



Department of Obstetrics and Gynaecology
Queen Mary Hospital
The University of Hong Kong



Gynaecological Oncology

Annual Report 2017



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Message from Division Head

The gynaecological oncology division of the Department of Obstetrics and Gynaecology, the University of Hong Kong, has been providing training and service in gynaecological oncology for over 50 years. Our unit is a tertiary referral center for both the private and public sectors in Hong Kong. We also accept referrals from the hospitals in Macau. With collaboration with other departments, our scope of services includes colposcopy, chemotherapy, radiotherapy, surgery and palliative care.

Our unit is a recognized training center for gynaecological oncology by the Hong Kong College of Obstetricians and Gynaecologists (HKCOG) and the Royal College of Obstetricians and Gynaecologists (RCOG). In 2017, we had Dr. Victoria Chai joining our team as a subspecialist trainee in gynaecological oncology. We would also like to congratulate Dr. Siew Fei Ngu for completing her subspecialist training in gynaecological oncology after spending one year at Addenbrooke's Hospital, Cambridge University Hospitals in the United Kingdom. Apart from training subspecialist fellow, we also provide gynaecological oncology training for basic and higher specialist trainees in Obstetrics and Gynaecology.

Our unit has a long-standing collaboration with the Family Planning Association (FPA) in Hong Kong to improve the provision of cervical smear screening for our population. In 2017, we jointly organized the 8th cervical smear taking course which comprised of both lectures and practicum to train professional cervical smear takers in Hong Kong.

In February 2017, we are delighted to have Prof. Sean Kehoe from the United Kingdom to visit us as the external examiner for the final MBBS examination. In addition to helping us with our examination, Prof. Kehoe also shared with us the update in ovarian cancer management and potential research idea during his visit.

I would like to take this opportunity to thank our team members and our collaborators for their contribution.



H.Y.S. Ngan
Tso Yin-Kai Professor
Head of Department

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Staff List

Gynaecological Oncologists

Professor Ngan Yuen Sheung Hextan, Professor, Department of Obstetrics and Gynaecology, University of Hong Kong

Dr. Chan Kar Loen Karen, Associate Professor, Department of Obstetrics and Gynaecology, University of Hong Kong

Dr. Tse Ka Yu, Consultant, Department of Obstetrics and Gynaecology, Queen Mary Hospital

Dr. Chu Man Yee Mandy, Associate Consultant, Department of Obstetrics and Gynaecology, Queen Mary Hospital

Subspecialist Trainee

Dr. Ngu Siew Fei, Assistant Professor, Department of Obstetrics and Gynaecology, University of Hong Kong (overseas training)

Dr. Chai Yu Ka, Associate Consultant, Department of Obstetrics and Gynaecology, United Christian Hospital

Specialist Gynaecologists

Dr. Lui Man Wa Ellen, Resident Specialist, Department of Obstetrics and Gynaecology, Queen Mary Hospital (1 Jan – 30 Jun 2017)

Dr. Cheng Mei Chi Maggie, Associate Consultant, Department of Obstetrics and Gynaecology, Queen Mary Hospital (1 Jul – 31 Dec 2017)

Residents

Dr. Wai Ka On Joan, Lecturer, Department of Obstetrics and Gynaecology, Queen Mary Hospital (1 Jan – 14 Feb 2017)

Dr. Tong Yu Wing Paul, Resident, Department of Obstetrics and Gynaecology, Queen Mary Hospital (1 Apr – 15 May 2017)

Dr. Wong Keedon, Resident, Department of Obstetrics and Gynaecology, Queen Mary Hospital (1 Jul – 30 Sep 2017)

Clinical Oncologists

Dr. Luk Mei Yee, Chief of Service, Department of Clinical Oncology, Queen Mary Hospital

Dr. Kwong Wai Kay Philip, Consultant, Department of Clinical Oncology, Queen Mary Hospital

Dr. Siu Wai Kwan Steven, Associate Consultant, Department of Clinical Oncology, Queen Mary Hospital

Pathologists

Professor Ng Oi Lin Irene, Head of Department, Department of Pathology, University of Hong Kong

