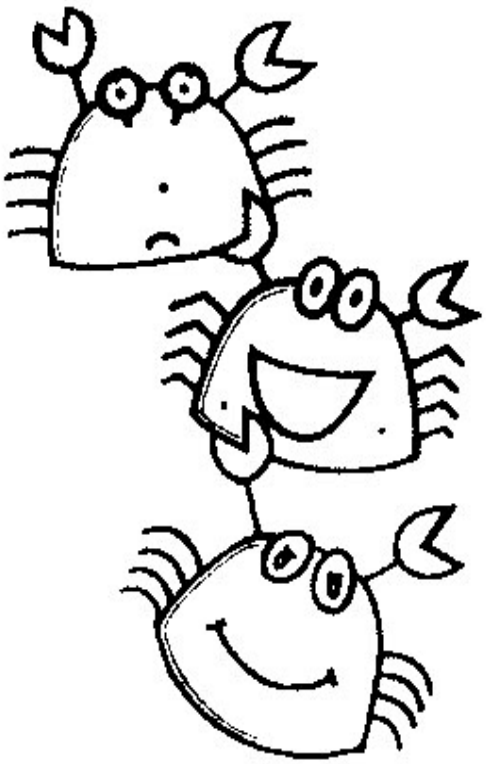
ANNUAL REPORT
ON
GYNECOLOGIC ONCOLOGY
2011



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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WEBSITE : http://www.med.cmu.ac.th/dept/obgyn/Unit/onco/oncofront.htm

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หน่วยมะเร็งวิทยานรีเวช

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คณะแพทยศาสตร์ มหาวิทยาลัยเชียงใหม่

อนุสาขามะเร็งวิทยานรีเวช

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PREFACE

Obstetrics and Gynecology department has three major missions which are teaching, research and service. Every mission needs information for improving the quality which aims to be excellence in their field. Our department divides into three major subspecialties: maternal fetal medicine, reproductive medicine and gynecologic oncology, and one new subspecialty which is urogynecology unit. Each subspecialty worked hard for improving their mission and has summarized the service part into the annual report. These reports are also publishing the full report on our departmental website. Please visit: http//www.med.cmu.ac.th/dept/obgyn/

This annual report 2011 on gynecologic oncology has been successfully published with great contribution of Assoc. Professor Prapaporn and her colleagues in oncology division. It reflects our gynecologic oncology work and can be used for benchmarking especially for the one who involve in this field. I would like to make an appreciation and expression of thanks to my oncology colleagues for their dedication to our department.

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PREFACE

This Annual Report 2011 is the fifteenth volume of our work in gynecologic oncology. We served around 670 gynecologic cancer patients in 2011 which slightly decreased from the last year's number. The leading cancer is still cervical cancer, followed by ovarian and uterine cancers.

About 90 Wertheim operations were performed in our hospital. In this year the number of the gynecologic cancer in each organ were quite not different from the last year. Eighteen original studies were published in the peer-reviewed journals in 2011.

This report is divided into 2 sections. The first section provides the statistics of all gynecologic cancer patients in the year 2011 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 and presentation in 2011. This report used the old version of FIGO staging system.

There are a lot of good events happened in 2011. Dr. Kittipat Charoenkwan received the great honor award "The Best Research in the Division of Gynecologic Cancer from The Royal Thai College of Obstetricians and Gynecologists 2011 and I received the Merit award from 2nd Biennial Meeting of the Asian Society of Gynecologic Oncology (ASGO 2011). In addition, more than twenty gynecologic oncology fellows from other training centers in Thailand and abroad visited our institute for elective courses.

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 Tosapol Chainoy gave their big hands 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 Chanane Wanapirak for his continuous support.

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  - Cancer of the Vulva
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  - Cancer of the Fallopian Tube
  - Cancer of the Peritoneum
  - Gestational Trophoblastic Disease

TABLE 1 : Gynecologic Oncology Registry :Chiang Mai University 1997-2011

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 1997-2011(continue)

Site	2007 Number (%)	2008 Number (%)	2009 Number (%)	2010 Number (%)	2011 Number (%)
Cervix	480 (63.6)	473 (63.2)	436 (58.1)	449(64.2)	387(57.1)
Ovary	132 (17.5)	115 (15.2)	141 (18.8)	105(15.0)	118(17.5)
Corpus	91 (12.0)	117 (15.4)	116 (15.5)	94(13.4)	114(16.9)
Vulva	11 (1.5)	21 (2.8)	24 (3.2)	21(3.0)	16(2.4)
Vagina	6 (0.7)	7 (0.9)	7 (0.9)	12(1.7)	11(1.6)
FT	7 (0.9)	4 (0.5)	4 (0.5)	6(0.9)	3(0.4)
PPA	11 (1.5)	7 (0.9)	8 (1.1)	-	5(0.7)
GTT	17 (2.3)	15 (2.0)	14 (1.9)	12(1.7)	22(3.3)
Total	**755 (100)**	**759 (100)**	**750 (100)**	**699(100)**	**676(100)**

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

Gynecologic Oncology Multiple Primary Cancers : Chiang Mai University 2001-2011

Multiple Primary Cancers	2001 Number	2002 Number	2003 Number	2004 Number	2005 Number	2006 Number	2007 Number	2008 Number	2009 Number	2010 Number	2011 Number
Ovarian and Cervical Cancer	**2**	**2**	**1**	**1**	**1**	**-**	**-**	**1**	**-**	**-**	**-**
Ovarian and Corpus Cancer	**6**	**7**	**-**	**5**	**13**	**5**	**4**	**8**	**5**	**7**	**4**
Corpus and Cervical Cancer	**-**	**1**	**-**	**-**	**1**	**-**	**1**	**-**	**-**	**-**	**-**
Corpus and Fallopian Tube Cancer	**-**	**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**	**-**
Corpus and Colon Cancer	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**
Corpus and Bladder cancer	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**
Cervix and Ileal cancer	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**

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
Surgery for Ovarian & Tubal Cancer	89	95	115	87	117
Surgery for Corpus Cancer	80	106	83	87	96
Surgery for Vulvar Cancer	8	21	18	20	14
Radical hysterectomy*	120	121	103	125	89
Modified Radical hysterectomy*	-	-	18	12	17
Abandon Hysterectomy*	-	-	1	1	3
Laparoscopic surgical staging for Corpus cancer	-	-	-	6	4
Laparoscopic Radical Hysterectomy*	11	16	5	-	9
Radical Parametrectomy*	1	-	1	-	2
Laparoscopic Radical Parametrectomy*	-	-	-	2	-
Extrafacial Hysterectomy	47	31	32	40	6
Total Laparoscopic Hysterectomy	4	2	2	2	2
CKC	15	6	5	6	2
LEEP	317	235	175	203	157
Cryosurgery	-	-	-	-	-
Colposcopy	519	556	474	409	406

*** with pelvic lymphadenectomy**

CKC = Cold Knife Conization

LEEP = Loop Electrosurgical Excision Procedure

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	2	0.5
31-40	45	11.6
41-50	117	30.2
51-60	128	33.1
61-70	57	14.7
71-80	28	7.2
≥ 81	10	2.6
Total	**387**	**100.0**

(Not include recurrent cases = 20 cases)

Minimum age 29 years, Maximum age 86 years
Mean age 53.95±11.83 years

TABLE 3 : Cancer of the Cervix : Parity Distribution.

Parity	Number	Percent
0	32	8.3
1	61	15.8
2	144	37.2
3	52	13.4
4	37	9.6
5	25	6.5
6	17	4.4
7	8	2.1
8	5	1.3
9	1	0.3
10	2	0.5
11	3	0.8
Total	**387**	**100.0**

TABLE 4 : Cancer of the Cervix: Stage Distribution.

