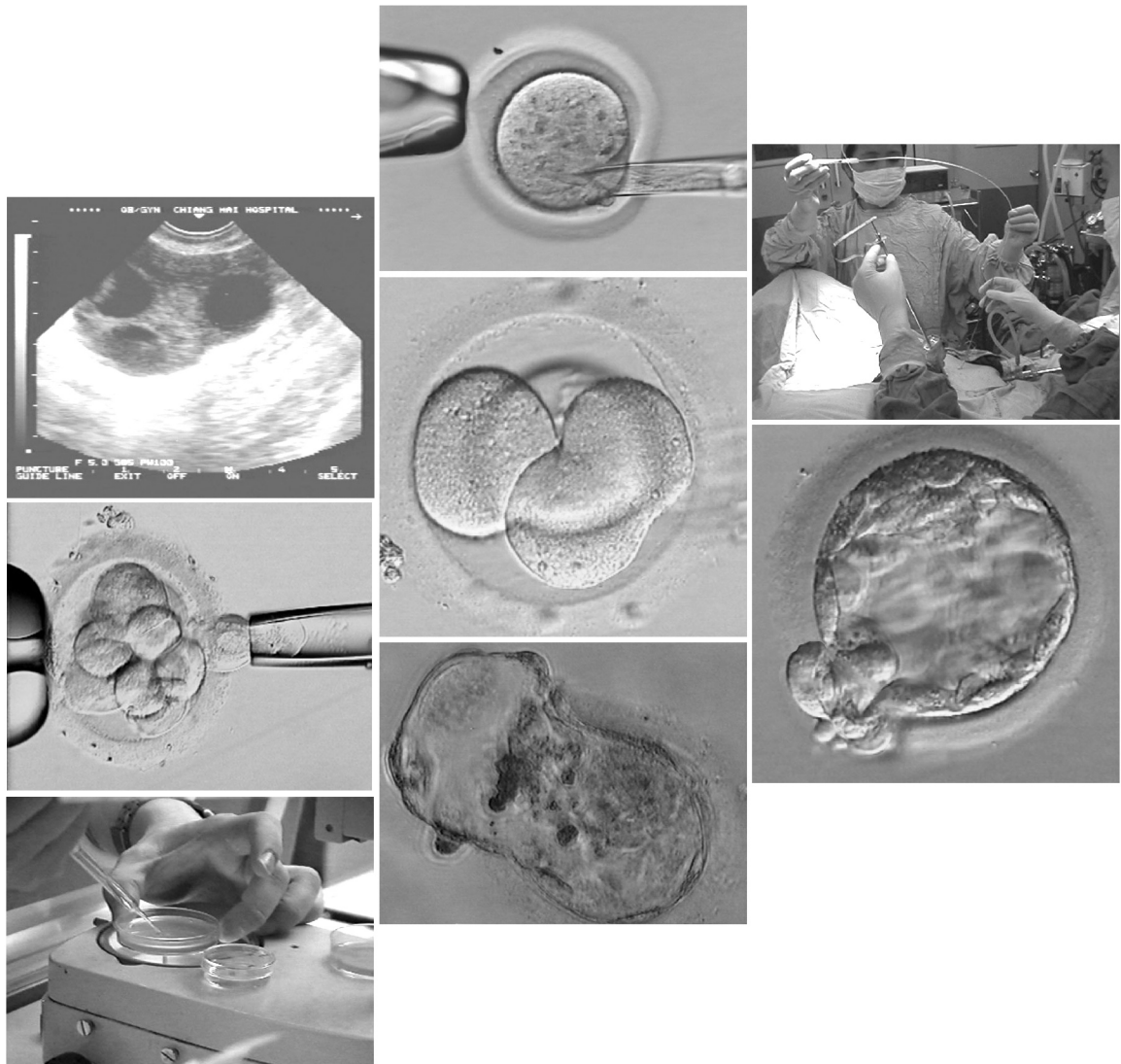


# Annual Report 2009



Division of Reproductive Medicine  
Department of Obstetrics & Gynecology  
Faculty of Medicine, Chiang Mai University  
Chiang Mai, Thailand

# ANNUAL REPORT 2009

Division of Reproductive Medicine  
Department of Obstetrics and Gynecology  
Faculty of Medicine  
Chiang Mai University  
Chiang Mai, Thailand