Professor Cheung Nga Yin Annie, Professor, Department of Pathology, University of Hong Kong

Dr. Ip Pun Ching Philip, Associate Professor, Department of Pathology, Queen Mary Hospital

Consultant Colorectal Surgeon

Professor Law Wai Lun, Professor, Department of Surgery, Queen Mary Hospital

Dr. Ho Judy, Consultant, Department of Surgery, Queen Mary Hospital

Consultant Urologist

Dr. Tsu Hok Leung James, Consultant, Department of Surgery, Queen Mary Hospital

Consultant Plastic Surgeon

Dr. Li Kam Hop George, Consultant & Division Chief, Department of Surgery, Queen Mary Hospital

Consultant Medical Oncologist

Professor Kwong Yok Lam, Division of Haematology, Medical Oncology and Bone Marrow Transplantation, Department of Medicine, University of Hong Kong

Consultant Radiologist

Dr. Lam Wai Man Wendy, Chief of Service, Department of Radiology, Queen Mary Hospital

Dr. Lee Yuen Phin Elaine, Assistant Professor, Department of Radiology, University of Hong Kong

Consultant Anaesthesiologist

Professor Michael Irwin, Chief of Service, Department of Anaesthesiology, Queen Mary Hospital

Consultant Clinical Psychologist

Dr. Lina Wu, Senior Clinical Psychologist, Department of Psychiatry, Queen Mary Hospital

Medical Social Workers

Ms Lui Man Li, Social Welfare Department

Nurse Specialist in Stoma Care

Ms. Chan Lai Hung, Nursing Officer, Queen Mary Hospital

Cluster Rehabilitative Palliative Care Team

Dr. Chan Kwok Ying, Consultant, Palliative Medicine Unit, Grantham Hospital

Dr. Li Cho Wing Brian, Associate Consultant, Palliative Medicine Unit, Grantham Hospital

Ms. Ho Suk Hing, Registered Nurse, Grantham Hospital

Clinical Research Team

Ms Lau Suk Kwan Lesley, Research Assistant

Ms. Wei Na Tina, Senior Technical Officer

Ms. Chan Kin Yan Janice, Research Assistant

Laboratory

Staff-

Dr. Chan Wai David, Assistant Professor
Dr. Leung Ho Yin Thomas, Post-doctoral Fellow
Dr. Yung Ming Ho Mingo, Post-doctoral Fellow
Dr. Liu Si Stephanie, Research Officer
Dr. Siu Kwan Yee Michelle, Research Officer
Mr. Chan Chan Keung Milton, Technician
Dr. Chan Yau Sang, Senior Research Assistant
Dr. Chu Kit Hang Daniel, Research Assistant
Miss Tang Wai Man Hermit, Research Assistant
Miss HUI Man Ning, Lynn, Research Assistant
Miss Lo Sze Victoria, Research Assistant

Services

Hormonal assay and assays for tumour markers

Research tools

HPV detection and genotyping

ELISA

Immunohistochemistry

In situ hybridization assay

DNA, RNA and protein extractions

Conventional PCR and RT-PCR

Quantitative PCR

Quantitative RT-PCR

RNA protection assay

Western blot

DNA methylation analysis

DNA sequencing

Microarray analysis

Cell line and culture

Transfection study

RNAi study

Apoptotic assay

Clonogenic assay

Cytotoxicity assay

Cell proliferation assay

DNA copy number variation analysis

Protein co-immunoprecipitation

Gene cloning

In vivo animal study

Laser-captured microdissection

Hypoxia chamber

Flow cytometry

Yeast two hybrid

Fluorescent microscopy

Fluorescent stereomicroscopy

Li-Cor Odyssey CLx near-infrared fluorescence imaging system

Gel documentation system

Microplate reader

SpectraMax L Microplate Reade

Inpatient Services

Gynaecological oncology ward

22 beds in the open ward
2 private beds
3 day beds

Ward Manager

Ms. Hui Fung Ping, Susanna

Operating Theatre

2 Full-day lists per week

Operating Theatre Manager

Ms. Sylvia Wong

Outpatient Services

Colposcopy Clinic	4 sessions per week
Chemotherapy Clinic	1 session per week
Cancer follow-up Clinic	1 session per week
Trophoblastic Clinic	1 session per week
Day Chemotherapy	5 days per week
Patient Group Meeting	1 session per 3 weeks
Palliative Medicine Clinic	1 session per week
Pre-admission Clinic	1 session per week