Stage	Number	Percent
I	138	35.7
II	136	35.1
III	84	21.7
IV	29	7.5
Total	**387**	**100.0**

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

	Stage	Number	Percent
I	IA1	25	6.5
	IA2	7	1.8
	IB1	86	22.3
	IB2	20	5.2
II	IIA	12	3.1
	IIA1	8	2.1
	IIA2	11	2.8
	IIB	105	27.1
III	IIIA	4	1.0
	IIIB	80	20.7
IV	IVA	8	2.1
	IVB	21	5.4
Total		**387**	**100.0**

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

Stage	Number Negative (%)	Number Positive HIV(%)	Total
IA1	21(5.4)	4(1.0)	25(6.5)
IA2	6(1.6)	1(0.3)	7(1.8)
IB1	82(21.2)	4(1.0)	86(22.3)
IB2	19(4.9)	1(0.3)	20(5.2)
IIA	12(3.1)	0	12(3.1)
IIA1	8(2.1)	0	8(2.1)
IIA2	11(2.8)	0	11(2.8)
IIB	102(26.4)	3(0.8)	105(27.1)
IIIA	4(1.0)	0	4(1.0)
IIIB	78(20.2)	2(0.5)	80(20.7)
IVA	8(2.1)	0	8(2.1)
IVB	21(5.4)	0	21(5.4)
Total	**372(96.1)**	**15(3.9)**	**387(100)**

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

Histological Type	Number	Percent
Squamous cell carcinoma	**303**	**78.3**
Well differentiation	29	7.5
Moderately differentiation	168	43.4
Poorly differentiation	43	11.1
Not define differentiation	63	16.3
Adenocarcinoma	**54**	**14.0**
Adenosquamous	**15**	**3.9**
Small cell NE CA	**5**	**1.3**
Large cell NE CA	**3**	**0.8**
Clear cell CA	**1**	**0.3**
Mixed large cell NE CA and Squamous cell CA	**1**	**0.3**
Malignant melanoma	**1**	**0.3**
Unknown*	**4**	**1.0**
Total	**387**	**100.0**

* Unknown = data not available : refer from other hospitals 2 cases, advanced stage (gross diagnosis) 2 cases

NE = Neuroendocrine
CA = Carcinoma

TABLE 8 : Treatment of cancer of the Cervix.

Treatment	Number	Percent
Surgery alone	**68**	**17.6**
TAH	12	3.1
RHPL	35	9.0
TLH	3	0.8
LRHPL	5	1.3
Extended hysterectomy	11	2.8
Parametrectomy (inadvertent surgery)	2	0.5
Chemotherapy alone	**12**	**3.1**
Radiation alone	**28**	**7.2**
Concurrent chemoradiation	**56**	**14.5**
Concurrent chemoradiation+ Brachytherapy	**88**	**22.7**
RT+Brachytherapy	**57**	**14.7**
Brachytherapy alone	**2**	**0.5**
Combined treatment		
TAH+CCRT	1	0.3
TAH+CCRT+Brachytherapy	1	0.6
TAH+Pelvic RT	2	0.5
TAH+Pelvic RT+Brachytherapy	2	0.5
RHPL+RT+ Brachytherapy	1	0.3
RHPL+Brachytherapy	3	0.8
RHPL+RT	14	3.6
RHPL+CCRT	19	4.9
RHPL+CCRT+ Brachytherapy	8	2.1
RHPL+CT	2	0.5
Extended hysterectomy+ CCRT+ HDR	2	0.5
Abandon Hysterectomy+CCRT+ Brachytherapy	3	0.8
Debulking tumor+ RT	1	0.3
Debulking tumor+ CCRT	1	0.3
NAC+RHPL	2	0.5
NAC+RHPL+CCRT	3	0.8
NAC+RHPL+ RT	2	0.5
NAC+RHPL+Brachytherapy	1	0.3
NAC+Extended hysterectomy+ CCRT	1	0.3
Others		
Lost to FU without treatment	3	0.8
Refer to another hospital for RT	1	0.3
Awaiting for start RT	3	0.8
Total	**387**	**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 = 89 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
10-20	4	3.4
21-30	9	7.6
31-40	5	4.2
41-50	39	33.1
51-60	33	28.0
61-70	18	15.3
71-80	8	6.8
>80	2	1.7
Total	**118**	**100.0**

Minimum age 10 years, Maximum age 83 years
Mean age 51.3±13.9 years

Not include recurrent case = 15 cases

TABLE 10 : Cancer of the Ovary : Parity Distribution.

Parity	Number	Percent
0	47	39.8
1	15	12.7
2	37	31.4
3	8	6.8
4	4	3.4
5	2	1.7
6	3	2.5
8	1	0.8
9	1	0.8
Total	**118**	**100.0**

TABLE 11 : Cancer of the Ovary : Histological Distribution.

Histology	Number	Percent
Epithelium	100	84.7
Germ Cell	8	6.8
Sex cord-stromal	6	5.1
Unknown*	4	3.4
Total	**118**	**100.0**

*Unknown = Not Surgery = 4 cases

TABLE 12 : Epithelial Ovarian Cancer : Histological Subtype Distribution.

Histological Subtype	Number	Percent
Serous LMP	6	6.0
Serous adenoCA	20	20.0
Mucinous LMP	15	15.0
Mucinous adeno CA	5	5.0
Endometrioid LMP	3	3.0
Endometrioid CA	9	9.0
Clear cell CA	21	21.0
Mixed epithelial CA	11	11.0
AdenoCA	4	4.0
Carcinosarcoma	2	2.0
Mucinous LMP with angiosarcoma	1	1.0
Brenner tumor associated with mucinous LMP	1	1.0
Mucinous tumor associated with pseudomyxoma peritonei	1	1.0
Mixed transitional cell CA+ PD serous adenoCA	1	1.0
Total	**100**	**100.0**

CA = carcinoma
LMP = Low malignant potential
PD = poorly differentiated

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

Histological Subtype	Number	Percent
Dysgerminoma	2	25
Choriocarcinoma	1	12.5
Endodermal sinus tumor	1	12.5
SCCA arising in mature teratoma	2	25
Rhabdomyosarcoma	1	12.5
Yolk sac tumor	1	12.5
Total	**8**	**100**

SCCA = Squamous cell carcinoma

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

Subtype	Number	Percent
Adult Granulosa cell tumor	3	50.0
Sertoli-leydig cell tumor	1	16.7
Unclassified sex cord tumor	2	33.3
Total	**6**	**100.0**

TABLE 15 : Epithelial Ovarian Cancer : Stage Distribution.

Stage	Number	Percent
IA	13	13.0
IB	3	3.0
IC	30	30.0
IIA	1	1.0
IIB	1	1.0
IIC	14	14.0
IIIA	1	1.0
IIIB	4	4.0
IIIC	26	26.0
IV	6	6.0
Advanced stage	1	1.0
Total	**100**	**100**

TABLE 16 : Germ Cell Ovarian Cancer: Stage Distribution.

Stage	Number	Percent
IA	2	25.0
IC	4	50.0
IV	2	25.0
Total	**8**	**100.0**

TABLE 17 : Sex cord-stromal : Stage Distribution.

Stage	Number	Percent
IA	2	33.3
IC	2	33.3
IIC	1	16.7
IV	1	16.7
Total	**6**	**100.0**

TABLE 18 : Ovarian Cancer : Stage and Histology Distribution.

	Epithelial	Percent	Germ cell	Percent	Sex cord stromal tumor	Percent
IA	13	13.0	2	25.0	2	33.3
IB	3	3.0	0	0.0	0	0.0
IC	30	30.0	4	50.0	2	33.3
IIA	1	1.0	0	0.0	0	0.0
IIB	1	1.0	0	0.0	0	0.0
IIC	14	14.0	0	0.0	1	16.7
IIIA	1	1.0	0	0.0	0	0.0
IIIB	4	4.0	0	0.0	0	0.0
IIIC	26	26.0	0	0.0	0	0.0
IV	6	6.0	2	25.0	1	16.7
Advanced stage	1	1.0	0	0	0	0.0
Total	**100**	**100**	**8**	**100.0**	**6**	**100.0**

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

Treatment	Number	Percent
Complete SSP with adjuvant chemotherapy	23	19.5
Complete SSP without adjuvant chemotherapy	9	7.6
Incomplete SSP with adjuvant chemotherapy	47	39.8
Incomplete SSP without adjuvant chemotherapy	23	19.5
NAC with complete SSP with adjuvant chemotherapy	3	2.5
NAC plan to surgery	2	1.7
NAC + interval debulking	5	4.2
NAC+ lost to Follow up	1	0.8
Chemotherapy alone	5	4.2
Total	**118**	**100.0**

SSP = Surgical Staging Procedure

NAC = Neoadjuvant Chemotherapy

TABLE 20 : Ovarian Cancer : Outcome of Treatment.