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Clinicians:	Associate Professor Teraporn Vutyavanich MD. (Head) Assistant Professor Prayoth Jongusuk MD. Associate Professor Supreeya Wongtra-ngan MD. Assistant Professor Opas Sreshthaputra MD. Tawiwat Pantasri MD. Ubol Sanganun MD.
Fellowship:	Usanee Sanmee MD. Worashorn Lattiwongsakorn MD. Wanakan Singhasena MD. Chanchai Chailert MD.
Coordinator nurse:	Rung-aroon Sreshthaputra MSc.
OPD nurses:	Supranee Noium MPH. Kullaya Sangchun BSc. Nutchanart Suntornlimsiri BSc.
Embryologist:	Waraporn Piromlertamorn MSc. Sudarat Samchimchom BSc. Suwannee Sansri BSc.

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Data collecting and reported by: Rung-aroon Sreshthaputra MSc.

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# รายงานประจำปี พ.ศ. 2552

หน่วยเวชศาสตร์การเจริญพันธุ์  
ภาควิชาสูติศาสตร์และนรีเวชวิทยา  
คณะแพทยศาสตร์  
มหาวิทยาลัยเชียงใหม่

หัวหน้าหน่วย

อาจารย์ประจำหน่วย

แพทย์หลักสูตรต่อยอด

พยาบาลประจำหน่วย

พยาบาลประจำห้องตรวจ

นักเทคนิคการแพทย์

ผู้รวบรวมและจัดทำรายงาน

รศ.น.พ.ธีระพร วุฒยวนิช  
ผศ.น.พ.ประโยชน์ จงอยู่สุข  
รศ.พ.ญ.สุปรียา วงษ์ตระหง่าน  
ผศ.น.พ.โอภาส เศรษฐบุตร  
พ.ญ.ทวิวัน พันธศรี  
พ.ญ.อุบล แสงอนันต์  
พ.ญ.อุษณีย์ แสนหมี่  
พ.ญ.วรชร์ ลัทธวิงศกร  
พ.ญ.วนากานต์ สิงหเสนา  
น.พ.ชาญชัย ไชยเลิศ  
รุ่งอรุณ เศรษฐบุตร  
สุปราณี น้อยอ่ำ  
กัลยา แสงจันทร์  
นุชนาต สุนทรลัมศิริ  
วารภรณ์ ภิมย์เลิศอมร  
สุดารัตน์ สามฉิมโถม  
สุวรรณณี แสนศรี

รุ่งอรุณ เศรษฐบุตร

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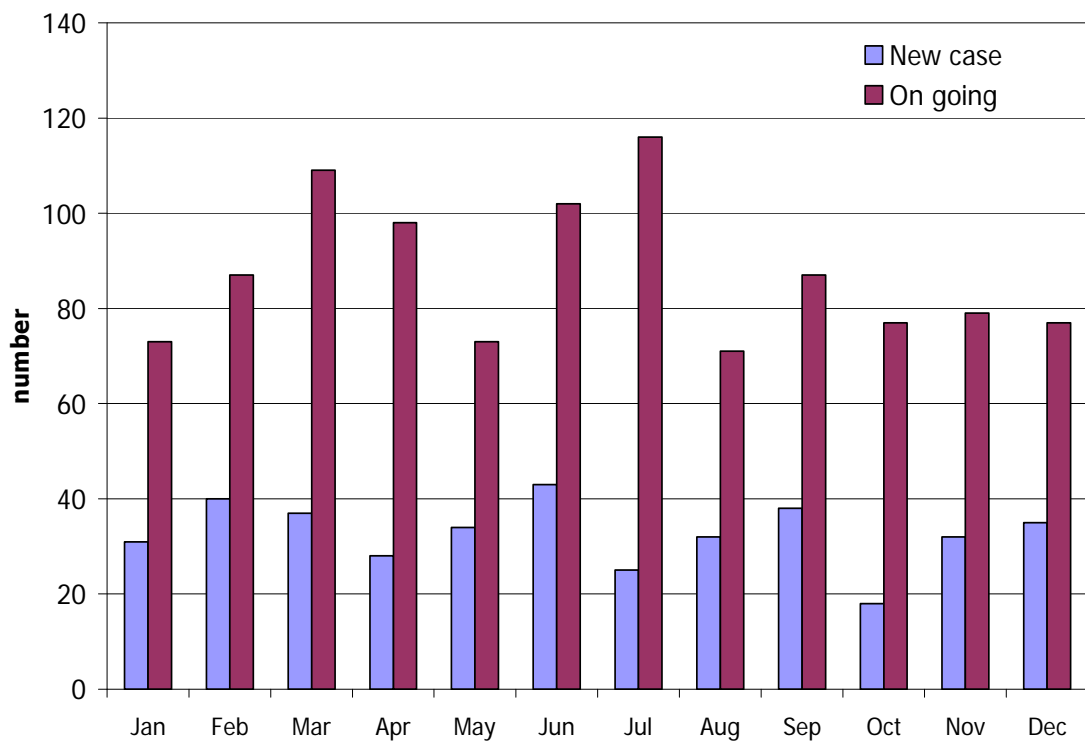
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**PART I****NUMBER OF PATIENTS VISITED IN 2009**