Clinic In-charge

Ms. Chung Suk Man, Advanced Practice Nurse, S5, Queen Mary Hospital

Team Activities

Grand Round (Led by Prof. Hextan Ngan)	1 per week
Discussion of New Cases and Treatment (Led by Prof. Hextan Ngan)	1 per week
Radiology Meeting (Led by Prof. Hextan Ngan and Dr. Elaine Lee)	1 per week
Chemotherapy Meeting (Led by Prof. Hextan Ngan)	1 per week
Morbidities and Mortality Meeting (Led by Prof. Hextan Ngan)	1 per week
Pre-operative Round (Led by Prof. Hextan Ngan)	1 per week
Tumour Board Meeting/Pathology Review (Led by Prof. Hextan Ngan and Prof. Annie Cheung)	1 per week
Laboratory Research Meeting (Led by Prof. Hextan Ngan)	1 per month
Clinical Research Meeting (Led by Prof. Hextan Ngan)	1 per month

Outpatient Statistics

<i>Oncology Clinics Attendances</i>	2013	2014	2015	2016	2017
Cancer Follow-up Clinic	4145	4244	4249	4010	4183
Trophoblastic Clinic	939	795	766	907	856
Chemotherapy Clinic	1774	1879	2082	1894	1758

Patient Group Meeting

Oncology patients support group which was led by:

Ms. Susanna Hui (Ward Manager)
Ms. Tang Lai Chun (Advanced Practice Nurse)
Ms. Cheng Sze Ki (Registered Nurse)
Ms Tam Siu Man (Registered Nurse)

Stoma patients support group which was led by:

Ms. Susanna Hui (Ward Manager)
Ms. Chan Lai Hung (Nursing Officer)
Ms Tam Siu Man (Registered Nurse)

Oncology patient support group:

Total no. of sessions: 15

Total no. of attendance: 129 patients + 65 relatives = 194

Stoma patient support group:

Total no. of sessions: 2

Total no. of attendance: 12 patients + 1 relative = 13

Annual patient group party:

Attendance: 55 patients + 13 relatives = 68

Colposcopy Services 2017

Colposcopy Clinics

Queen Mary Hospital

4 sessions - Monday afternoon, Tuesday morning, Thursday and Friday afternoon

1 research session – Wednesday afternoon / Friday morning

Cervical Smear Clinics (run by nurses)

Queen Mary Hospital

3 sessions - Monday afternoon, Tuesday morning and Thursday afternoon

WDTC

4 sessions - Monday and Tuesday (full day)

Statistics

New Cases	616
Follow-up	1483

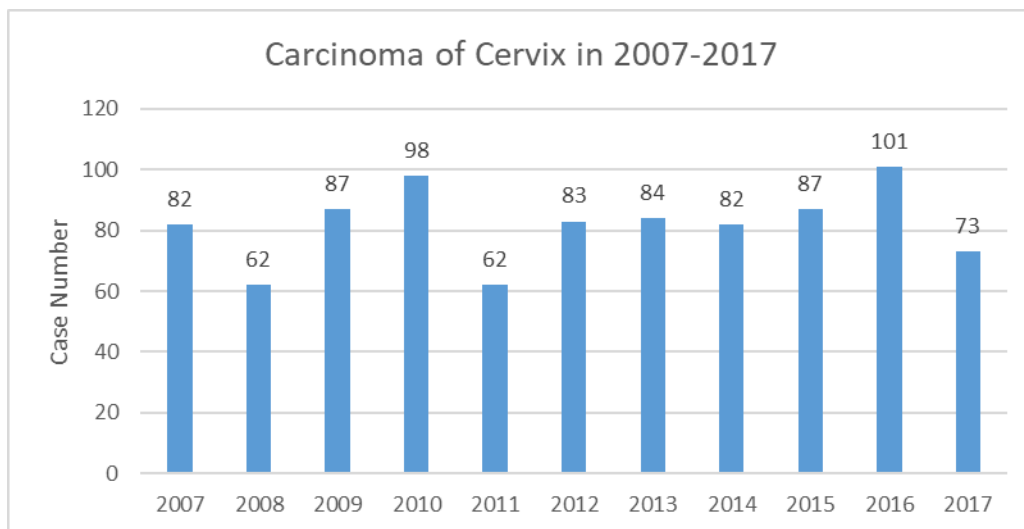
Diagnosis (based on worst histology)

