	25 (3.3)	29 (3.3)	22 (2.8)	19 (2.4)	15 (2.1)
Vagina	11 (1.4)	10 (1.5)	3 (0.5)	2 (0.3)	9 (1.3)	6 (0.8)	12 (1.4)	5 (0.6)	4 (0.5)	5 (0.7)
FT	-	2 (0.3)	3 (0.5)	5 (0.7)	3 (0.4)	4 (0.5)	6 (0.7)	5 (0.6)	4 (0.5)	7 (1.0)
PPA	-	-	2 (0.3)	1 (0.1)	-	2 (0.3)	7 (0.8)	3 (0.4)	4 (0.5)	6 (0.8)
GTT	14 (1.9)	16 (2.4)	8 (1.2)	13 (1.9)	18 (2.6)	19 (2.5)	14 (1.6)	13 (1.6)	17 (2.1)	12 (1.6)
Total	**727 (100)**	**662 (100)**	**660 (100)**	**704 (100)**	**706 (100)**	**748 (100)**	**870 (100)**	**795 (100)**	**791 (100)**	**731 (100)**

PPA = Primary Peritoneal Adenocarcinoma **FT = Fallopian Tube** **GTT = Gestational Trophoblastic Tumors**

TABLE 1 : Gynecologic Oncology Registry :Chiang Mai University 1997-2013(continue)

Site	2007 Number (%)	2008 Number (%)	2009 Number (%)	2010 Number (%)	2011 Number (%)	2012 Number (%)	2013 Number (%)
Cervix	480 (63.6)	473 (63.2)	436 (58.1)	449(64.2)	387(57.1)	345 (57.9)	285(54.8)
Ovary	132 (17.5)	115 (15.2)	141 (18.8)	105(15.0)	118(17.5)	86 (14.4)	85(16.3)
Corpus	91 (12.0)	117 (15.4)	116 (15.5)	94(13.4)	114(16.9)	106 (17.8)	109(21.0)
Vulva	11 (1.5)	21 (2.8)	24 (3.2)	21(3.0)	16(2.4)	27 (4.5)	24(4.6)
Vagina	6 (0.7)	7 (0.9)	7 (0.9)	12(1.7)	11(1.6)	5 (0.8)	2(0.4)
FT	7 (0.9)	4 (0.5)	4 (0.5)	6(0.9)	3(0.4)	4 (0.7)	3(0.6)
PPA	11 (1.5)	7 (0.9)	8 (1.1)	-	5(0.7)	8 (1.3)	4(0.8)
GTT	17 (2.3)	15 (2.0)	14 (1.9)	12(1.7)	22(3.3)	15 (2.5)	8(1.5)
Total	**755 (100)**	**759 (100)**	**750 (100)**	**699(100)**	**676(100)**	**596(100)**	**520(100)**

PPA = Primary Peritoneal Adenocarcinoma FT = Fallopian Tube GTT = Gestational Trophoblastic Tumors

Operations and Procedures in Gynecologic Oncology

Operations and Procedures	1997 Number	1998 Number	1999 Number	2000 Number	2001 Number	2002 Number	2003 Number	2004 Number	2005 Number	2006 Number
Surgery for Ovarian & Tubal Cancer	64	43	64	70	45	69	88	79	80	111
Surgery for Corpus Cancer	33	28	26	36	43	39	47	60	75	53
Surgery for Vulvar Cancer	10	14	5	19	12	14	21	19	14	12
Radical hysterectomy*	55	77	113	120	116	135	150	151	149	143
Laparoscopic Radical Hysterectomy*	-	-	-	-	-	-	-	4	18	21
Radical Parametrectomy*	2	2	1	1	1	3	4	1	1	2
Laparoscopic Radical Parametrectomy*	-	-	-	-	-	-	-	1	1	3
Extrafacial Hysterectomy	118	110	155	182	121	89	43	35	52	55
Total Laparoscopic Hysterectomy		-	-	-	-	-	10	11	9	4
CKC	66	65	79	13	14	22	16	9	10	5
LEEP	61	35	166	207	194	221	380	276	261	309
Cryosurgery	20	15	18	8	4	3	1	-	2	-
Colposcopy	227	235	463	371	369	306	357	399	499	627

*** with pelvic lymphadenectomy**

CKC = Cold Knife Conization

LEEP = Loop Electrosurgical Excision Procedure

Operations and Procedures in Gynecologic Oncology (continue)

Operations and Procedures	2007 Number	2008 Number	2009 Number	2010 Number	2011 Number	2012 Number	2013 Number
Surgery for Ovarian & Tubal Cancer	89	95	115	87	117	103	88
Surgery for Corpus Cancer	80	106	83	87	96	94	100
Surgery for Vulvar Cancer	8	21	18	20	14	17	20
Radical hysterectomy*	120	121	103	125	89	71	58
Modified Radical hysterectomy*	-	-	18	12	17	12	7
Abandon Hysterectomy*	-	-	1	1	3	7	2
Laparoscopic surgical staging for Corpus cancer	-	-	-	6	4	3	2
Laparoscopic Radical Hysterectomy*	11	16	5	-	9	9	8
Radical Parametrectomy*	1	-	1	-	2	2	-
Laparoscopic Radical Parametrectomy*	-	-	-	2	-	-	-
Total Laparoscopic Hysterectomy	4	2	2	2	2	1	1
Robotic Radical Hysterectomy*	-	-	-	-	-	-	2
CKC	15	6	5	6	2	-	1
LEEP	317	235	175	203	157	173	239
Colposcopy	519	556	474	409	406	494	728

*** with pelvic lymphadenectomy**

CKC = Cold Knife Conization

LEEP = Loop Electrosurgical Excision Procedure

Gynecologic Oncology Multiple Primary Cancers : Chiang Mai University 2002-2013

Multiple Primary Cancers	2002 Number	2003 Number	2004 Number	2005 Number	2006 Number	2007 Number	2008 Number	2009 Number	2010 Number	2011 Number	2012 Number
Ovarian and Cervical Cancer	**2**	**1**	**1**	**1**	**-**	**-**	**1**	**-**	**-**	**-**	**-**
Ovarian and Corpus Cancer	**7**	**-**	**5**	**13**	**5**	**4**	**8**	**5**	**7**	**4**	**4**
Corpus and Cervical Cancer	**1**	**-**	**-**	**1**	**-**	**1**	**-**	**-**	**-**	**-**	**-**
Corpus and Fallopian Tube Cancer	**1**	**-**	**-**	**-**	**1**	**-**	**-**	**1**	**1**	**-**	**1**
Corpus and Peritoneal Cancer	**-**	**1**	**1**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Corpus and ChorioCA	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**-**
Cervical and Fallopian Tube Cancer	**-**	**-**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Ovarian and Fallopian Tube	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**1**	**1**	**-**	**-**
Ovarian and Fallopian Tube and Corpus Cancer	**-**	**-**	**-**	**-**	**1**	**1**	**-**	**-**	**1**	**-**	**-**
Cervical and Vulva Cancer	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	-	**1**
Corpus and Colon Cancer	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	-	-
Corpus and Bladder cancer	-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	-
Cervix and Ileal cancer	-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	-