- Infertile
- Gynecologic endocrine
- Endometriosis

## I. Number of infertile patients

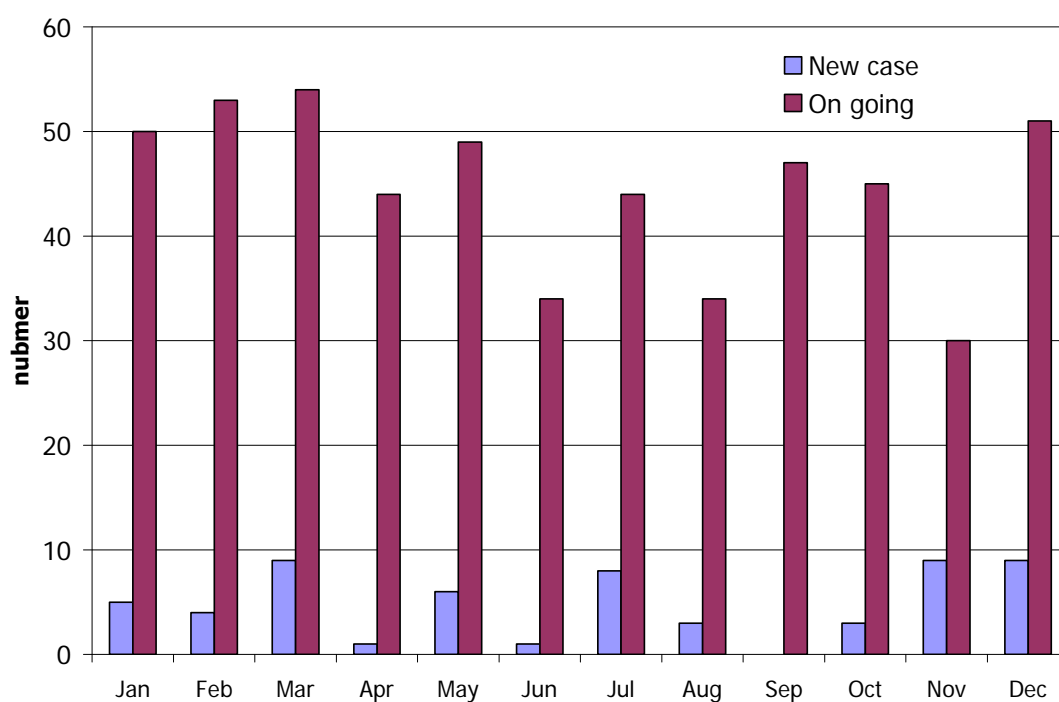
Month	New case (cases)	On going case (visits)
January	31	73
February	40	87
March	37	109
April	28	98
May	34	73
June	43	102
July	25	116
August	32	71
September	38	87
October	18	77
November	32	79
December	35	77
<b>Total</b>	<b>393</b>	<b>1049</b>