	Cervix	Vagina	Vulva
Normal	109	11	0
Inflammation	35	2	0
Warts/HPV	117	3	1
Low grade squamous intraepithelial lesion	181	18	0
High grade squamous intraepithelial lesion	95	11	2
Microinvasive carcinoma	4	0	0
Squamous cell carcinoma	12	1	0
Adenocarcinoma	5	0	0
Glandular dysplasia	2	0	0
Adenocarcinoma in-situ	0	0	0
No histology	71	11	1
Unsatisfactory for assessment	3	2	0
Others			
Atypical cells	1	1	
Endocervical polyp	3		
Lymphoma	1		
Cervical involvement by endometrial carcinoma	1		

Procedures	
Cone biopsy	4
Cryotherapy	4
Large loop excision of transformation zone	122
Under local anaesthesia	113
Under general / spinal anaesthesia	9

Cervical Malignancies

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of New cases	82	62	87	98	62	83	84	82	87	101	73
Stage I	47	28	49	36	26	36	42	42	43	36	36
Stage II	20	25	17	35	27	22	21	19	17	26	18
Stage III	11	8	13	11	4	15	16	14	12	14	11
Stage IV	2	1	4	5	3	5	3	2	6	8	3
Unstaged	1	0	2	3	1	1	1	3	0	5	2
Recurrence	1	0	2	8	1	4	1	2	9	12	3



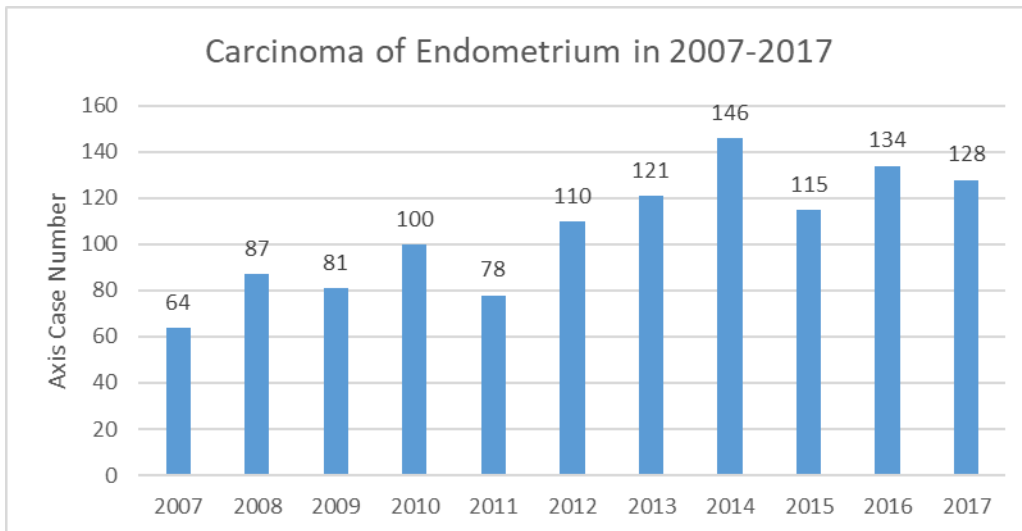
2017 New Case

Stage	Age	Count
Stage I	≤ 30	2
Stage II	31-40	17
Stage III	41-50	21
Stage IV	51-60	17
Unstage	61-70	10
Recurrence	71-80	2
Total	> 80	4
	Total	73