Gynecologic Oncology Multiple Primary Cancers : Chiang Mai University 2002-2013

Multiple Primary Cancers	2013 Number
Ovarian and Cervical Cancer	-
Ovarian and Corpus Cancer	4
Corpus and Cervical Cancer	-
Corpus and Fallopian Tube Cancer	-
Corpus and Peritoneal Cancer	-
Corpus and ChorioCA	-
Cervical and Fallopian Tube Cancer	-
Ovarian and Fallopian Tube	-
Ovarian and Fallopian Tube and Corpus Cancer	-
Cervical and Vulva Cancer	-
Corpus and Colon Cancer	-
Corpus and Bladder cancer	-
Cervix and Ileal cancer	-

Cancer of the Cervix

- **Distribution by**
  - Age
  - Parity
  - Stage and Substage
  - HIV Status
  - Histological Type
  - Treatment

TABLE 2 : Cancer of the Cervix : Age Distribution

Age	Number	Percent
≤ 30	9	3.2
31-40	27	9.5
41-50	73	25.6
51-60	106	37.2
61-70	38	13.3
71-80	27	9.5
81-90	5	1.8
Total	**285**	**100.0**

Minimum age 22 years, Maximum age 90 years
Mean age 53.93±12.29 years

TABLE 3 : Cancer of the Cervix : Parity Distribution.

Parity	Number	Percent
0	20	7.1
1	60	21.2
2	100	35.3
3	46	16.3
4	20	7.1
5	15	5.3
6	12	4.2
7	3	1.1
8	2	0.7
9	2	0.7
10	3	1.1
Total	**283**	**100.0**

* data not available 2 cases

TABLE 4 : Cancer of the Cervix: Stage Distribution.

Stage	Number	Percent
I	97	34.0
II	77	27.0
III	85	29.8
IV	26	9.1
Total	**285**	**100.0**

TABLE 5 : Cancer of the Cervix: Stage and Substage Distribution.

	Stage	Number	Percent
I	IA1	18	6.3
	IA2	7	2.5
	IB1	59	20.7
	IB2	13	4.6
II	IIA1	13	4.6
	IIA2	10	3.5
	IIB	54	18.9
III	IIIA	3	1.1
	IIIB	82	28.8
IV	IVA	7	2.5
	IVB	19	6.7
Total		**285**	**100.0**

TABLE 6 : HIV Status in Cervical Cancer Patients dividing by Stage

Stage	Number Negative HIV(%)	Number Positive HIV(%)	Number not done (%)	Total
IA1	18(6.3)	0	0	18(6.3)
IA2	6(2.1)	0	1(0.4)	7(2.5)
IB1	47(16.5)	7(2.5)	5(1.8)	59(20.7)
IB2	10(3.5)	0	3(1.1)	13(4.6)
IIA1	12(4.2)	1(0.4)	1(0.4)	14(4.9)
IIA2	6(2.1)	1(0.4)	2(0.7)	9(3.2)
IIB	48(16.8)	2(0.7)	4(1.4)	54(18.9)
IIIA	1(0.4)	0	2(0.7)	3(1.1)
IIIB	52(18.2)	2(0.7)	28(9.8)	82(28.8)
IVA	6(2.1)	0	1(0.4)	7(2.5)
IVB	13(4.6)	0	6(2.1)	19(6.7)
Total	**219(76.8)**	**13(4.6)**	**53(18.6)**	**285**

TABLE 7 : Cancer of the Cervix : Distribution by Histological Type

Histological Type	Number	Percent
Squamous cell carcinoma	**237**	**83.2**
Well differentiation	19	6.7
Moderately differentiation	138	48.4
Poorly differentiation	51	17.9
Not define differentiation	29	10.2
Adenocarcinoma	**33**	**11.6**
Adenosquamous	**4**	**1.4**
Small cell NE	**7**	**2.5**
Condylomatous CA	**1**	**0.4**
Carcinosarcoma	**1**	**0.4**
Poorly differentiated CA	**1**	**0.4**
Unknown*	**1**	**0.4**
Total	**285**	**100.0**

*Unknown = refer from provincial hospital> data not available

SCCA = Squamous cell carcinoma

NE = Neuroendocrine MD = Moderately differentiation
CA = Carcinoma WD = Well differentiation
PD = Poorly differentiation

TABLE 8 : Treatment of cancer of the Cervix.

Treatment	Number	Percent
Surgery alone	**50**	**17.8**
TAH	11	3.9
RHPL	25	8.8
TLH	1	0.4
LRHPL	7	2.5
Extended hysterectomy	4	1.4
Robotic Radical hysterectomy	1	0.4
Laparoscopic Radical Trachelectomy	1	0.4
Chemotherapy alone	**12**	**4.2**
Concurrent chemoradiation+ Brachytherapy	**110**	**38.6**
RT+Brachytherapy	**46**	**16.1**
Combined treatment		
LRHPL+ Brachytherapy	1	0.4
TAH+CCRT+Brachytherapy	2	0.7
TAH+Pelvic RT+Brachytherapy	6	2.1
TAH+Brachytherapy	1	0.4
RHPL+RT+ Brachytherapy	7	2.5
RHPL+Brachytherapy	4	1.4
RHPL+CCRT+ Brachytherapy	21	7.4
RHPL+CT	1	0.4
Robotic Radical hysterectomy+ CCRT	1	0.4
Subtotal hysterectomy+ sequential Chemo+ RT	1	0.4
Extended hysterectomy+ CCRT+ HDR	1	0.4
Extended hysterectomy+ Chemo	1	0.4
Abandon Hysterectomy+CCRT+ Brachytherapy	2	0.7
NAC+CCRT+Brachytherapy	7	2.5
Others		
Lost to FU without treatment	3	1.1
Refer to provincial hospital for RT	2	0.7
Refer to provincial hospital for Chemo	3	1.1
Supportive treatment	1	0.4
Awaiting for start RT	2	0.7
Total	**285**	**100.0**