Outcome	Number	Percent
Under FU without disease	55	46.6
Under FU with partial response	1	0.8
During treatment	42	35.6
During treatment with progress/persistent of disease	6	5.1
Lost to FU	8	6.8
Supportive & symptomatic treatment	2	1.7
Death of disease	1	0.8
Refer to provincial hospital for chemotherapy	2	1.7
Refer to provincial hospital for FU	1	0.8
Total	**118**	**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
<31	2	1.8
31-40	7	6.1
41-50	25	21.9
51-60	57	50.0
61-70	16	14.0
>70	7	1.8
Total	**114**	**100.0**

Minimum age 26 years, Maximum age 79 years
Mean age 53.9±9.7 years

(Not include recurrent cases = 3 cases)

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

Menopausal Status	Number	Percent
Yes	78	68.4
No	36	37.6
Total	**114**	**100.0**

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

Medical disease	Number	Percent
None	89	78.1
Hypertension	8	7.0
Hypertension+ DM	5	4.4
Hypertension+ DM+ Dyslipidemia	1	0.9
Hypertension+ Dyslipidemia	1	0.9
Hypertension+ Heart disease	1	0.9
DM	8	7.0
DM+ Dyslipidemia	1	0.9
Total	**114**	**100.0**

DM = Diabetes mellitus

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

Parity	Number	Percent
0	42	36.8
1	17	14.9
2	36	31.6
3	11	9.6
4	4	3.5
5	3	2.6
8	1	0.9
Total	**114**	**100.0**

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

	Stage	Number	Percent
I	IA	12	10.5
	IB	27	23.7
	IC	16	14.0
II	IIA	5	4.4
	IIB	9	7.9
III	IIIA	9	7.9
	IIIC	21	18.4
IV	IV	1	0.9
	IVA	3	2.6
	IVB	9	7.9
Unknown*		2	1.8
	Total	**114**	**100.0**

Unknown* = not surgery 1 case, data not available due to refer from another hospital 1 case

TABLE 26 : Cancer of the Uterine Corpus : Histologic Distribution.

Histology Type	Number	Percent
Endometrioid adenoCA		
Grade I	46	40.4
Grade II	17	14.9
Grade III	20	17.5
Carcinosarcoma	5	4.4
Serous adenoCA	5	4.4
Low grade ESS	2	1.8
Adenosarcoma	2	1.8
Clear cell adenoCA	2	1.8
Leiomyosarcoma	1	0.9
Poorly differentiation CA	1	0.9
AdenoCA with squamous differentiation	1	0.9
Mixed type	12	10.5
Total	**114**	**100.0**

CA = carcinoma
ESS = Endometrial stromal sarcoma

TABLE 27 : Treatment of Corpus Cancer.

Treatment	Number	Percent
complete SSP	24	21.1
complete SSP+ CT	9	7.9
complete SSP+ CCRT+Brachytherapy	4	3.5
complete SSP+RT+Brachytherapy	14	12.3
complete SSP+Brachytherapy	9	7.9
complete SSP+ Sequential chemo-RT+Brachytherapy	24	21.1
Incomplete SSP	5	4.4
Incomplete SSP+CT	7	6.1
Incomplete SSP+CT+ Brachytherapy	1	0.9
Incomplete SSP+ CCRT+Brachytherapy	3	2.6
Incomplete SSP+RT+Brachytherapy	6	5.3
Incomplete SSP+ Sequential chemo-RT	1	0.9
RT alone	2	1.8
CT alone	5	4.4
Total	**114**	**100.0**

SSP = Surgical Staging Procedure
RT = Radiation Therapy
CT = Chemotherapy
CCRT = Concurrent chemoradiation

TABLE 28 : Outcome of Treatment of Corpus Cancer.

Outcome	Number	Percent
During treatment	32	28.1
During treatment with progress/persist of disease	4	3.5
Under FU without disease	68	59.6
Lost to FU with disease	5	4.4
Palliative treatment	2	1.8
Refer to other hospitals for further treatment (RT= 1, CT =1)	2	1.8
Death of disease	1	0.9
Total	**114**	**100.0**

FU = Follow up

RT = Radiation Therapy

CT = Chemotherapy

Cancer of the Vulva

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

TABLE 29 : Cancer of the Vulva : Age Distribution.

Age	Number	Percent
<41	3	18.8
41-50	2	12.5
51-60	4	25.0
61-70	3	18.8
70-80	2	12.5
>80	2	12.5
Total	**16**	**100.0**

Minimum age 38 years, Maximum age 85 years
Mean age 60.6± 15.6 years

* vulva intraepithelial neoplasia = 1 case, Paget's disease = 1 case

TABLE 30 : Cancer of the Vulva : Stage Distribution.

Stage	Number	Percent
I	1	6.3
IA	2	12.5
II	6	37.5
III	1	6.3
IIIA	2	12.5
IVA	3	18.8
Not stage*	1	6.3
Total	**16**	**100.0**

Not stage = 1 due to lost follow up after first visit

TABLE 31 : Cancer of the Vulva : Histological Type Distribution.

Histological Type distribution	Number	Percent
Squamous cell carcinoma		
Well differentiation	7	43.8
Moderately differentiation	6	37.5
Not define differentiation	2	12.5
Malignant melanoma	1	6.3
Total	**16**	**100.0**

TABLE 32 : Treatment of cancer of the vulva.

Treatment	Number	Percent
WLE	1	6.3
Radical local excision+ BGND	1	6.3
Radical local excision+ BGND+ Brachytherapy	1	6.3
Radical hemivulvectomy+ BGND	1	6.3
Radical hemivulvectomy+ BGND+ CCRT	1	6.3
Radical hemivulvectomy+BGND+ RT	1	6.3
CCRT	3	18.8
RT	5	31.3
Lost to FU without treatment	2	12.5
Total	**16**	**100**

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

Cancer of the Vagina

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

TABLE 33 : Cancer of the Vagina

No	HN	Age	Stage	Histology	Treatment
1	2883349	71	I	WD, SCCA	Brachytherapy
2	3092362	61	IIIB	WD, SCCA	CCRT
3	3331734	58	IV	WD, SCCA	Cisplatin + 5 FU refer to another hospital for treatment
4	3334478	70	II	MD, SCCA	Pelvic RT
5	3334928	48	II	MD, SCCA	Brachytherapy
6	3358932	38	III	MD, SCCA	Brachytherapy
7	3374171	51	III	Small cell neuro endocrine carcinoma	Brachytherapy
8	3389003	50	II	WD, adenocarcinoma	CCRT
9	3392591	63	II	MD, SCCA	Pelvic RT
10	3394226	82	III	PD, SCCA	Pelvic RT
11	2785767	38	IVA	WD, SCCA	CCRT

SCCA = squamous cell carcinoma
RT = radiation Therapy
FU = follow up
BGND = bilateral groin node dissection
WD = well differentiated
MD = moderately differentiation
PD = poorly differentiated
CCRT = Concurrent chemo radiation
RT = Radio therapy

Cancer of the Fallopian Tube

TABLE 34 : Cancer of the Fallopian Tube 2011

Data	Case 1	Case 2	Case 3
HN	3390048	3168480	3385984
Age	69	54	55
Marital status	married	married	married
Parity	0-1-0-0	2-0-0-2	0
Presenting symptoms	abdominal distention	neck mass > biopsy > metastasis adenoCA	pelvic mass
Stage	IIC at least	IV	IA
Histology	Carcinosarcoma	Mixed transitional cell CA and serous adenoCA (PD)	Serous adenoCA
Treatment	PT	TAH & BSO with partial omentectomy > PTx3	TAH& BSO > PTx6
Outcome	During Treatment	During Treatment	During Treatment

CA = Carcinoma
TAH&BSO = Trans abdominal hysterectomy and bilateral salpingooophorectomy
FNA = Fine needle aspiration
NAC = Neoadjuvant chemotherapy
PT = Paclitaxel and Carboplatin
PD = Poorly differentiated
MD = Moderately differentiated
FU = Follow up
Rt = right
SO = salpingo oophorectomy