Uterine Malignancies

Carcinoma of Endometrium

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of New cases	64	87	81	100	78	110	121	146	115	134	128
Stage I	31	43	43	64	45	64	70	83	69	88	81
Stage II	7	10	7	10	5	10	8	16	10	10	11
Stage III	15	21	10	15	16	23	25	26	18	23	24
Stage IV	6	6	4	4	5	4	5	12	7	9	6
Unstaged	3	3	12	6	4	7	10	8	7	2	3
Recurrence	2	4	5	1	3	2	3	1	4	2	3



2017 New Case

Stage	Age	Number of Cases
Stage I	≤ 30	1
Stage II	31-40	4
Stage III	41-50	27
Stage IV	51-60	55
Unstage	61-70	29
Recurrence	71-80	5
Total	> 80	7
	Total	128

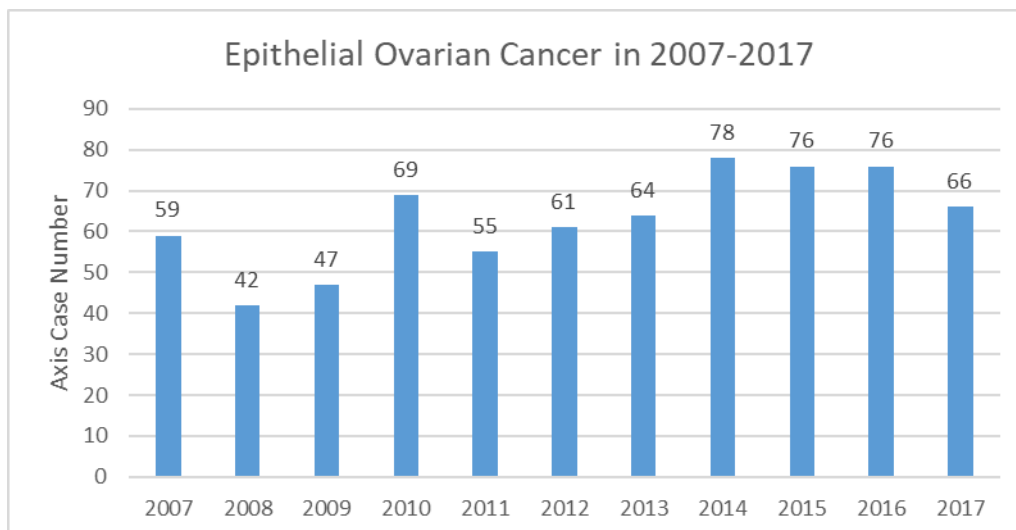
Other Uterine Malignancies

	2013	2014	2015	2016	2017
Endometrial stromal sarcoma	10	3	3	5	3
Leiomyosarcoma	5	6	6	5	14
Malignant Mixed Mullerian Tumor (MMMT)	8	14	5	8	11
Adenosarcoma	1	2	0	0	1
Smooth muscle Tumour of Undetermined Malignant potential	0	1	1	3	0
Undifferentiated endometrial sarcoma	0	0	2	0	0
Uterine tumour resembling ovarian sex cord tumour	0	0	0	0	1
Uterine small cell carcinoma				1	0
Undifferentiated carcinoma				1	1
Dedifferentiated endometrial carcinoma					1
Rabdomysarcoma					1
Chondrosarcoma					1

Ovarian Malignancies

Epithelial Ovarian Cancer

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of New cases	59	42	47	69	55	61	64	78	76	76	66
Stage I	21	12	21	21	22	26	30	25	22	32	14
Stage II	6	5	3	4	6	9	7	7	5	4	11
Stage III	23	9	11	13	21	16	16	32	33	16	22
Stage IV	6	8	4	15	6	4	10	9	10	13	12
Unstaged	2	1	0	7	0	2	1	1	1	2	1
Recurrence	1	7	8	9	0	4	0	4	5	9	6



2017 New Case

Stage	Age	Count
Stage I	≤ 30	1
Stage II	31-40	10
Stage III	41-50	15
Stage IV	51-60	20
Unstage	61-70	16
Recurrence	71-80	2
Total	> 80	2
	Total	66