RHPL Radical Hysterectomy and bilateral pelvic lymphadenectomy
TAH Total Abdominal Hysterectomy
LRHPL Laparoscopic Radical Hysterectomy with Pelvic Lymphadenectomy
TLH Total laparoscopic hysterectomy
CCRT Concurrent Chemoradiation
RT Radiation Therapy
NAC Neoadjuvant Chemotherapy
CT Chemotherapy

N.B. Number of RH& BPL = 58 cases

Cancer of the Ovary

➢ Distribution by

- Age
- Parity
- Histology
- Histology Subtype
  - Epithelial Group
  - Germ Cell Tumor Group
  - Sex cord-stromal Group
  - Others Group
- Stage
  - Epithelial Group
  - Germ Cell Group
  - Sex cord-stromal Group
  - Other Group
- Stage and Histology
- Treatment

TABLE 9 : Cancer of the Ovary **:** Age Distribution

Age	Number	Percent
≤20	5	5.9
21-30	11	12.9
31-40	10	11.8
41-50	17	20.0
51-60	28	32.9
61-70	10	11.8
71-80	4	4.7
Total	**85**	**100**

Minimum age 13 years, Maximum age 80 years
Mean age 47.12 ±15.87 years

TABLE 10 : Cancer of the Ovary : Parity Distribution

Parity	Number	Percent
0	43	51.2
1	15	17.9
2	16	19.0
3	7	8.3
5	1	1.2
6	2	2.4
Total	**84**	**100.0**

* data not available 1 case

TABLE 11 : Cancer of the Ovary : Histological Distribution

Histology	Number	Percent
Epithelium	71	83.5
Germ Cell	12	14.1
Sex cord-stromal	2	2.4
Total	**85**	**100.0**

TABLE 12 : Epithelial Ovarian Cancer : Histological Subtype Distribution

Histological Subtype	Number	Percent
Clear cell CA	19	26.8
Serous adenoCA	14	19.7
Mixed epithelial CA	10	14.1
Endometrioid CA	9	12.7
Mucinous adeno CA	5	7.0
AdenoCA	4	5.6
Mucinous LMP	7	9.9
Serous LMP	2	2.8
Endometrioid LMP	1	1.4
Total	**71**	**100.0**

CA = Carcinoma
LMP = Low malignant potential

TABLE 13 : Ovarian Germ Cell Tumor (GCT) : Histological Subtype Distribution

Histological Subtype	Number	Percent
Dysgerminoma	4	33.3
Immature teratoma	3	25.0
Yolk sac tumor	2	16.7
SCCA arising in mature teratoma	1	8.3
Papillary thyroid CA arising in mature teratoma	1	8.3
SCCA, PD	1	8.3
Total	**12**	**100.0**

PD = poorly differentiated
SCCA = squamous cell carcinoma

TABLE 14 : Sex cord-stromal tumor : Histological Subtype Distribution

Subtype	Number	Percent
Juvenile granulosa cell tumor	1	50.0
Unclassified sex cord stromal tumor	1	50.0
Total	**2**	**100.0**

TABLE 15 : Epithelial Ovarian Cancer : Stage Distribution

Stage	Number	Percent
IA	9	12.7
IC	28	39.4
IIB	1	1.4
IIC	6	8.5
IIIA	1	1.4
IIIB	4	5.6
IIIC	14	19.7
IV	5	7.0
IVB	3	4.2
Total	**71**	**100**

TABLE 16 : Germ Cell Ovarian Cancer: Stage Distribution

Stage	Number	Percent
IA	1	8.3
IC	7	58.3
IIIC	3	25.0
IV	1	8.3
Total	**12**	**100.0**

TABLE 17 : Sex cord-stromal tumor: Stage Distribution

Stage	Number	Percent
IA	1	50.0
IC	1	50.0
Total	**2**	**100.0**

TABLE 18 : Ovarian Cancer : Stage and Histology Distribution

	Epithelial	Percent	Germ cell	Percent	Sex cord stromal tumor	Percent
IA	9	12.7	1	8.3	1	50.0
IC	28	39.4	7	58.3	1	50.0
IIB	1	1.4	0	0	0	0
IIC	6	8.5	0	0	0	0
IIIA	1	1.4	0	0.0	0	0
IIIB	4	5.6	0	0.0	0	0
IIIC	14	19.7	3	25.0	0	0
IV	5	7.0	1	8.3	0	0
IVB	3	4.2	0	0	0	0
Total	**71**	**100**	**12**	**100**	**2**	**100**

TABLE 19 : Cancer of the Ovary : Primary Treatment and Adjuvant Chemotherapy

Treatment	Number	Percent
Complete SSP with adjuvant chemotherapy	22	25.9
Complete SSP without adjuvant chemotherapy	7	8.2
Incomplete SSP with adjuvant chemotherapy	39	45.9
Incomplete SSP without adjuvant chemotherapy	9	10.6
NAC with Incomplete SSP with adjuvant chemotherapy	6	7.1
Chemotherapy only	1	1.2
Supportive treatment	1	1.2
Total	**85**	**100.0**

SSP = Surgical Staging Procedure

NAC = Neoadjuvant Chemotherapy

TABLE 20 : Ovarian Cancer : Outcome of Treatment

Outcome	Number	Percent
Under FU without disease	41	48.2
Under FU with partial response	3	3.5
During treatment	28	32.9
During treatment with progress/persist of disease	1	1.2
Palliative treatment	2	2.4
Lost to FU	7	8.2
Death of disease	1	1.2
Refer to provincial hospital for chemotherapy	2	2.4
Total	**85**	**100.0**

FU = Follow up

Cancer of the Uterine Corpus

➢ Distribution by

- Age
- Menopausal Status
- Underlying Medical Diseases
- Parity
- Clinical Staging
- Surgical Staging
- Histology
- Treatment

TABLE 21 : Cancer of the Corpus : Age Distribution

Age	Number	Percent
≤40	4	3.7
41-50	17	15.6
51-60	52	47.7
61-70	25	22.9
71-80	9	8.3
>80	2	1.8
Total	**109**	**100.0**