**Figure I.** Number of Infertile patients per month

## II. Number of gynecologic endocrine patients

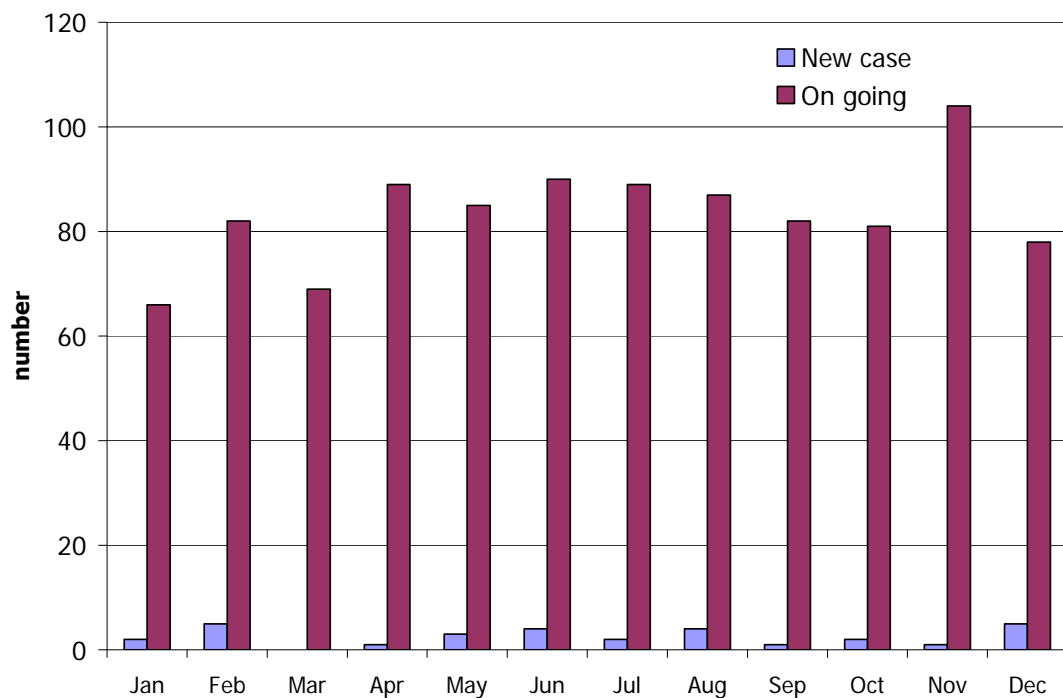
Month	New case (cases)	On going case (visits)
January	5	50
February	4	53
March	9	54
April	1	44
May	6	49
June	1	34
July	8	44
August	3	34
September	0	47
October	3	45
November	9	30
December	9	51
<b>Total</b>	<b>58</b>	<b>535</b>



**Figure II.** Number of endocrine patient per month

### III. Number of endometriosis patients

Month	New case (cases)	On going case (visits)
January	2	66
February	5	82
March	0	69
April	1	89
May	3	85
June	4	90
July	2	89
August	4	87
September	1	82
October	2	81
November	1	104
December	5	78
<b>Total</b>	<b>30</b>	<b>1002</b>



**Figure III.** Number of endometriosis patient per month



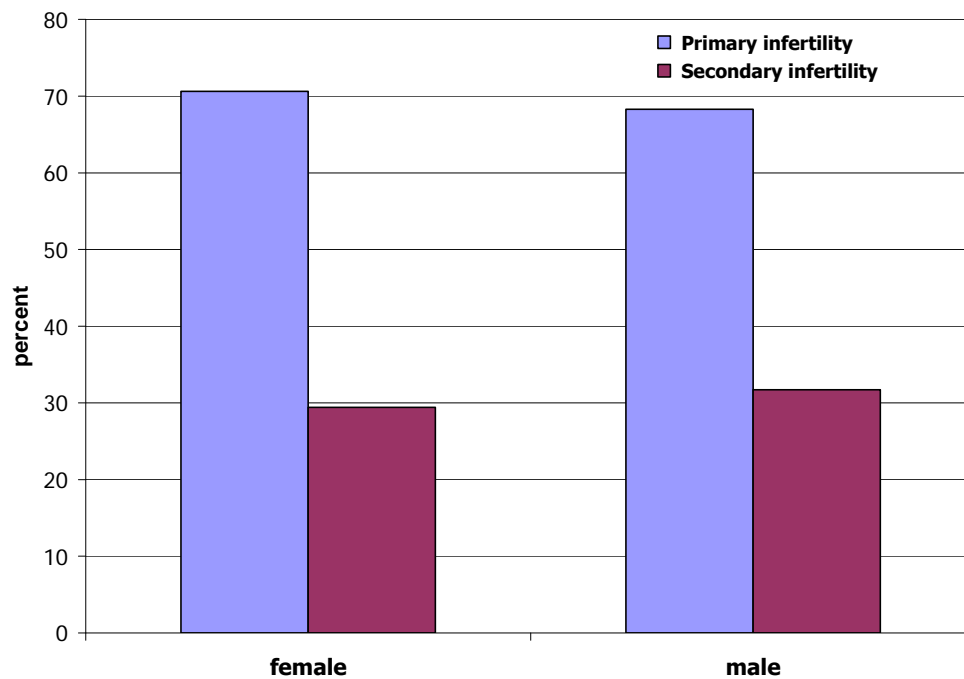
**PART II****BASELINE CHARACTERISTICS AND DIAGNOSIS  
OF  
INFERTILE COUPLES VISITED & FOLLOW UP IN 2009**