Ovarian Tumour of Low Malignant Potential

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of new cases	18	21	15	13	8	19	19	19	18	13	22
Stage I	15	18	12	11	7	15	14	15	16	6	19
Stage II	1	0	0	0	0	0	2	1	0	1	2
Stage III	0	2	1	1	0	2	2	2	2	1	0
Unstaged	0	0	0	0	0	0	1	0	0	0	0
Recurrence	0	1	1	1	1	2	0	1	0	4	1

Germ Cell Tumour

1 patient had stage 1c2 immature teratoma

1 patient had stage 1 immature teratoma

1 patient had stage 3c yolk sac tumour

1 patient had stage 1a yolk sac tumour

Sex Cord-Stromal Tumour

1 patient had stage 1c1 granulosa cell tumour

2 patients had recurrent granulosa cell tumour

Other Ovarian Malignancies

1 patient had stage 4 metastatic squamous cell carcinoma

1 patient had stage 4 small cell carcinoma

1 patient had stage 1c1 mucinous carcinoid tumour

1 patient had signet ring cell carcinoma

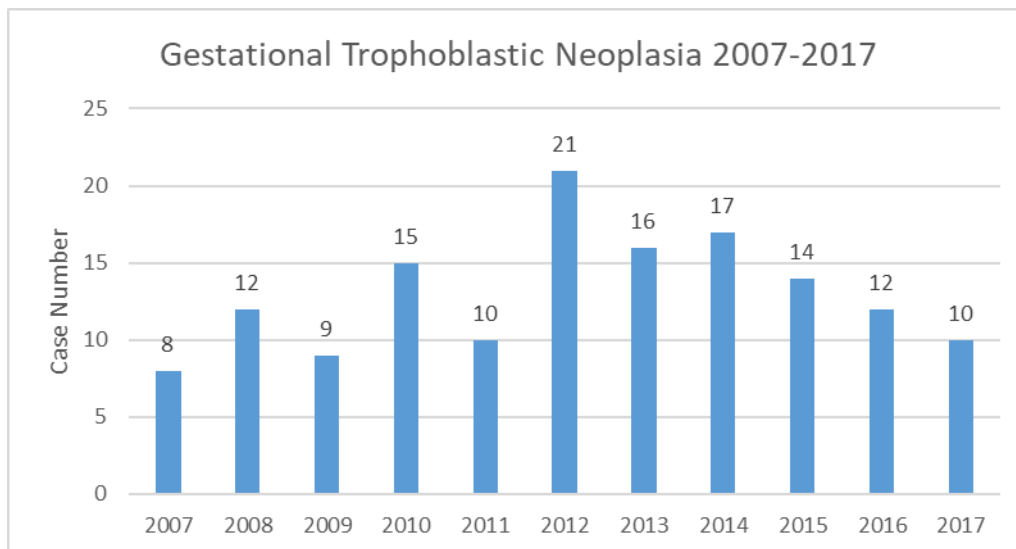
1 patient had stage 2c left ovarian epithelial cancer and right ovarian carcinosarcoma

Primary Peritoneal Carcinoma

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total	10	8	10	19	3	13	10	10	9	15	9
Stage II					0	0	0	0	0	0	0
Stage III					0	2	0	0	0	1	1
Stage IV					1	5	7	4	7	9	3
Unstaged					2	5	3	4	1	4	4
Recurrence						1	0	1	0	1	1

Gestational Trophoblastic Neoplasia

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of New cases	8	12	9	15	10	21	16	17	14	12	10
Stage I	5	9	6	10	9	18	12	10	8	8	8
Stage II	0	0	1	1	1	0	0	1	0	0	0
Stage III	3	3	2	1	0	2	2	5	2	2	2
Stage IV	0	0	0	1	0	1	2	0	1	1	0
Unstaged	0	0	0	0	0	0	0	0	0	0	0
Recurrence	0	0	0	2	0	0	0	1	1	1	0