Cancer of The Peritoneum

TABLE 35 : Cancer of The Peritoneum 2011

Data	Case 1	Case 2	Case 3
HN	3309594	3319455	3342198
Age	75	59	49
Marital status	married	married	single
Parity	4-0-0-4	2-0-0-2	0
Presenting symptoms	abdominal mass	abdominal distention	abdominal pain, weight loss
Stage	IIIC	IIIC	IIIC
Histology	PD serous adenoCA	PD serous adenoCA	PD, serous adenoCA
Treatment	NAC>TAH&BSO with debulking tumor in CDS > PT	NAC> debulking tumor >PTx6 > oral Etoposide x1 > gemcitabine	NAC >debulking tumor> PT
Outcome	progression of disease Lost to FU	during treatment with progression of disease	during treatment

Cancer of The Peritoneum 2011. (continue)

Data	Case 4	Case 5
HN	3325035	3320338
Age	63	58
Marital status	married	married
Parity	2-0-0-2	1-0-0-1
Presenting symptoms	Pelvic pain	Abdominal distention, pelvic mass
Stage	IIIC	IIC
Histology	MD, serous adenoCA	PD, adenoCA
Treatment	NAC >debulking tumor> PT> gemcitabine >oral etoposide	NAC >debulking tumor> PTx6
Outcome	During treatment	Refer FU other hospital

FU = Follow up
RT = Radiation therapy
PT = Paclitaxel + Carboplatin
PD = Poorly differentiation
MD = Moderate differentiation
CDS = Cul-de-sac
PPA = Primary peritoneal adenocarcinoma
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 Organ 2011

Data	Case 1 CA Corpus+ CA Ovary	Case 2 CA Corpus+ CA Ovary	Case 3 CA Corpus+ CA Ovary
HN	2411630	3335041	3376079
Age	46	42	56
Marital status	single	single	married
Parity	0	0	0
Presenting symptoms	pelvic pain, abnormal bleeding per vagina	chronic pelvic pain with progressive dysmenorrhea	pelvic mass, abnormal bleeding per vagina
Stage	CA corpus IB, CA ovary IIC	CA corpus II, CA ovary IC	CA corpus IIIC, CA ovary IC
Histology	Corpus: Endometrioid adenoCA gr.1 Right ovary: Endometrioid adenoCA gr.1	Corpus: endometrioid adenoCA gr.1 with squamous differentiation Lt.ovary : endometrioid adenoCA gr.1 with squamous differentiation	Corpus: Endometrioid adenoCA gr.1 Left ovary: Endometrioid adenoCA gr.1
Treatment	TAH&BSO with partial omentectomy > PT x5	TAH&BSO with BPND, PANS, partial omentectomy > Carboplatin x 6 >brachytherapy	TAH&BSO with BPND, PANS, partial omentectomy > PT
Outcome	During treatment	Under FU without disease	During treatment

Cancer of the Two Primary Gynecologic Organs (continue)

Data	Case 4 CA Corpus+ CA Ovary	Case 5 CA Corpus+ CA bladder	Case 6 CA Cervix+ CA Ileum
HN	3356921	3371098	2275811
Age	52	57	82
Marital status	single	married	married
Parity	0	2-0-0-2	3-0-0-2
Presenting symptoms	pelvic mass	post menopausal bleeding	
Stage	CA corpus IA, CA ovary IC	CA corpus IA, CA bladder	CA cervix IIB, CA Ileum
Histology	Corpus: Endometrioid adenoCA gr.2 Left ovary: Endometrioid adenoCA gr.2	Corpus: Endometrioid adenoCA gr.2 Bladder: Low grade papillary urothelial carcinoma	Cervix: MD, SCCA Ileum: PD, adenoCA
Treatment	TAH&BSO with BPND, PANS, partial omentectomy > PT	TAH&BSO with urethrectomy, radical cystectomy with ileal conduit	segmental ileal resection > WPRTx3
Outcome	During treatment	Under FU without disease	Loss to Follow up

CA = carcinoma
MD = Moderately differentiation
PD = Poorly differentiation
FU = follow up
PT = Paclitaxel and Carboplatin
WPRT = Whole Pelvic 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

Cancer of the Two Primary Gynecologic Organs (continue)

Data	Case7 CA Corpus+ CA Ovary
HN	3328339
Age	44
Marital status	married
Parity	1-0-0-1
Presenting symptoms	spotting bleeding per vagina
Stage	CA corpus IB, CA ovary IA
Histology	Corpus: Endometrioid adenoCA gr.1 Left ovary: Endometrioid tumor of LMP
Treatment	TAH&BSO with BPND, PANS, partial omentectomy
Outcome	Under FU without disease

TAH&BSO = Transabdominal hysterectomy and bilateral salpingo-oophorectomy
BPND = bilateral pelvic node dissection
PANS = paraaortic node sampling

Gestational Trophoblastic Disease

- Gestational Trophoblastic Tumor
- Molar Pregnancy

TABLE 37 : Gestational Trophoblastic Tumors in 2011.

No	HN	Age (yr)	Initial HCGtiter	Prognosis Classification	Diagnosis	FIGO	Treatment	Result
1	2055243	53	3,213	NMGTT	Persistent mole	I	MTX+ FA x5	remission
2	2353521	51	477	NMGTT	Persistent mole	I	MTX+ FA x5	remission
3	2894806	30	250,852	MGTT (lung)	Choriocarcinoma	III	EMA-COx13	remission
4	3328930	27	502,944	MGTT (lung, brain)	Choriocarcinoma (Patho from TAH)	IV	TAH > EMA-CO x10 > WPRT	remission
5	3331778	15	27,365	MGTT (lung)	Persistent mole	III	MTX+ FA x13	remission
6	3336268	49	57425	NMGTT	Persistent mole	I	MTX+ FA x7	remission
7	3340140	37	540	NMGTT	Persistent mole	I	MTX+ FA x4	remission
8	3341426	24	851,320	MGTT (lung)	Atypical trophoblast, Chorio CA cannot be ruled out (Patho from S&C)	III	MTX x4 > EMA x9	remission
9	3342493	38	2,673	NMGTT	Persistent mole	I	MTX+ FA x10 > Act D x2 > Remission for 2 month > recurrence MTX+ FA x4 >	persistent of disease plan TAH
10	3347745	21	171,694	MGTT (lung, brain)	Choriocarcinoma (Patho from S&C)	IV	EMA-CO x3	lost to FU
11	3349600	45	192,884	NMGTT	Persistent mole	I	MTX+ FA x 14	lost to FU
12	3355395	48	138,484	MGTT (lung, brain)	Choriocarcinoma (Patho from TAH&BSO)	IV	EBRT > EMA-Cox3 remission DFI 2 mo. Recurrence > EM-EPx3	during treatment
13	3361087	52	214	NMGTT	Choriocarcinoma (Patho from TAH&BSO)	I	MTX+ FA x1 >Act D x4 persistent of disease > hysterectomy (24/7/2011)	remission
14	3366232	32	1,093,334	MGTT (lung)	Choriocarcinoma (Patho from TAH&BSO)	III	TAH&Rt.SO + Lt.cystectomy > EMA-CO x1	lost to FU
15	3370038	25	460	NMGTT	Persistent mole	I	MTX+ FA x 5	remission
16	3372612	15	24.86	NMGTT	Persistent mole	I	MTX+ FA x 3	remission
17	3377177	23	36,079	NMGTT	Persistent mole	I	MTX+ FA x 5	remission
18	3382161	25	65,508	NMGTT	Persistent mole	I	MTX+ FA x 9	during treatment
19	3383072	23	2,444	NMGTT	Persistent mole	I	MTX+ FA x 4	during treatment

No	HN	Age (yr)	Initial HCGtiter	Prognosis Classification	Diagnosis	FIGO	Treatment	Result
20	3387440	53	26,875	NMGTT	Atypical trophoblast cells with marked nuclear atypia GTD should be considered (patho from D&C)	I	weekly MTX x10	during treatment
21	3389002	49	1,347	NMGTT	Persistent mole	I	MTX+ FA x5 > TAH > plan chemo	during treatment
22	3394254	15	4,724	NMGTT	Persistent mole	I	Weekly MTX x5	during treatment
23	2622692	23	74	NMGTT	Persistent mole	I	MTX+ FA x2	during treatment
24	3363098	44	6345	MGTT (lung)	Persistent mole	III	admitted for chemo therapy	during treatment

MGTN = Metastatic Gestational Trophoblastic tumor

NMGTN = Non-metastatic Gestational Trophoblastic tumor

EBRT =

EMA = Etoposide + Methotrexate + Actinomycin D

EMA-Co = Etoposide + Methotrexate + Actinomycin D + Cyclophosphamide+ Vincristine

EM-EP = Etoposide + Methotrexate- Etoposide+ Cisplatin

Act D = Actinomycin D

MTX + FA = Methotrexate + Folinic Acid

D&C = dilatation curettage

S&C = suction curettage

PI = Cisplatin + Ifosfamide

PT = Taxol + Carboplatin

TAH = Trans abdominal hysterectomy

BSO = Bilateral salpingo-oophorectomy

EBRT = External beam radation

TABLE 38 : Molar Pregnancy in 2011.