Minimum age 35 years, Maximum age 88 years
Mean age 57.74±9.79 years

TABLE 22 : Cancer of the Corpus: Distribution by Menopausal Status

Menopausal Status	Number	Percent
Yes	81	74.3
No	28	25.7
Total	**109**	**100.0**

TABLE 23 : Cancer of the Uterine Corpus: Distribution by Underlying Diseases

Medical disease	Number	Percent
None	59	54.1
CA breast	1	0.9
Hypertension	12	11.0
Hypertension+ DM	2	1.8
Hypertension+ DM+ Dyslipidemia	4	3.7
Hypertension+ Dyslipidemia	15	13.8
Hypertension+ Stroke	1	0.9
Hypertension+ Dyslipidemia+ Hyperthyroid	1	0.9
Hypertension+ Chronic kidney disease	1	0.9
Hypertension+ Chronic heart failure	1	0.9
Hypertension+ CA breast+ Asthma	1	0.9
Hypertension+ DM+ Chronic kidney disease	1	0.9
Hypertension+ DM+ Chronic kidney disease+ Thyrotoxicosis	1	0.9
Hypertension+ DM+ Chronic renal failure	1	0.9
Hypertension+ DM+ Chronic renal failure+ Gout	1	0.9
Dyslipidemia	1	0.9
Dyslipidemia+ Asthma	1	0.9
DM	2	1.8
DM+ Dyslipidemia	1	0.9
Thyrotoxicosis	2	1.8
Total	**109**	**100.0**

DM = Diabetes mellitus

TABLE 24 : Cancer of the Uterine Corpus : Distribution by Parity

Parity	Number	Percent
0	31	28.7
1	14	13.0
2	42	38.9
3	11	10.2
4	2	1.9
5	4	3.7
6	1	0.9
7	2	1.9
9	1	0.9
Total	**108**	**100.0**

* data not available 1 case

TABLE 25 : Cancer of the Uterine Corpus : Distribution by Surgical Staging

	Stage	Number	Percent
I	I	1	0.9
	IA	27	24.8
	IB	29	26.6
II	II	8	7.3
III	IIIA	8	7.3
	IIIB	1	0.9
	IIIC1	9	8.3
	IIIC2	8	7.3
IV	IVA	1	0.9
	IVB	12	11.0
Not surgery		5	4.6
Total		109	100.0

*not surgery in 5 cases
RT alone 1 case
stage III 1 case
stage IVB 3 cases > lung metastasis 1 case, liver metastasis 1 case, lung and liver metastasis 1 case

TABLE 26 : Cancer of the Uterine Corpus : Histologic Distribution

Histology Type	Number	Percent
Endometrioid adenoCA		
Grade I	38	34.9
Grade II	19	17.4
Grade III	15	13.8
Carcinosarcoma	13	11.9
Leiomyosarcoma	2	1.8
Low grade ESS	1	0.9
Adenosarcoma	3	2.8
Serous adenoCA	3	2.8
Clear cell adenoCA	1	0.9
Mixed type	11	10.1
Undifferentiated CA	2	1.8
Large cell Neuroendocrine	1	0.9
Total	**109**	**100.0**

CA = carcinoma
ESS = endometrial stromal sarcoma

TABLE 27 : Treatment of Corpus Cancer

Treatment	Number	Percent
complete SSP	8	7.3
complete SSP+ CT	8	7.3
complete SSP+RT+Brachytherapy	11	10.1
complete SSP+Brachytherapy	13	11.9
complete SSP+ Sequential chemo-RT+Brachytherapy	12	11.0
Incomplete SSP	13	11.9
Incomplete SSP+CT	12	11.0
Incomplete SSP+Brachytherapy	2	1.8
Incomplete SSP+RT+Brachytherapy	15	13.8
Incomplete SSP+ Sequential chemo-RT	10	9.2
RT alone	3	2.8
CT alone	2	1.8
Total	**109**	**100.0**

SSP = Surgical Staging Procedure
RT = Radiation Therapy
CT = Chemotherapy

TABLE 28 : Outcome of Treatment of Corpus Cancer

Outcome	Number	Percent
Under FU without disease	60	55.0
During treatment	37	33.9
Palliative/symptomatic	4	3.7
Under FU with disease	1	0.9
During treatment with progress/persist of disease	1	0.9
Refer to provincial hospital for RT	2	1.8
Refer to provincial hospital for chemotherapy	1	0.9
Loss to FU	3	2.8
Total	**109**	**100.0**

FU = Follow up

RT = Radiation Therapy

Cancer of the Vulva

- **Distribution by**
  - Age
  - Stage
  - Histology
  - Treatment

TABLE 29 : Cancer of the Vulva : Age Distribution

Age	Number	Percent
≤50	5	20.8
51-60	8	33.3
61-70	5	20.8
70-80	4	16.7
>80	2	8.3
Total	**24**	**100.0**

Minimum age 42 years, Maximum age 83 years
Mean age 61.9. ± 12.5 years

TABLE 30 : Cancer of the Vulva : Stage Distribution

Age	Number	Percent
IB	5	20.8
II	8	33.3
III	5	20.8
IIIC	2	8.3
IV	1	4.2
IVA	1	4.2
IVB	2	8.3
Total	**24**	**100.0**

TABLE 31 : Cancer of the Vulva : Histological Type Distribution

Histological Type distribution	Number	Percent
Squamous cell carcinoma		
Well differentiation	13	54.2
Moderately differentiation	7	29.2
Poorly differentiation	2	8.3
Small cell NE	1	4.2
PD CA	1	4.2
Total	**24**	**100.0**

CA = Carcinoma NE = Neuroendocrine PD = poorly differentiated

TABLE 32 : Treatment of cancer of the vulva.

Treatment	Number	Percent
WLE	1	4.2
Hemivulvectomy+BGND+ RT	1	4.2
Radical local excision+ BGND	1	4.2
Radical vulvectomy+ BGND+ RT	3	12.5
Radical hemivulvectomy+BGND	5	20.9
Radical hemivulvectomy+BGND+ RT	1	4.2
BGND*	1	4.2
RT	6	25.0
NAC+ RT	1	4.2
CCRT	3	12.5
CT	1	4.2
Total	**24**	**100.0**

*primary surgery at the provincial hospital : no gross lesion at vulva

WLE = Wide local excision
BGND = Bilateral groin node dissection
RT = Radiation therapy
CCRT = Concurrent chemoradiation
NAC = Neoadjuvant Chemotherapy
CT = Chemotherapy

Cancer of the Vagina

- **Distribution by**
  - Age
  - Stage
  - Histology
  - Treatment

TABLE 33 : Cancer of the Vagina

No	HN	Age	Stage	Histology	Treatment	Outcome
1	3509463	69	IVA	SCCA	CCRT+ Brachytherapy	Under follow up without disease
2	3523091	52	II	AdenoCA	CCRT+ Brachytherapy	Under follow up without disease