2017 New case

Stage	Age	No
Stage I	≤ 30	4
Stage II	31-40	4
Stage III	41-50	2
Stage IV	> 50	0
recurrence	Total	10
Total		10

Vulval, Vaginal and Fallopian Tube Cancers

Vulval Cancer

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of New cases	14	8	8	11	5	8	7	9	6	6	9
Stage I	7	3	1	5	0	2	4	4	0	3	6
Stage II	3	3	2	0	0	1	0	0	1	0	0
Stage III	3	2	2	2	2	1	1	3	1	1	3
Stage IV	1	0	2	1	1	2	1	0	1	0	0
Unstaged	0	0	1	2	2	1	0	1	1	1	0
Recurrence	0	0	0	1	0	1	1	1	2	1	0

Vaginal Cancer

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of New cases	1	4	4	0	5	8	3	3	5	7	5
Stage I	0	1	0	0	0	2	0	1	0	0	0
Stage II	0	1	2	0	4	1	1	1	4	5	1
Stage III	1	0	1	0	1	1	0	0	0	0	1
Stage IV	0	1	0	0	0	2	2	0	1	1	2
Unstaged	0	0	1	0	0	1	0	0	0	0	0
Recurrence	0	1	0	0	0	1	0	1	0	1	1

Fallopian Tube Cancer

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
New Cases	0	0	3	0	0	1	0	3	2	5	4
Stage I	0	0	1	0	0	1	0	0	0	0	1
Stage II	0	0	0	0	0	0	0	0	0	1	2
Stage III	0	0	1	0	0	0	0	1	0	2	0
Stage IV	0	0	1	0	0	0	0	2	2	1	1
Unstaged	0	0	0	0	0	0	0	0	0	0	0
Recurrence	0	0	0	0	0	0	0	0	0	1	0

Multiple Primary Malignancies

2017 Number
12

Primary	Stage	Primary	Stage	Number
Corpus	I	Ca Ovary	I	1
	I	Ca Ovary	II	2
	I	Ca Ovary	III	4
	I	Uterine Sarcoma	I	1
	II	Ca Ovary	I	1
	III	Ca Ovary	Unstaged	2
	III	Ca Ovary	I	1
Cervix	I	Borderline Ovary	III	1
	II	MMMT Corpus	I	1

Three triple primary case

- 1 patient had Ca Corpus stage I + bilateral Ca Ovary stage I
- 1 patient had Ca Corpus stage I + bilateral fallopian tube stage I
- 1 patient had Ca Ovary stage I + Ca right Breast + Ca Thyroid

Operation for Malignant/Pre-malignant Diseases

	Number of procedures
Laparotomy (all cases with open abdominal surgery)	80
Radical hysterectomy +/- unilateral / bilateral salpingo-oophorectomy (U/BSO)	4
Laparoscopic radical hysterectomy +/- U/BSO	3
Laparoscopic radical hysterectomy +/- U/BSO (Da Vinci)	18
Total abdominal hysterectomy +/- U/BSO	59
Total laparoscopic hysterectomy +/- U/BSO	46
Total laparoscopic hysterectomy +/- U/BSO (Da Vinci)	26
Laparoscopic radical trachelectomy (Da Vinci)	0
Pelvic lymphadenectomy (one side)	47
Laparoscopic pelvic lymphadenectomy (one side)	32
Laparoscopic pelvic lymphadenectomy (one side) (Da Vinci)	63
Paraaortic lymphadenectomy	30
Laparoscopic paraaortic lymphadenectomy	10
Laparoscopic paraaortic lymphadenectomy (Da Vinci)	30
Omentectomy	39
Laparoscopic omentectomy	14
Laparoscopic omentectomy (Da Vinci)	10
Adhesiolysis	25
Laparoscopic adhesiolysis	14
Laparoscopic adhesiolysis (Da Vinci)	11
BSO / USO / ovarian cystectomy	4
Laparoscopic BSO / USO / ovarian cystectomy	13
Laparoscopic BSO / USO (Da Vinci)	2
Appendicectomy	6