## I. Age, duration of marriage & infertility

		Mean $\pm$ SD	Range
Age	Female (years)	32.5 $\pm$ 4.7	19 - 51
	Male (years)	34.9 $\pm$ 5.3	19 - 69
Duration of marriage (months)		70.5 $\pm$ 61.5	3 - 240
Duration of infertility (months)		59.1 $\pm$ 55.2	3 - 240

## II. Infertile status

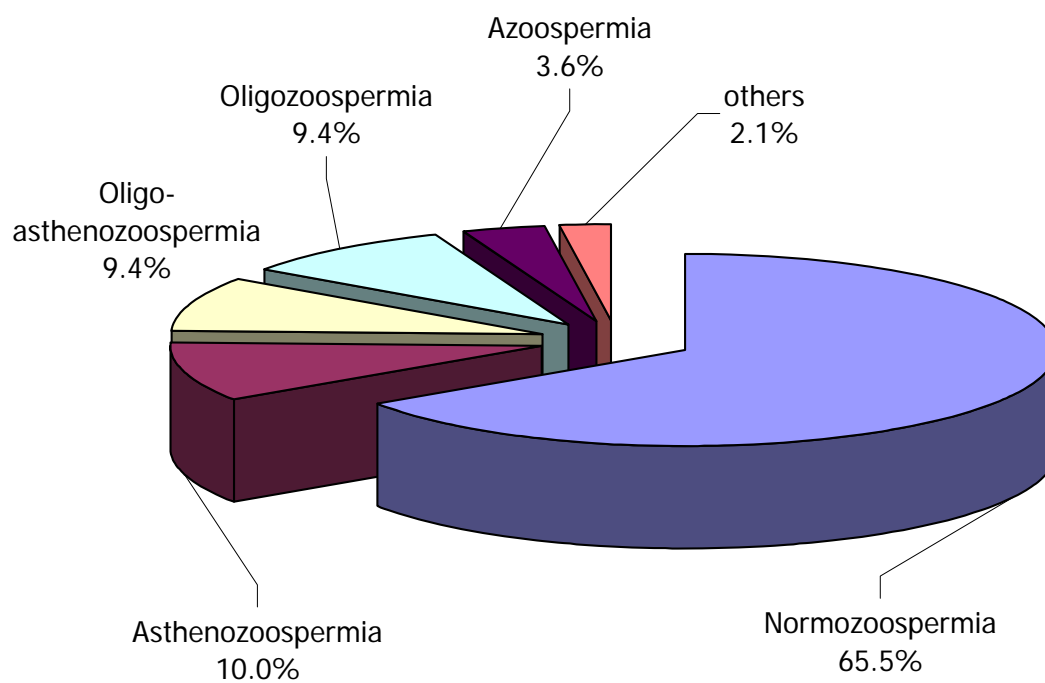
Status	Female (cases)	Male (cases)
Primary infertility	267 (70.6 %)	190 (68.3 %)
Secondary infertility	111 (29.4 %)	88 (31.7 %)
<b>Total</b>	<b>378</b>	<b>278</b>



**Figure IV.** Infertility status

### III. Diagnosis of male partners

Diagnosis	Case(s)	Percent
Normozoospermia	216	65.5
Asthenozoospermia	33	10.0
Oligo-asthenozoospermia	18	5.5
Oligozoospermia	21	6.4
Azoospermia	12	3.6
Severe Oligo-asthenozoospermia	13	3.9
Severe Oligozoospermia	10	3.0
Teratozoospermia	2	0.6
Necrospermia	2	0.6
Congenital abnormality	1	0.3
S/P vasectomy	1	0.3
Erectile dysfunction	1	0.3
<b>Total</b>	<b>330</b>	<b>100</b>