SCCA = squamous cell carcinoma
CA = carcinoma
CCRT = Concurrent chemo radiation

Cancer of the Fallopian Tube

TABLE 34 : Cancer of the Fallopian Tube 2013

Data	Case 1	Case 2	Case 3
HN	2184813	3045178	3185180
Age	67	77	62
Marital status	Married	Married	Married
Parity	2-1-0-2	2-0-0-2	0
Presenting symptoms	Pelvic mass	Pelvic mass	Pelvic mass+ abnormal uterine bleeding
Stage	IIIC	IV	IV
Histology	PD, Serous adenoCA	Transitional cell CA	PD, Serous adenoCA
Treatment	TAH & Rt.SO> PT	TAH &BSO with partial omentectomy > PTx6	TAH&BSO with partial omentectomy> PT
Outcome	During treatment	Under follow up with partial response	During treatment

CA = Carcinoma
TAH&BSO = Trans abdominal hysterectomy and bilateral salpingo oophorectomy
PT = Paclitaxel and Carboplatin
PD = Poorly differentiated
Rt = Right
SO = Salpingo oophorectomy

Cancer of The Peritoneum

TABLE 35 : Cancer of The Peritoneum 2013

Data	Case 1	Case 2	Case 3
HN	2679683	3180473	3524178
Age	52	57	55
Marital status	married	married	single
Parity	2-0-0-2	3-0-0-2	0
Presenting symptoms	Pelvic mass, dyspepsia	Abdominal distention	Abdominal mass
Stage	IIIC	IIIC	IIIC
Histology	Serous adenocarcinoma	Serous adenocarcinoma, MD	Serous adenocarcinoma, PD
Treatment	NAC> TAH&BSO, Debulking tumor, > PT	NAC(PTx3)> Abandon hysterectomy with partial omentectomy> PTx2 > oral Etoposide	TAH&BSO, Debulking tumor, > PT
Outcome	During treatment	Refer to provincial hospital for chemotherapy	During treatment

Data	Case 4
HN	3529870
Age	67
Marital status	married
Parity	3-0-0-3
Presenting symptoms	Pelvic mass, ascites
Stage	IV
Histology	Serous adenocarcinoma, gr.3
Treatment	TAH&BSO with partial omentectomy with ileostomy > PT
Outcome	During treatment

PT = Paclitaxel + Carboplatin
PD = Poorly differentiation
MD = Moderate differentiation
NAC = Neoadjuvant chemotherapy
TAH&BSO = Trans abdominal hysterectomy and bilateral salpingo-oophorectomy

Cancer of Two Primary Gynecologic Organs

TABLE 36 : Cancer of the Two Primary Gynecologic Organs 2013

Data	Case 1 CA Corpus+ CA Ovary	Case 2 CA Corpus+ CA Ovary	Case 3 CA Corpus+ CA Ovary
HN	3509909	3512522	3537973
Age	50	48	40
Marital status	married	married	married
Parity	0	1-0-0-1	0
Presenting symptoms	Pelvic pain	Abdominal distension	Pelvic pain, abnormal bleeding
Stage	Corpus: IIC Ovary: IC	Corpus: IA Ovary: IIC	Corpus: IB Ovary: IIC
Histology	Corpus: Undifferentiated CA Ovary: Mixed epithelial adenoCA	Corpus: Endometrioid adenoCA gr.2 Ovary: Endometrioid adenoCA gr.2	Corpus: Endometrioid adenoCA gr.1 Ovary: Endometrioid adenoCA gr.2
Treatment	TAH c BSO > Sequential chemo+ RT	TAH c BSO + BPND+ PANS+Omentectomy+ Appendectomy+ Ascites collection > PT	TAH c BSO + Omental biopsy+ Ascites collection > PT> Brachytherapy
Outcome	During treatment	During treatment	During treatment

Cancer of the Two Primary Gynecologic Organs (continue)

Data	Case 4 CA Corpus+ CA Ovary
HN	3542814
Age	48
Marital status	Married
Parity	0
Presenting symptoms	abnormal bleeding
Stage	Corpus: IA Ovary: IA
Histology	Corpus: Endometrioid adenoCA gr.2 Ovary: Endometrioid adenoCA gr.2
Treatment	TAH c BSO + Omental biopsy+ Peritoneal washing > PT
Outcome	During treatment

CA = carcinoma
MD = Moderately differentiation
PT = Paclitaxel and Carboplatin
RT = Radiation therapy
TAH&BSO = Transabdominal hysterectomy and bilateral salpingo-oophorectomy
gr = grade
SCCA = Squamous Cell Carcinoma
BPND = Bilateral pelvic node dissection
PANS = Paraaortic node sampling

Gestational Trophoblastic Disease

- Gestational Trophoblastic Tumor
- Molar Pregnancy

TABLE 37 : Gestational Trophoblastic Tumors in 2013

No	HN	Age (yr)	Initial HCGtiter	Prognosis Classification	Diagnosis	FIGO	Treatment	Result
1	2590815	47	123.5	NMGTT	Persistent mole		MTXx5	remission
2	3395368	23	219.4	NMGTT	Persistent mole		MTXx8	remission
3	3506921	20	>200,000	MGTT (lung)	Choriocarcinoma (patho from TAH&Rt.SO)	IV	MTXx1 > Actinomycin Dx1> EMA-COx7	During treatment
4	3507786	28	57,575	NMGTT	Persistent mole	I	MTXx7	remission
5	3527281	31	62,330	NMGTT	Choriocarcinoma (patho from TAH&BSO)	III	MTX> TAH& Rt.SO>EMA-CO	During treatment
6	3533775	34	33,159	NMGTT	Persistent mole	I	MTX	During treatment
7	3249497	17	106.58	NMGTT	Persistent mole		MTX	During treatment
8	1511438	41	2,663	NMGTT	Persistent mole		MTX	During treatment

MGTT = Metastatic Gestational Trophoblastic tumor
NMGTT = Non-metastatic Gestational Trophoblastic tumor
EMA = Etoposide + Methotrexate + Actinomycin D
EMA-CO = Etoposide + Methotrexate + Actinomycin D + Cyclophosphamide+ Vincristine
MTX = Methotrexate
S&C = suction curettage

TABLE 38 : Molar Pregnancy in 2013

No	HN	Age	Gravida	GA (wk)	UT Size (wk)	HCG titer	Risk	Treatment	Pathology	Result
1	2590815	46	G10 P 8-0-1-8	6	12	285,294	High risk	Suction & curettage	Complete hydatidiform mole	persistent mole
2	3395368	22	G1 P0	22	20	282,467	High risk	Suction & curettage	Complete hydatidiform mole	Persistent mole

FU = Follow up
UT = Uterine
GA = Gestational age

SECTION II

- **Medical Personnel and Facilities**
- **Diagnostic Procedures and Gynecologic Oncology Operations**
- **Publications & Presentations**

Medical Personnel and Facilities

TABLE 39 : Medical Personnel and Facilities in Division of Gynecologic Oncology, Chiang Mai University

Personnel and Facilities	Number
Medical doctor	8
General nurse	25
Practical nurse	18
Helper	11
Research nurse	2
Research assistant	1
Inpatient bed	50
One day chemo bed	23
Outpatient bed	7
Colposcope	3
Cryosurgery set	1
Radiosurgery (Surgitron)	3

Funds (**กองทุนของหน่วยมะเร็งวิทยานรีเวช**)

1. Gynecologic Cancer Fund (กองทุนมะเร็งทางนรีเวช)
2. Cervical Cancer Surgery Fund (กองทุนผ่าตัดมะเร็งปากมดลูก)

1st Year Fellow

- Rathasart Mahathep, M.D.
- Kamonnut Prapunwatana, M.D.
- Apiwat Aueaungkul, M.D.