No	HN	Age	Gravida	GA (wk)	UT Size (wk)	HCG titer	Risk	Treatment	Pathology	Result
1	2622692	23	G1 P0	20	20	531,921	high risk	Suction & curettage	Complete hydatidiform mole	persistent mole
2	3305078	30	G2 P 0-0-1-0	13^{+5}	14	165,244	high risk	Suction & curettage	Complete hydatidiform mole	remission
3	3352482	22	G2 P 1-0-0-1	9	10	142,206	high risk	Suction & curettage	Complete hydatidiform mole	remission
4	3356712	22	G1 P0	5	18	600,272	high risk	Suction & curettage	Complete hydatidiform mole	remission
5	3363098*	44	G7 P 6-0-0-6	12	20	2,040,000	high risk	Suction & curettage	Complete hydatidiform mole	persistent mole

* Thyroid storm

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	9
General nurse	25
Practical nurse	18
Helper	11
Research nurse	2
Research assistant	1
Inpatient bed	50
One day chemo bed	20
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

- Sirichai Chuamuangpan, M.D.
- Sukanda Mahawerawat, M.D.
- Wadwilai Chalapati, M.D.

2nd Year Fellow

- Suparuek Pongsaranantakul, M.D.

Visiting Fellow - Sitthysack Panyavatthanasinh (Laos PDR)

Radiation Oncologists

1. Associate Professor Vicharn Lorvidhaya, M.D.
2. Professor Vimol Sukthomya, M.D.
3. Assistant Professor Anan Tonusin, M.D.
4. Associate Professor Imjai Chitapanarux, M.D.
5. Ekkasit Tharavijitkul, M.D.
6. 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. Professor Sumitra Thongprasert, M.D.
2. Assistant Professor Chaiyut Charoentum, M.D.
3. Assistant Professor Busyamas Chewaskulyong, M.D.

Diagnostic Procedures and Operations

TABLE 40 : Diagnostic Procedures and Operations for Cervical Neoplasia.

Procedures & Operations	Number
Colposcopy	406
LEEP	157
CKC	2
TLH	2
Simple Hysterectomy	15
Extended Hysterectomy &PL	14
Abandoned Radical Hysterectomy & PL	3
Laparoscopic Radical Hysterectomy & PL	9
Radical Hysterectomy & PL	89

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	116
CRS for Fallopian Tube Cancer	1
CRS for Peritoneal Cancer	4
Surgical Staging for Corpus Cancer	96
Simple hysterectomy for GTT	2
Wide Local Excision & BGND for Vulvar Cancer	4
Radical Hemivulvectomy & BGND for Vulvar Cancer	3
Radical Local Excision & BGND for Vulvar Cancer	3

CRS = Cytoreductive Surgery
BGND = Bilateral Groin Node Dissection

PUBLICATIONS & PRESENTATIONS

2011

Preceding cervical cytology in women with high-grade squamous intraepithelial lesion.

Songveeratham S, Kietpeerakool C, Khunamornpong S, Sribanditmongkol N, Srisomboon J.

Objective: To evaluate the preceding cervical cytology and factors leading to cytohistologic discrepancy in women with high-grade squamous intraepithelial lesion (HSIL) histology.

Methods: The records of women who were found to have histologically confirmed HSIL without any associated invasive and glandular lesions, at Chiang Mai University Hospital between January 2005 and May 2009, were reviewed. Cytohistological discrepancy was defined as HSIL histology preceded by low-grade squamous intraepithelial lesion (LSIL) and atypical squamous cells of undetermined significance (ASC-US) smears.

Results: The records of 436 HSIL cases were reviewed. The mean age of the women was 45.0 ± 9.3 years. The preceding smear abnormalities were as follows: 275 (63.1%) with HSIL; 50 (11.5%) with atypical squamous cells cannot exclude high-grade squamous intraepithelial lesion (ASC-H); 40 (9.2%) with squamous cell carcinoma; 35 (8.0%) with LSIL; 32 (7.3%) with ASC-US; and 4 (0.9) with glandular abnormality smears. Overall, the rate of cytohistological discrepancy was 15.4% (95% CI 12.1-19.1%). The small size of HSIL and presence of coexisting LSIL are significant independent predictors for cytohistologic discrepancy.

Conclusion: Approximately 15% of HSIL cases are under-diagnosed by cytology. Significant factors leading to cytohistologic discrepancy are lesion size and the presence of coexisting LSIL.

Published in: Archives of gynecology and obstetrics 2011 Jun;283(6):1381-4.

Unsuspected genital tract malignancy discovered during or after gynecologic surgery.

Kietpeerakool C.

Preoperative counseling is a fundamental process in surgical practice. Although uncommon, discordance between preoperative and postoperative diagnoses has been observed in surgical practice. This would be a major concern if a serious condition such as malignant disease is noted incidentally. Encountering unexpected cancers during or after an operation may result in suboptimal treatment performed because of the potential of failure to follow standard treatment guidelines for such cancer. In addition, failing to prepare patients for a possibility of unsuspected cancer is an extremely difficult situation and may complicate the relationship with the surgeon. This article focused on the incidence and major causes of unsuspected genital tract malignancies found during or after gynecologic surgery.

Published in: Asian Pacific Journal of Cancer Prevention 2011;12(3):581-7.

Knowledge about human papillomavirus infection and cervical cancer prevention among nurses in Chiang Mai University Hospital, Thailand.

Phianmongkhol Y, Suwan N, Srisomboon J, Kietpeerakool C.

This study was undertaken to evaluate knowledge about HPV infection and cervical cancer among nurses in Chiang Mai University Hospital, Thailand. The 16 questions evaluating knowledge were 'true/false/do not know' type. Two hundred and twenty nurses agreed to participate in this survey. Most knew that cervical cancer is the most common female cancer in Thailand (92.7%), HPV infection is a causal factor of cervical cancer (81.8%), early stage cervical cancer is curable (94.1%), and an adequate scale of cervical screening could prevent morbidity and mortality from cervical cancer (86.8%). The majority of participants (more than 70%) correctly acknowledged risk factors for cervical cancer as smoking, having multiple sexual partners, and sex at an early age. However, the majority of participants did not know that HPV infection and early stage cervical cancer are commonly asymptomatic. In conclusion, knowledge regarding cervical cancer among nursing staff in the author's institute is considerably favorable. However, their understanding about the natural history of HPV infection and cervical cancer is suboptimal, and requires further attention if an effective cervical cancer screening program is to be implemented.

Published in: Asian Pacific Journal of Cancer Prevention 2011;12(3):823-5.

" See and Treat" Approach is Appropriate in Women with High- grade Lesions on either Cervical Cytology or Colposcopy.

Aue-Aungkul A, Punyawatanasin S, Natprathan A, Srisomboon J, Kietpeerakool C.