Laparoscopic appendicectomy	5
Diagnostic laparoscopy +/- biopsy	14
Debulking surgery	38
Bowel resection and re-anastomosis	9
Colostomy / ileostomy	5
Repair of bowel	4
Repair of vessels	1
Laparoscopic repair of bladder	1
Vault stripping / vaginectomy	13
Wide local excision	6
Radical vulvectomy	6
Groin node dissection (one side)	8
Cone biopsy	2
Large loop excision of transformation zone	1
Brachytherapy	49
Removal or insertion of central line insertion	1
Diagnostic hysteroscopy	24
Hysteroscopic polypectomy	4
Excision of vaginal lesion	1
Radical vaginectomy	1
Transposition of ovaries	1
Laparoscopic transposition of ovaries	1
Closure of ileostomy / colostomy	2
Myomectomy	1

Chemotherapy

Total number of patients receiving in-patient chemotherapy: 283

Total number of patients receiving out-patient chemotherapy: 222

Total number of patients receiving oral chemotherapy: 9

Chemotherapy Regimen	Number of courses	
	In patient	Outpatient
Adriamycin	2	6
Adriamycin/Cisplatin	6	6
Adriamycin/Ifosphamide	4	0
BEP (bleomycin, etoposide and cisplatin)	11	0
Bevacizumab	20	26
Carboplatin	3	5
Carboplatin/Etoposide	12	12
Carboplatin/Gemcitabine	45	44
Carboplatin/Gemcitabine/Bevacizumab	2	3
Carboplatin/Liposomal doxorubicin	3	9
Carboplatin/ Paclitaxel	298	424
Carboplatin/(weekly) Paclitaxel	9	8
Carboplatin/Paclitaxel/Bevacizumab	17	19
Cisplatin	100	76
Cisplatin/Etoposide	2	1
Cisplatin/Gemcitabine	12	13
Cisplatin/Gemcitabine/Bevacizumab	3	4
Cisplatin/Paclitaxel	9	0
Cisplatin/Paclitaxel/Bevacizumab	2	0
EMA-CO (etoposide, methotrexate and actinomycin D/ cyclophosphamide and vincristine)	4	0
4-epidoxorubicin	1	3
Etoposide (oral)	0	4
Gemcitabine	21	24
Gemcitabine/Taxotere	13	22
Liposomal doxorubicin	27	30
Liposomal doxorubicin/Bevacizumab	2	0

Melphalan	0	4
Methotrexate (intravenous)	22	0
Olaparib	0	27
Taxol (weekly)	10	19
Taxotere	2	2
TP/TE (paclitaxel and cisplatin/ paclitaxel and etoposide)	2	2
Topotecan	34	26
VAC (vincristine, actinomycin-D, cyclophosphamide)	5	3
XELIRI (capecitabine and irinotecan)	1	2
XELOX (capecitabine and oxaliplatin)	1	0
Carboplatin/Taxol/Avelumab*	11	0
Avelumab*	0	5
Total number of courses of chemotherapy	716	829

*Clinical Trial

Publications

CHEN K., Ngan H.Y.S. and Chan D.W., Methylation-associated silencing of miR-193a-3p promotes ovarian cancer aggressiveness via targeting GRB7, *Cancer Research*. 2017, 77, LB-324-LB-324. <http://dx.doi.org/10.1158/1538-7445.am2017-lb-324>

Chan K.K.L., Siu K.Y., JIANG Y., WANG J., WANG Y., Leung T.H.Y., Cheung A.N.Y. and Ngan H.Y.S., Differential expression of estrogen receptor subtypes and variants in ovarian cancer: effects on cell invasion, proliferation and prognosis, *BMC Cancer*. <http://dx.doi.org/10.1186/s12885-017-3601-1>

Chan K.K.L., Siu K.Y., JIANG Y., WANG J., Wang Y., Leung T.H.Y., Liu S., Cheung A.N.Y. and Ngan H.Y.S., Differential expression of estrogen receptor subtypes and variants in ovarian cancer: effects on cell invasion, proliferation and prognosis, *BMC Cancer*. 2017. <http://dx.doi.org/10.1186/s12885-017-3601-1>

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