2nd Year Fellow

- Vithida Neeyalavira, M.D.
- Prauk Sethasathien, M.D.

Radiation Oncologists

1. Associate Professor Imjai Chitapanarux, M.D.
2. Ekkasit Tharavijitkul, M.D.
3. Somwilai Mayurasakorn, M.D.

Gynecologic Pathologists

1. Associate Professor Sumalee Siriaunkgul, M.D.
2. Associate Professor Surapan Khunamornpong, M.D.
3. Associate Professor Jongkolnee Settakorn, M.D.
4. Assistant Professor Kornkanok Sukapan, M.D.

Medical Oncologists

1. Assistant Professor Chaiyut Charoentum, M.D.
2. Assistant Professor Busyamas Chewaskulyong, M.D.

Diagnostic Procedures and Operations

TABLE 40 : Diagnostic Procedures and Operations for Cervical Neoplasia

Procedures & Operations	Number
Colposcopy	728
LEEP	239
CKC	1
TLH	1
Simple Hysterectomy	27
Modified Hysterectomy &PL	7
Abandoned Radical Hysterectomy & PL	2
Radical Hysterectomy & PL	58
Laparoscopic Radical Hysterectomy & PL	8
Robotic Radical Hysterectomy & PL	2
Laparoscopic Radical Trachelectomy & PL	1

CKC = Cold knife Conization
LEEP = Loop Electrosurgical Excision Procedure
TLH = Total Laparoscopic Hysterectomy
PL = Pelvic Lymphadenectomy

TABLE 41 : Operations for Ovarian, Corpus and Vulvar Cancer.

Operations	Number
CRS for Ovarian Cancer	85
CRS for Fallopian Tube Cancer	3
CRS for Peritoneal Cancer	7
Surgical Staging for Corpus Cancer	102
Hemi Vulvectomy & BGND for Vulvar Cancer	1
Wide Local Excision & BGND for Vulvar Cancer	5
Radical Vulvectomy & BGND for Vulvar Cancer	3
Radical Hemivulvectomy & BGND for Vulvar Cancer	4
Radical Local Excision & BGND for Vulvar Cancer	4
BGND	3

CRS = Cytoreductive Surgery
BGND = Bilateral Groin Node Dissection

PUBLICATIONS & PRESENTATIONS

2013

Targeted endometrial cancer therapy as a future prospect.

Thanapprapasr D, Cheewakriangkrai C, Likittanasombut P, Thanapprapasr K, Mutch DG.

Abstract

Among female-specific cancers worldwide, endometrial cancer is the third most common after breast cancer and cervical cancer. In addition, it is the most common gynecological cancer in the USA and Europe. The incidence of this disease appears to be increasing. The cause of this increase is multifactorial, but a few possible factors involved are increasing obesity, an aging population leading to more postmenopausal women and greater tamoxifen use. Surgery is generally the primary treatment of this disease and postoperative radiation therapy in some patients with high or intermediate risk may prevent locoregional recurrences. Adjuvant chemotherapy improves progression-free survival in advanced or recurrent cancer. However, overall survival in patients with advanced disease is poor. Hence, better therapy is needed and targeted molecular therapies are emerging as possible treatment candidates. These include molecules that target VEGF, mTOR, tyrosine kinases, human EGF receptors and FGF receptors. Therapies targeting specific molecular features should be evaluated in future strategies in the treatment of endometrial cancer.

Published in: Women Health 2013 Mar;9(2):189-99.

Outcome of cervical cancer patients with single-node compared with no nodal involvement treated with radical hysterectomy and pelvic lymphadenectomy.

Suprasert P, Charoenkwan K, Siriaree S, Cheewakriangkrai C, Saeteng J, Srisomboon J.

Objective: To evaluate disease-free survival (DFS) after radical hysterectomy and pelvic lymphadenectomy (RHPL) among early-stage cervical cancer patients with single-node involvement versus patients with no nodal involvement.

Methods: A retrospective review was conducted of the medical records of 843 patients undergoing RHPL at Chiang Mai University Hospital, Thailand, between January 1, 2002, and December 31, 2008. Neoadjuvant chemotherapy was administered when the operative schedule was more than 1 month after diagnosis and adjuvant chemoradiation was administered to high-risk patients. Five subgroups were defined on the basis of pelvic node involvement: group A (0 nodes; n=706), group B (1 node; n=65), group C (2 nodes; n=38), group D (3 nodes; n=13), and group E (≥4 nodes; n=21).

Results: The 5-year DFS was comparable for groups A and B (94.3% versus 92.1%; P=0.454). In groups C, D, and E, the 5-year DFS was 85.9%, 75.0%, and 61.8%, respectively. The survival outcomes for groups A and B were significantly different from those of the other 3 groups (P<0.001).

Conclusion: Cervical cancer patients with single-node involvement had comparable survival outcomes to those without nodal metastases; however, patients with multiple node involvement had reduced DFS.

Published in: Int J Gynaecol Obstet. 2013 Apr;121(1):45-8.

Effects of gum chewing on recovery of bowel function following cesarean section: a randomized controlled trial.

Jakkaew B, Charoenkwan K.

Objectives: To evaluate the effects of gum chewing on recovery of bowel function after cesarean section.

Methods: Fifty pregnant women who underwent cesarean section at Chiang Mai University hospital from September 2010 to December 2010 were recruited. After cesarean section, patients were randomized into two groups. In group 1 (conventional), patients were fed according to conventional feeding protocol without gum chewing. For group 2 (gum chewing), patients were asked to chew two pieces of sugarless gum for 30 min in the morning, noon, evening and bedtime until the first flatus, along with conventional postoperative feeding protocol. Categorical variables were analyzed using the Chi-square or Fischer's exact test, as appropriate. For continuous variables with skewed distribution, the Mann-Whitney U test was employed.