This study was undertaken to evaluate the overtreatment rate of women with abnormal cervical cytology undergoing colposcopy followed by loop electrosurgical excision procedure (LEEP), the so-called " see and treat" approach. Overtreatment was defined as LEEP specimens containing cervical intraepithelial neoplasia (CIN) 1 or less. In this study, medical records of 192 women with abnormal Pap smears undergoing the " see and treat" approach in Chiang Mai University Hospital between October 2008 and October 2010 were reviewed. The preceding Pap smears were as follows: 124 (64.6%) with high-grade squamous intraepithelial lesion (HSIL); 35 (18.2%) with atypical squamous cells cannot exclude high-grade squamous intraepithelial lesion (ASC-H); 20 (10.4%) with low-grade squamous intraepithelial lesion (LSIL); 9 (4.7%) with squamous cell carcinoma (SCCA); and 4 (2.1%) with atypical squamous cells of undetermined significance (ASC-US). Histologic results obtained from loop electrosurgical excision procedure (LEEP) were as follows: CIN 2-3, 106 (55.2%); invasive cancer, 41 (21.4%); CIN 1, 15 (7.8%); adenocarcinoma in situ (AIS), 1 (0.5%); and no lesion, 29 (15.1%). Overall, 22.9% of LEEP specimens contained CIN 1 or less. Significant predictors for overtreatment were type of preceding smears and colposcopic impression. If the " see and treat" approach was strictly carried out in women who had either smears or colposcopic findings revealing high-grade disease, the overtreatment rate was only 7%. Hemorrhagic complication was 6.2% and all could be treated at an outpatient department. In conclusion, the overtreatment rate of the " see and treat" approach in women with various degree of abnormal Pap smears is 23% which would be diminished to the acceptable rate of lower that 10% if strictly performed in those with either smears or colposcopic impressions revealing high-grade abnormality. Peri-operative LEEP complications were mild and acceptable.

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Survival and Prognostic Factors Comparing Stage IB 1 versus Stage IB 2 Cervical Cancer Treated with Primary Radical Hysterectomy.

Srisomboon J, Kietpeerakool C, Suprasert P, Manopanya M, Siriaree S, Charoenkwan K, Cheewakriangkrai C, Sae-Teng C.

This study was undertaken to compare the survival rates of stage IB 1 versus stage IB 2 cervical cancer patients and to evaluate the prognostic factors after treatment primarily with radical hysterectomy and pelvic lymphadenectomy (RHPL). Patients with stage IB cervical cancer undergoing primary RHPL at Chiang Mai University Hospital between January 2002 and December 2009 were evaluated for survival and recurrence. Clinicopathological variables were analyzed to identify the prognostic factors affecting the survival of the patients. During the study period, RHPL was performed on 570 stage IB 1 and 110 stage IB 2 cervical cancer patients. With a median follow-up of 48 months, the 5-year disease-free survivals were 98.1% and 82.8% respectively ($p<0.001$). Multivariate analysis identified four significant prognostic factors affecting survival including sub-staging, non-squamous cell carcinoma histology, lymph node metastasis and the presence of lymph-vascular space invasion. In conclusion, with a primary radical hysterectomy, stage IB 1 cervical cancer patients have a significantly better survival rate than those with stage IB 2. Significant prognostic factors for stage IB cervical cancer include tumor histology, nodal status, and the presence of lymph-vascular space invasion.

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Financial burden of gynecologic-cancer survivors associated with attendance in a surveillance program at a tertiary care hospital in Thailand.

Suprasert P, Manopunya M.

All gynecologic cancer survivors require a surveillance program for the detection of recurrence and complications after the complete treatment. However, this type of surveillance program might be leading to an unseen burden for the patients. To identify this burden, 200 gynecologic cancer survivors who resided outside of Chiang Mai province were interviewed between November 2010 and February 2011. The mean age of the surveyed patients was 52 years old and most of them were diagnosed with cervical cancer. The mean travelling time was 3.6 hours with a range of one to nine hours and the mean waiting time at the hospital was 5.3 hours. Nearly one-third of the patients required overnight accommodation in Chiang Mai. The mean total cost was 643 baht (60-3,000 baht) and the mean hospital cost was 172 baht. About 44% of the surveyed patients wanted follow up at the local provincial hospital near their abode due to their own convenience. However, more than half of the surveyed patients still wanted to follow up at the tertiary care hospital because of their trust in the medical team. In conclusion, the surveillance program revealed a burden to cancer survivors, especially for the patients who lived a long distance away from the tertiary care hospital province.

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An audit of colposcopy appointment processes in women with abnormal cervical cytology.

Kietpeerakool C, Manopunya M, Phuprasertsak P, Jaijit T, Srisomboon J.

Objective: This study was conducted to audit the waiting times and default rates of colposcopy using the standard requirements of the National Health Service Cervical Screening Programme (NHSCSP) 2004 guidelines.

Methods: The records of 291 women with abnormal cervical smears referred to the colposcopy clinic between January and December 2008 at Chiang Mai University Hospital, Thailand, were reviewed.

Results: The proportion of women with abnormal cervical smears of any grade receiving colposcopy appointments within 8 weeks of referral (96.9%) achieved the minimum requirements ($\geq$ 90%). However, the waiting times for women with high-grade squamous intraepithelial lesion, glandular cell abnormality and invasive lesion smears were longer than recommended by NHSCSP guidelines. The default rate of 15.8% in this study was slightly higher than recommended by the guidelines (< 15%). Having no health insurance, being known to have HIV infection and waiting times longer than 4 weeks were independent predictors of default from an initial colposcopy appointment.

Conclusion: The waiting times for colposcopy among women with high-grade smear abnormality and the default rate failed to meet standard requirements. Designing an effective protocol for colposcopy appointment processes is warranted.

Published in: Cytopathology. 2011 Jun;22(3):184-8.

The association of hormonal contraceptive use and HPV prevalence.

Marks M, Gravitt PE, Gupta SB, Liaw KL, Kim E, Tadesse A, Phongnarisorn C, Wootipoom V, Yuenyao P, Vipupinyo C, Rugpao S, Sriplienchan S, Celentano DD.

Women diagnosed with cervical cancer report longer duration and more recent use of combined oral contraceptives (COCs). It is unclear whether COC use is associated with upstream events of human papillomavirus (HPV) infection prior to development of clinical disease. The objective of our study was to assess the association of contraceptive use on the risk for prevalent HPV infection in a cohort of long-term hormonal contraceptive (HC) users. One thousand and seventy (n = 1,070) HIV-negative women aged 20-37 from Thailand enrolled in a prospective study of the natural history of HPV. Baseline HPV genotype information, recency and duration of HC use, sexual behavior, other sexually transmitted infection (STI) information and cervical cytology and histology were assessed. At enrollment, 19.8% and 11.5% of women were infected with any HPV or any high-risk (HR)-HPV, respectively. After adjustment for age, current and past sexual risk behaviors, STI history and cytology, the use of COCs for >6 years was found to be associated with an increased risk of infection with any HPV [prevalence ratio (PR): 1.88 (1.21, 2.90)] and any HR-HPV [PR: 2.68 (1.47, 4.88)] as compared to never users. Recent, long-term COC use was associated with an increased risk for prevalent HPV infection independent of sexual behavior and cervical abnormalities. No similar association was observed for recent or long duration use of progestin-only contraceptives (i.e., depomedroxyprogesterone acetate). These data suggest that COC use may impact early upstream events in the natural history of HPV infection.

Published in: International Journal of Cancer 2011 Jun 15;128(12):2962-70.

Expression of survivin, CD117, and C-erbB-2 in neuroendocrine carcinoma of the uterine cervix.

Sukpan K, Settakorn J, Khunamornpong S, Cheewakriangkrai C, Srisomboon J, Siriaunkgul S.

Objective: To evaluate the expression and prognostic significance of survivin, CD117, and C-erbB-2 in neuroendocrine carcinoma of the uterine cervix.

Materials and Methods: Immunohistochemical stains of survivin, CD117, and C-erbB-2 were evaluated in 100 cases of cervical neuroendocrine carcinoma. The findings were correlated with clinicopathologic variables and disease-free survival.

Results: Expressions of survivin, CD117, and C-erbB-2 were detected in 27.0%, 12.0%, and 2.0% of the cases, respectively. Survivin-positive patients had a significantly younger mean age than the survivin-negative group (P=0.033). In early-stage cases, tumor recurrence was significantly associated with lymph node metastasis (P=0.005), depth of invasion (P=0.028), and the presence of lymphovascular space invasion (P=0.031) but not with the expression of survivin or CD117. Subgroup analysis in early-stage cases without lymph node metastasis (n=32) showed that only survivin expression had a significant association with decreased disease-free survival (P=0.041).

Conclusion: Survivin expression may be a prognostic indicator for survival in early-stage neuroendocrine carcinoma of the uterine cervix without lymph node metastasis. Adjuvant survivin-targeted therapy may have potential benefit in patients with this tumor.