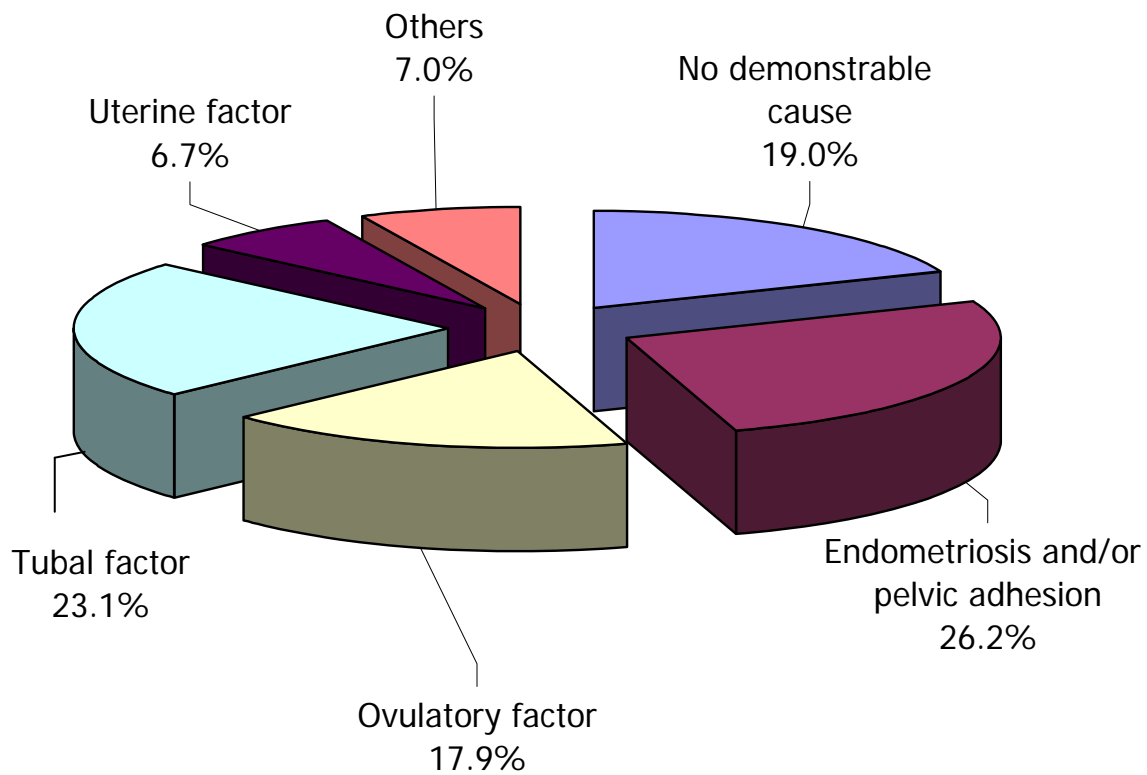


**Figure V.** Diagnosis of male partners

#### IV. Diagnosis of female partners

Diagnosis	Number	Percent
No demonstrable cause	51	19.0
Endometriosis	61	22.8
PCOs	30	11.2
Post TR	29	10.8
Ovulatory dysfunction	18	6.7
Unilateral tubal obstruction	14	5.2
Myoma Uteri / Adenomyosis	10	3.7
Bilat tubal occlusion	19	7.1
Elderly/decrease ovarian reserve	10	3.7
Pelvic adhesion	9	3.4
Habitual abortion	1	0.4
Need for more child	2	0.7
Amenorrhea	2	0.7
HIV serodiscordant	3	1.1
S/P hysterectomy	1	0.4
Empty sella syndrome	1	0.4
Intrauterine adhesion	7	2.6
<b>Total *</b>	<b>268</b>	<b>100.0</b>