Results: There were 25 patients in each group. Median time to the first flatus was shorter in the gum chewing group (36.37 vs. 41.33 h, P = 0.02). Also, there was a trend toward less abdominal cramping on days 1 and 2 in the gum chewing group. However, no difference in other outcome measures of bowel function recovery and ileus-related complications between the groups could be demonstrated. Approximately three-fourth of the women in each group had good tolerance to their first meal. Hospital stay and participants' satisfaction to the assigned feeding schedules were comparable between the study groups.

Conclusion: Gum chewing is associated with faster recovery of bowel function following cesarean section. It is safe, practical, inexpensive, and well tolerated.

Published in: Arch Gynecol Obstet. 2013 Aug;288(2):255-60.

Use of the Bakri postpartum balloon in a patient with intractable pelvic floor hemorrhage: when other methods failed to stop postcesarean bleeding, physicians tried something new.

Charoenkwan K.

Massive pelvic floor hemorrhage is a potentially life-threatening condition associated with complicated obstetrical and gynecological procedures. Sometimes, the bleeding cannot be controlled by conventional methods. This report demonstrates the effectiveness of the Bakri balloon as a pelvic pressure pack for the control of intractable pelvic floor hemorrhage following cesarean section.

Published in: Am J Obstet Gynecol. 2013 Sep;209(3):277.

Lidocaine spray compared with submucosal injection for reducing pain during loop electrosurgical excision procedure: a randomized controlled trial.

Vanichtantikul A, Charoenkwan K.

Objective: To examine the effectiveness of lidocaine spray compared with conventional lidocaine submucosal injection during a loop electrosurgical excision procedure (LEEP).

Methods: Women undergoing LEEP for any degrees of cervical intraepithelial neoplasia were invited to participate. The participants were randomly assigned into two groups. In group 1 (injection), the participants were anesthetized with 1.8 mL (36 mg) of 2% lidocaine with 1:100,000 epinephrine injected submucosally using a pressure syringe injector with a 27-gauge needle tip at 3, 6, 9, and 12 o'clock locations of the ectocervix. For group 2 (spray), the patients were locally anesthetized with four puffs (40 mg) of 10% lidocaine spray applied thoroughly to the ectocervix. The patients rated their pain according to a 10-cm visual analog scale at different points during the procedure including baseline, postanesthesia, excision, and 30 minutes postexcision. Primary outcomes were the excision pain score and its difference from the baseline.

Results: One hundred one patients (51 in the injection group and 50 in the spray group) participated in the study. The baseline pain scores, the excision pain scores, the difference between the excision and the baseline pain scores, and the postexcision pain scores were comparable between the study groups. The median postanesthesia pain score and the median difference of the postanesthesia score from baseline were significantly higher in the injection group, 3.4 compared with 0.6 and 1.9 compared with 0.0, respectively (P<.01).

Conclusion: Lidocaine spray is an effective and practical alternative measure for reducing pain associated with electrical excision of the cervix during LEEP.

Published in: Obstet Gynecol. 2013 Sep;122(3):553-7.

Surgical outcomes of patients with stage IA2 cervical cancer treated with radical hysterectomy.

Mahawerawat S, Charoenkwan K, Srisomboon J, Khunamornpong S, Suprasert P, Sae-Teng CT.

This study was undertaken to evaluate the surgical outcomes of patients with stage IA2 cervical cancer treated with radical hysterectomy. Data for 58 patients who underwent modified radical hysterectomy or radical hysterectomy with pelvic lymphadenectomy between January 2003 and December 2012 at Chiang Mai University Hospital were retrospectively reviewed. The analysis included clinico-pathological risk factors (nodal metastasis, parametrial involvement), adjuvant treatment, 5-year disease-free survival and 5-year overall survival. All pathologic slides were reviewed by a gynecologic pathologist. Follow-up methods included at least cervical cytology and colposcopy with directed biopsy if indicated. Univariate analysis was performed to identify factors associated with median survival. At the median follow up time of 73 months, the 5-year disease-free survival and the 5-year overall survival were 97.4% and 97.4%, respectively. Two (3.4%) patients had pelvic lymph node metastases. In a univariate analysis, there was no statistically significant association between survival and prognostic factors such as age, histological cell type, lymph-vascular space invasion, vaginal margin status and lymph node status. Surgical and survival outcomes of women with stage IA2 cervical cancer are excellent. No parametrial involvement was detected in our study. Patients with stage IA2 cervical cancer may be treated with simple or less radical hysterectomy with pelvic lymphadenectomy.

Published in: Asian Pac J Cancer Prev. 2013;14(9):5375-8.

Prognostic value of pathological characteristics of invasive margins in early-stage squamous cell carcinomas of the uterine cervix.

Khunamornpong S, Settakorn J, Sukpan K, Suprasert P, Lekawanvijit S, Siriaunkgul S.

Objective: To evaluate the pathological characteristics of invasive margins in early-stage cervical squamous cell carcinomas and their association with other clinicopathological features including clinical outcomes.

Materials and methods: Patients with FIGO stage IB-IIA cervical squamous cell carcinomas who received surgical treatment and had available follow-up information were identified. Their histological slides were reviewed for prognostic variables including tumor size, grade, extent of invasion, lymphovascular invasion, involvement of vaginal margin or parametrium, and lymph node metastasis. The characteristics of invasive margins including invasive pattern (closed, finger-like, or spray-like type), degree of stromal desmoplasia, and degree of peritumoral inflammatory reaction were evaluated along the entire invasive fronts of tumours. Associations between the characteristics of invasive margins and other clinicopathological variables and disease-free survival were assessed.

Results: A total of 190 patients were included in the study with a median follow-up duration of 73 months. Tumour recurrence was observed in 18 patients (9%). Spray-like invasive pattern was significantly more associated as compared with closed or finger-like invasive pattern (p=0.005), whereas the degree of stromal desmoplasia or peritumoral inflammatory reaction was not. Low degree of peritumoral inflammatory reaction appeared linked with lymph node metastasis (p=0.021). In multivariate analysis, a spray-like invasive pattern was independently associated with marked stromal desmoplasia (p=0.013), whilst marked desmoplasia was also independently associated with low inflammatory reactions (p=0.009). Furthermore, low inflammatory reactions were independently associated with positive margins (p=0.022) and lymphovascular invasion (p=0.034). The patients with spray-like invasive pattern had a significantly lower disease-free survival compared with those with closed or finger-like pattern (p=0.004).