Published in: International Journal of Gynecological Cancer 2011 Jul;21(5):911-7.

HPV genotyping in neuroendocrine carcinoma of the uterine cervix in northern Thailand.

Siriaunkgul S, Utaipat U, Settakorn J, Sukpan K, Srisomboon J, Khunamornpong S.

Objective: To determine the distribution of HPV genotypes in cervical neuroendocrine carcinoma (NECA) in northern Thailand, and evaluate the correlation between HPV genotype and clinicopathologic features.

Methods: Samples from 111 women treated for cervical NECA at Chiang Mai University Hospital between 1992 and 2009 were tested for HPV genotype. Samples were formaldehyde-fixed, paraffin-embedded, and tested via nested PCR and dot blot hybridization.

Results: Ninety-seven of the 111 samples were adequate for DNA analysis. HPV DNA was detected in 93 samples, of which 76 (81.7%) were single, 14 (15.1%) were multiple, and 3 (3.2%) were untyped infections. HPV18 was the most common subtype (70 cases, 75.3%), followed by HPV16 (28 cases, 30.1%). Other genotypes included HPV58 (3.2%), HPV52 (2.1%), and HPV33 (1.1%). Collectively, HPV16 and/or HPV18 were found in 83 cases (89.3%). Women with HPV18 infection were significantly younger (42.0years) than those with non-HPV18 infections (54.1years) (P=0.003). Associated adenocarcinoma in situ was more frequently seen among women with HPV18 infection (P=0.034).

Conclusions: HPV18 infection was predominant in cervical NECA. Variations in HPV genotype may be related to the clinicopathologic features and pathogenetic pathways of NECA. Vaccination against HPV16 and HPV18 might provide protection against cervical NECA in almost 90% of cases.

Published in: International Journal of Gynecology & Obstetrics 2011 Nov;115(2):175-9.

Impact of histology on prognosis of patients with early-stage cervical cancer treated with radical surgery.

Rudtanasudjatum K, Charoenkwan K, Khunamornpong S, Siriaunkgul S.

Objective: To examine the effect of carcinoma cell type on tumor characteristics, tumor spread, tumor recurrence, and survival of patients with early-stage cervical cancer who had radical hysterectomy and pelvic lymphadenectomy.

Methods: Data from 499 patients with stage IA to IIA cervical carcinoma who received primary surgical treatment from 2003 to 2005 at Chiang Mai University were retrospectively reviewed with regard to 3 histologic types; squamous cell carcinoma (SCC), adenocarcinoma (AC), and adenosquamous carcinoma (AS).

Results: Among the 499 patients, 71.1% had SCC, 23.4% had AC, and 5.4% had AS. There was no significant difference in stage, tumor size, tumor characteristics, or rate of loco-regional spread. A higher proportion of women with SCC needed adjuvant radiation (P=0.001). Five-year recurrence-free survival (RFS) and overall survival (OS) were comparable among the groups. Among patients with pelvic node metastasis, 5-year RFS and OS were significantly lower in those with AC than in those with SCC (RFS, 66.1% versus 86.4%, P=0.02; OS, 68.2% versus 88.2%, P=0.05).

Conclusion: There was no difference among SCC, AC, and AS in most tumor characteristics, spread, recurrence, and survival in patients with early-stage cervical cancer. Among patients with pelvic lymph node metastasis, AC was associated with less favorable outcomes than SCC.

Published in: International Journal of Gynecology & Obstetrics 2011 Nov;115(2):183-7.

Ovarian involvement of epithelioid trophoblastic tumor: a case report.

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

Epithelioid trophoblastic tumor (ETT) is an uncommon type of gestational trophoblastic neoplasia originating from the chorionic-type intermediate trophoblast. To our knowledge, ovarian involvement of ETT with initial presentation as an ovarian tumor has not been reported. A 32-year-old woman presented with a 9-cm left ovarian mass. No clinical evidence of uterine involvement was identified at diagnosis or follow-up. The patient had a previous history of hydatidiform mole treated with suctional curettage 5 years before. Ovarian involvement of ETT can be challenging to pathologists and may be potentially confused with ovarian epithelial carcinoma, particularly of clear cell differentiation.

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Mucinous tumor of low malignant potential ("borderline" or "atypical proliferative" tumor) of the ovary: a study of 171 cases with the assessment of intraepithelial carcinoma and microinvasion.

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

Mucinous tumors of the ovary are a continuing source of controversy in the field of gynecologic pathology. We examined a series of 171 intestinal-type mucinous tumors of low malignant potential ("borderline" or "atypical proliferative" tumors) to clarify the clinical significance of intraepithelial carcinoma (IECA) and microinvasion (area $\leq$ 10 mm²). The diagnosis of IECA was based on the presence of marked nuclear atypia (grade 3). Stromal microinvasion was classified as low grade and high grade (with nuclear grade 3). IECA was observed in 67 of 171 cases (39.2%). Microinvasion was identified in 31 (18.1%) cases, low grade in 22 (12.9%) cases, and high grade in 9 (5.3%) cases. Follow-up status was known in 144 cases and tumor recurrence was observed in 6 patients (4.2%). The risk factors for recurrence included International Federation of Gynecology and Obstetrics stage $\geq$ IC (P=0.002), microinvasion (P=0.013), age less than 45 years (P=0.032), and IECA (P=0.042). The amount of IECA $\geq$ 10% was also associated with the risk of recurrence (P=0.007). Among tumors with microinvasion, there was no significant association between the clinicopathologic variables and recurrence. When considering tumors with stage $\geq$ IC, tumor recurrence was significantly associated with IECA $\geq$ 10% (P=0.031) and age less than 45 years (P=0.047). It is important that mucinous tumors of low malignant potential should be staged and be optimally sampled for pathologic examination to document the status of the external surface or peritoneal involvement and to identify the worst degree of epithelial proliferation. Tumor stage $\geq$ IC, IECA $\geq$ 10%, microinvasion, and age less than 45 years were the features that were associated with tumor recurrence. The study results also support the use of nuclear grade 3 as the sole criterion of IECA.

Published in: International Journal of Gynecological Pathology 2011 May;30(3):218-30.

Kinetics of DNA load predict HPV 16 viral clearance.

Marks M, Gravitt PE, Utaipat U, Gupta SB, Liaw K, Kim E, Tadesse A, Phongnarisorn C, Wootipoom V, Yuenyao P, Vipupinyo C, Rugpao S, Sriplienchan S, Celentano DD.

Introduction: While high HPV 16 viral load measured at a single time point is associated with cervical disease outcomes, few studies have assessed changes in HPV 16 viral load on viral clearance.

Objective: To measure the association between changes in HPV 16 viral load and viral clearance in a cohort of Thai women infected with HPV 16.

Study design: Fifty women (n=50) between the ages of 18-35 years enrolled in a prospective cohort study were followed up every three months for two years. Women positive for HPV 16 DNA by multiplex TaqMan assay at two or more study visits were selected for viral load quantitation using a type-specific TaqMan based real-time PCR assay. The strength of the association of change in viral load between two visits and viral clearance at the subsequent visit was assessed using a GEE model for binary outcomes.

Results: At study entry, HPV 16 viral load did not vary by infection outcome. A >2 log decline in viral load across two study visits was found to be strongly associated with viral clearance (AOR: 5.5, 95% CI: 1.4-21.3). HPV 16 viral load measured at a single time point was not associated with viral clearance.

Conclusion: These results demonstrate that repeated measurement of HPV 16 viral load may be a useful predictor in determining the outcome of early endpoints of viral infection.

Published in: Journal of Clinical Virology 2011 May;51(1):44-9.

Combined oral contraceptive use increases HPV persistence but not new HPV detection in a cohort of women from Thailand.

Marks M, Gravitt PE, Gupta SB, Liaw KL, Tadesse A, Kim E, Phongnarisorn C, Wootipoom V, Yuenyao P, Vipupinyo C, Sriplienchan S, Celentano DD.

Background: Women diagnosed with cervical cancer report longer duration and more recent use of combined oral contraceptives (COCs). It is unclear how COC use impacts risk of cervical carcinogenesis.