\* Total number of female partners who had complete diagnosis



**Figure VI.** Diagnosis of female partners

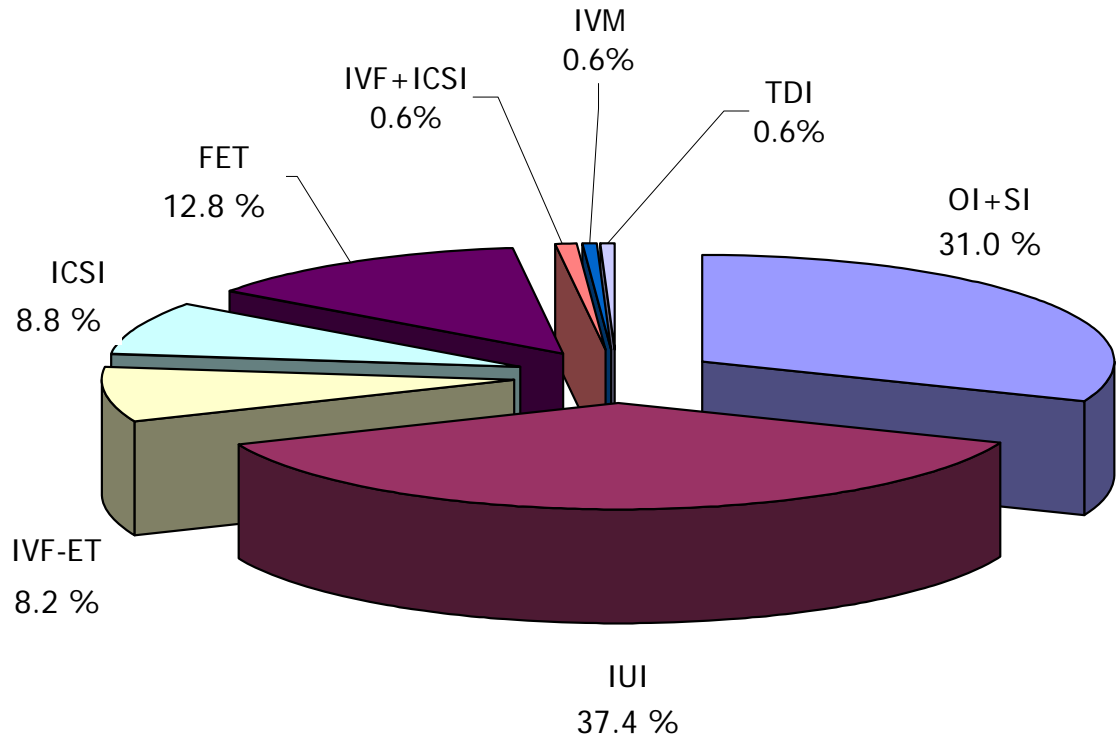
**PART III****TREATMENT OF INFERTILE COUPLES**

## **I. Distribution of overall treatment of infertility in 2009**

<b>Treatment</b>	<b>Number (cycles)</b>	<b>Percent</b>
Ovulation induction and timing sexual intercourse (OI+SI)	102	31.0
Intrauterine insemination (IUI)	123	37.4
In vitro fertilization and embryo transfer (IVF & ET)	27	8.2
Intracytoplasmic sperm injection ( ICSI) with ejaculated sperm	29	8.8
In vitro fertilization and ICSI (in the same cycle)	2	0.6
In vitro maturation (IVM)	2	0.6
Intracytoplasmic sperm injection ( ICSI) with surgical retrieved sperm	-	-
Intracytoplasmic sperm injection ( ICSI) with donor sperm	-	-
Therapeutic donor sperm insemination (TDI) using frozen sperm *	2	0.6
Frozen-thawed embryos transfer (FET)	42	12.8
Gamete intrafallopian transfer (GIFT)	-	-
Zygote intrafallopian transfer (ZIFT)	-	-
Direct intraperitoneal insemination (DIPI)	-	-
<b>Total cycle of treatment</b>	<b>329</b>	<b>100</b>

\* Sperm bank was available since November 2009





**Figure VII.** Treatment of infertility

## II. Number of intrauterine insemination and A.R.T cycle per month

Month	IUI	TDI <sup>a</sup>	IVF	IVF+ ICSI	IVM	ICSI	FET
January	5	-	-	-	-	1	4
February	17	-	5	-	-	5	4
March	18	-	1	-	1	1	2
April	7	-	2	-	-	2	2
May	14	-	2	-	1	6	5
June	10	-	-	-	-	4	7
July	11	-	4	-	-	2	-
August	9	-	-	-	-	5	7
September	8	-	4	-	-	2	-
October	6	-	3	-	-	1	7
November	11	2	3	2	-	-	3
December	9	-	3	-	-	-	1
<b>Total</b>	<b>123</b>	<b>2</b>	<b>27</b>	<b>2</b>	<b>2</b>	<b>29</b>	<b>42</b>
<b>Clinical pregnancy rate (percent)</b>	<b>8.9 <sup>b</sup></b>	<b>-</b>	<b>25.0 <sup>c</sup></b>	<b>-</b>	<b>-</b>	<b>22.0 <sup>c</sup></b>	<b>11.6 <sup>c</sup></b>