Conclusion: There is a complex interaction between cancer tissue at the invasive margin and changes in surrounding stroma. A spray-like invasive pattern has a prognostic value in patients with early-stage cervical squamous cell carcinoma.

Published in: Asian Pac J Cancer Prev. 2013;14(9):5165-9.

Prognostic impact of histology in patients with cervical squamous cell carcinoma, adenocarcinoma and small cell neuroendocrine carcinoma.

Intaraphet S, Kasatpibal N, Siriaunkgul S, Sogaard M, Patumanond J, Khunamornpong S, Chandacham A, Suprasert P

Objective: Clarifying the prognostic impact of histological type is an essential issue that may influence the treatment and follow-up planning of newly diagnosed cervical cancer cases. This study aimed to evaluate the prognostic impact of histological type on survival and mortality in patients with cervical squamous cell carcinoma (SCC), adenocarcinoma (ADC) and small cell neuroendocrine carcinoma (SNEC).

Material and methods: All patients with cervical cancer diagnosed and treated at Chiang Mai University Hospital between January 1995 and October 2011 were eligible. We included all patients with SNEC and a random weighted sample of patients with SCC and ADC. We used competing-risks regression analysis to evaluate the association between histological type and cancer-specific survival and mortality.

Results: Of all 2,108 patients, 1,632 (77.4%) had SCC, 346 (16.4%) had ADC and 130 (6.2%) had SNEC. Overall, five-year cancer-specific survival was 60.0%, 54.7%, and 48.4% in patients with SCC, ADC and SNEC, respectively. After adjusting for other clinical and pathological factors, patients with SNEC and ADC had higher risk of cancer-related death compared with SCC patients (hazard ratio [HR] 2.6; 95% CI, 1.9-3.5 and HR 1.3; 95% CI, 1.1-1.5, respectively). Patients with SNEC were younger and had higher risk of cancer-related death in both early and advanced stages compared with SCC patients (HR 4.9; 95% CI, 2.7-9.1 and HR 2.5; 95% CI, 1.7-3.5, respectively). Those with advanced-stage ADC had a greater risk of cancer-related death (HR 1.4; 95% CI, 1.2-1.7) compared with those with advanced-stage SCC, while no significant difference was observed in patients with early stage lesions.

Conclusion: Histological type is an important prognostic factor among patients with cervical cancer in Thailand. Though patients with SNEC were younger and more often had a diagnosis of early stage compared with ADC and SCC, SNEC was associated with poorest survival. ADC was associated with poorer survival compared with SCC in advanced stages, while no difference was observed at early stages. Further tailored treatment-strategies and follow-up planning among patients with different histological types should be considered.

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Prognostic Model in Patients with Early-stage Squamous Cell Carcinoma of the Uterine Cervix: A Combination of Invasive Margin Pathological Characteristics and Lymphovascular Space Invasion.

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This study aimed to develop a prognostic model in patients with early-stage cervical squamous cell carcinoma based on clinicopathological features, including invasive margin characteristics. Materials and Methods: Clinicopathological features and outcomes of 190 patients with FIGO stage IB-IIA cervical squamous cell carcinoma treated by surgery were collected and analyzed for factors associated with tumor recurrence. In addition to well-recognized pathological risk factors, the pathological characteristics of invasive margin (type of invasive pattern and degree of stromal desmoplasia and peritumoral inflammatory reaction) were also included in the analysis. Multiple scoring models were made by matching different clinicopathological variables and/ or different weighting of the score for each variable. The model with the best performance in the prediction of recurrence and decreased survival was selected. Results: The model with the best performance was composed of a combined score of invasive pattern, lymphovascular space invasion (LVSI), and degree of inflammatory reaction and stromal desmoplasia (total score =10). Compared to those with score $\leq$8, the patients with score 9-10 had a significantly higher recurrence rate in the overall group ($p<0.001$) and the subgroup without adjuvant therapy ($p<0.001$), while the significance was marginal in the subgroup with adjuvant therapy ($p=0.069$). In addition, the patients with score 9-10 had a higher rate of tumor recurrence at distant sites ($p=0.007$). The disease-free survival was significantly lower in the patients with score 9-10 than those with score $\leq$8 among the overall patients ($p<0.001$), in the subgroup without adjuvant therapy ($p<0.001$), and the subgroup with adjuvant therapy ($p=0.047$). Conclusions: In this study, a prognostic model based on a combination of pathological characteristics of invasive margin and LVSI proved to be predictive of tumor recurrence and decreased disease-free survival in patients with early-stage cervical squamous cell carcinoma.

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Detection of recurrence in a surveillance program for epithelial ovarian cancer.

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Ovarian cancer patients need a surveillance program for the detection of tumor progression after completion of treatment. The methods generally consist of history taking, physical examination, tumor marker monitoring and imaging. However, the details of recurrence detection with each method are not well defined. To clarify this issue, ovarian cancer patients who achieved complete or partial responses and developed tumor progression at the follow up time between January 2004 and December 2010 in University Hospital Chiang Mai, Thailand, were reviewed. Clinical data, CA 125 level and imaging results at the tumor progression time were recorded and analyzed. There were 144 ovarian cancer patients meeting the inclusion criteria with the mean age of 51 years and 62.5% of them were in an advanced stage. Complete response was achieved in 89 patients (61.8%) after primary treatment. The median progression free survival and overall survival were 15.5 months and 37.5 months, respectively. Abnormal symptoms presented in 49.3% of the studied patients and 59.7% developed physical examination abnormalities. In addition, CA 125 was elevated in 89.6% while in 74.3% of tumor progression was identified by CT-scan. Short treatment time period and a high level of CA 125 were significant independent prognostic factors in these patients. In conclusion, careful history taking, physical examination and monitoring of CA 125 levels are important methods for tumor progression detection in a surveillance program for epithelial ovarian cancer patients.

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Intra-leiomyoma massive hemorrhage after delivery.

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Massive bleeding into a uterine leiomyoma is an extremely rare cause of hypovolemic shock. Only one case of this life-threatening condition has been reported. Our patient was a 39-year-old woman who had a gradual growth of a subserous myoma throughout pregnancy and sudden rapid growth after cesarean section at 35 weeks of gestation. The rapid growth was due to intra-tumor massive bleeding and was associated with hypovolemic shock without evidence of external or intra-abdominal hemorrhage. We hypothesize that a rapid decrease in size of the uterus after delivery might have compressed the venous drainages, which were more vulnerable to occlusion than arterial blood flows, resulting in blood sequestration into the tumor leading to hypovolemia.

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