Methods: We estimated the risk of new human papillomavirus (HPV) DNA detection and persistence among 1135 human immunodeficiency virus (HIV)-negative women aged 20-37 years from Thailand who were followed for 18 months at 6-month intervals. Type-specific HPV DNA, demographic information, hormonal contraceptive use, sexual behavior, genital tract coinfection, and Papanicolaou test results were assessed at baseline and each follow-up.

Results: Women who reported current COC use during follow-up were less likely to clear HPV infection compared with nonusers, independent of sexual behavior, and Papanicolaou test diagnosis (AHR: 0.67 [95% CI: .49-.93]). Similar associations were not observed among women reporting current use of depomedroxyprogesterone acetate (DMPA). Neither COC nor DMPA use was significantly associated with new HPV DNA detection.

Conclusions: These data do not support the hypothesis that contraceptive use is associated with cervical cancer risk via increased risk of HPV acquisition. The increased risk of HPV persistence observed among current COC users suggests a possible influence of female sex hormones on host response to HPV infection.

Published in: The Journal of Infectious Diseases 2011 Nov 15;204(10):1505-13.

Accuracy of the Wallach Endocell endometrial cell sampler in diagnosing endometrial carcinoma and hyperplasia.

Kunaviktikul K, Suprasert P, Khunamornpong S, Settakorn J, Natpratan A.

Aim: To assess the accuracy of the Wallach Endocell endometrial cell sampler in diagnosing endometrial carcinoma and hyperplasia.

Methods: Women aged over 35 years old with abnormal uterine bleeding who came to Chiang Mai University Hospital between June 2008 and June 2009 were invited to participate in this study if they were candidates for the fractional curettage procedure. All patients underwent endometrial sampling prior to endometrial curettage. The endometrial samples from both procedures were separately evaluated by different pathologists. The accuracy of the Wallach Endocell device in diagnosing endometrial carcinoma and hyperplasia was calculated by comparison with the final histology. When the results from both procedures were not identical, the final diagnosis was reported according to the consensus of the pathologists. Tissue adequacy was also determined.

Results: During the study period, 202 patients were recruited into this study. The sensitivity, specificity, false negative rate and false positive rate of the Wallach Endocell in diagnosing endometrial carcinoma and hyperplasia were 60.00%, 99.46%, 40.00% and 0.54%, respectively. Of 13 patients with endometrial hyperplasia, six were not detected by the Wallach Endocell device. All endometrial carcinomas were detected by the endometrial sampling procedure. Tissue adequacy from the Wallach Endocell device was 85.6%. The positive predictive value and negative predictive value were 95.00% and 92.85%, respectively.

Conclusion: The Wallach Endocell is an effective device for diagnosing endometrial carcinoma; however, the results of endometrial sampling should be interpreted with caution because of a high false negative rate in detecting endometrial hyperplasia.

Published in: Journal of Obstetrics and Gynaecology Research 2011 Jun;37(6):483-8.

Clinical significance of atypical glandular cells on Pap smears: experience from a region with a high incidence of cervical cancer.

Sawangsang P, Sae-Teng C, Suprasert P, Srisomboon J, Khunamornpong S, Kietpeerakool C.

Aim: To evaluate the histopathology of women who had atypical glandular cells (AGC) on Pap smears in a region with high incidence of cervical cancer.

Material and methods: This study was conducted at Chiang Mai University Hospital, Chiang Mai, Thailand. All women with AGC who underwent colposcopic and histopathologic evaluation between January 2002 and December 2008 were reviewed. Women with simultaneous diagnosis of squamous cell abnormality or prior history of cancer of any type were excluded.

Results: Sixty-three women with AGC Pap test had histologic follow-up during the study period. Mean age was 44.9 years (range, 31-72 years). Six (9.5%) women were nulliparous. Sixteen (25.4%) women were postmenopausal. The histopathologic results of these 63 women were as follows: cervical intraepithelial neoplasia (CIN) 2-3, 5 (7.9%); adenocarcinoma in situ (AIS), 3 (4.8%); endometrial cancer, 3 (4.8%); cervical cancer, 2 (3.2%); endometrial hyperplasia (EH), 1 (1.6%); and no lesions, 49 (77.8%). The prevalence of significant lesions (CIN 2-3, AIS, EH, and cancer) in women with atypical glandular cells, favor neoplasia (AGC-FN) was significantly higher than that in the atypical glandular cells, not other specified (AGC-NOS) group (41.2% and 15.2%, P = 0.02).

Conclusion: Reporting AGC in our population is clinically significant due to the high prevalence of underlying preinvasive and invasive diseases (22.2%). This subtype of the AGC category is a significant predictor of such lesions.

Published in: Journal of Obstetrics and Gynaecology Research2011 Jun;37(6):496-500.

Development and psychometric evaluation of the Thai Human Papillomavirus Beliefs Scale.

Juntasopeepun P, Davidson PM, Chang S, Suwan N, Phianmongkhol Y, Srisomboon J.

In this study, we developed and evaluated the psychometric properties of the Thai Human Papillomavirus Beliefs Scale. The Scale was tested on 386 young women years in Chiang Mai, Thailand. Content validity of the Scale was aged 18-24 evaluated by a panel of experts, construct validity was determined using exploratory factor analysis, and reliability was assessed for stability and internal consistency. Factor analysis provided empirical support for the existence of four factors, which accounted for 67.7% of the total variance: perceived susceptibility, perceived seriousness, perceived benefits, and perceived barriers. Cronbach's α reliability coefficients for the four subscales ranged from 0.59 to 0.86. Factors predicting intention to receive the papillomavirus vaccine were perceived susceptibility, perceived benefits, and perceived barriers. The Thai Human Papillomavirus Beliefs Scale demonstrated promising psychometric properties, indicating that it might be a useful instrument for assessing young women's human papillomavirus and cervical cancer-associated beliefs, and for predicting human papillomavirus vaccination intention.

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นำเสนอผลงานวิจัยในประเทศ ปี 2554

การประชุมวิชาการ ครั้งที่ 26 และการประชุมสามัญประจำปี 2554 ราชวิทยาลัยสูตินรีแพทย์แห่งประเทศไทย

ระหว่างวันที่ 3-7 ตุลาคม 2554 ณ โรงแรมดุสิตธานี หัวหิน จังหวัดประจวบคีรีขันธ์

ลำดับ	ชื่อ-สกุล	ชื่อเรื่อง
1	รศ.นพ.กิตติภัต เจริญขวัญ	1. A simplified technique for nerve-sparing type III radical hysterectomy 2. Retroperitoneal drainage versus no drainage after pelvic lymphadenectomy for the prevention of lymphocyst formation in patients with gynaecological malignancies

นำเสนอผลงานวิจัย ณ ต่างประเทศ ปี 2554

ลำดับ	ชื่อ-สกุล	ชื่อเรื่อง
1	รศ.พญ.ประภาพร สู่ประเสริฐ	Are the more number of pelvic nodes removed increase the incidence of positive node and survival in cervical cancer patients? 17th International Meeting of the Eurepean Society of Gynaecological Oncology Milan, Italy, September 11-14, 2011.
2	รศ.พญ.ประภาพร สู่ประเสริฐ	Outcome of single agent generic gemcitabine in recurrent ovarian cancer, fallopian tube cancer and primary peritoneal adenocarcinoma The XXII Asian and Oceanic Congress of Obstetrics and Gynecology September 23-27, 2011 Taipei Taiwan
3	รศ.พญ.ประภาพร สู่ประเสริฐ	Single node positive revealed good survival as negatve node in patients with cervical cancer treated with radical hysterectomy 2nd Biennial Meeting of the Asian Society of Gynecologic Oncology (ASGO 2011) November 4-5, 2011 กรุงโซล ประเทศเกาหลีใต้
4	ผศ.นพ.ชัยเลิศ พงษ์นริศร	Hybrid Transvaginal Instrumentation and Transumbilical Laparoendoscopic Single-Site Surgery for Endometrial Cancer: Surgical Technique and Peri-operative Outcomes 6th AAGL International Congress on Minimally Invasive Gynecology in conjunction with 12th APAGE Annual Congress hosted by JSGOE December 9-11, 2011 เมือง Osaka ประเทศญี่ปุ่น

นำเสนอผลงานวิจัยในประเทศ ปี 2554

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