Remark: <sup>a</sup> Sperm bank was available since November 2009

<sup>b</sup> percent rate per cycle

<sup>c</sup> percent rate per cycle transferred

**PART IV**

**ASISSTED REPRODUCTIVE TECHNOLOGY  
LABORATORY REPORT**

**I. Fertilization rate in IVF and ICSI cycle & Survival rate in frozen-thawed embryo transfer cycle**

	<b>mean <math>\pm</math> SD</b>	<b>range</b>	<b>total</b>
<b>IVF cycle</b>			
Age of patient (years)	38.0 $\pm$ 3.1	34 - 44	
Number of oocyte retrieved per cycle	9.4 $\pm$ 5.4	3 - 22	245 oocytes
Number of normal fertilized embryos per cycle	6.8 $\pm$ 4.2	0 - 16	177 embryos
Fertilization rate			72.2 %
<b>ICSI cycle</b>			
Age of patient (years)	36.0 $\pm$ 5.4	24 - 45	
Number of over all oocyte retrieved per cycle	8.8 $\pm$ 5.6	1 - 26	247 oocytes
Number of M II oocytes retrieved per cycle	7.4 $\pm$ 5.1	1 - 22	200 oocytes
Number of normal fertilized embryos per cycle	4.9 $\pm$ 4.1	0 - 17	136 oocytes
Fertilization rate			68.0 %
<b>Frozen-thaw cycle</b>			
Number of embryo freezing per cycle	3.6 $\pm$ 4.3	0 - 17	200 oocytes
Number of embryo thawing per cycle	3.4 $\pm$ 1.4	2 - 8	138 embryos
Number of survived embryo after thawing per cycle	2.3 $\pm$ 0.8	0 - 4	95 embryos
Survival rate of thawing			68.8 %

## II. A.R.T. outcome and pregnancy outcome by type of A.R.T.

No. of	Type of ART	GIFT	ZIFT	IVF	ICSI		IVF + ICSI	PGD & PGS	Frozen-thawed cycles	Total
					Ejaculated sperm	Surgically Retrieved sperm				
<b>Initiated cycles</b>		-	-	-	-	-	-	-	-	-
<b>Aspiration/Thawed cycles</b>		-	-	<b>27</b>	<b>29</b>	-	<b>2</b>	-	<b>42 *</b>	<b>101</b>
<b>Oocytes retrieved</b>		-	-	<b>245</b>	<b>247</b>	-	<b>35</b>	-		<b>527</b>
<b>Oocytes transferred</b>		-								--
<b>MII oocyte inseminated</b>		-	-	-	<b>223</b>	-	<b>18</b>	-		<b>241</b>
<b>Embryo cryopreserved</b>		-	-	<b>178</b>	<b>139</b>	-	<b>18</b>	-		<b>335</b>
<b>Normal embryos</b>		-	-	<b>101</b>	<b>91</b>	-	<b>13</b>	-		<b>205</b>
<b>Thawed embryos</b>									<b>138</b>	<b>138</b>
<b>Survived embryos</b>									<b>105</b>	<b>105</b>
<b>Embryos transferred</b>			-	<b>59</b>	<b>45</b>	-	<b>5</b>	-	<b>105</b>	<b>214</b>
<b>Transfer cycles</b>			-	<b>24</b>	<b>18</b>	-	<b>2</b>	-	<b>42</b>	<b>86</b>
<b>Clinical pregnancies</b>		-	-	<b>6</b>	<b>4</b>	-	<b>0</b>	-	<b>5</b>	<b>15</b>
<b>Clinical pregnancy losses</b>		-	-	<b>0</b>	<b>0</b>	-	-	-	<b>0</b>	<b>0</b>
<b>Ectopic pregnancies</b>		-	-	<b>1</b>	<b>0</b>	-	-	-	<b>0</b>	<b>1</b>
<b>Total deliveries</b>		-	-	<b>5</b>	<b>4</b>	-	-	-	<b>5</b>	<b>14</b>
<b>Live birth</b>		-	-	<b>5</b>	<b>4</b>	-	-	-	<b>5</b>	<b>14</b>
<b>Singleton</b>		-	-	<b>5</b>	<b>4</b>	-	-	-	<b>5</b>	<b>14</b>
<b>Twins</b>		-	-	-	-	-	-	-	-	-
<b>Triplet</b>		-	-	-	-	-	-	-	-	-
<b>Quadruplets or more</b>		-	-	-	-	-	-	-	-	-
<b>Major anomalies</b>		-	-	-	-	-	-	-	-	-
<b>Minor anomalies</b>		-	-	-	-	-	-	-	-	-

\* from IVF 21 cases, from ICSI 20 cases, from IVF+ICSI cycle 1 case

**III. A.R.T. outcome and pregnancy outcome by type of A.R.T. and age group of female patients**

**Fresh embryos transfer cycle**

	IVF			ICSI		
Age (years)	Number of OPU cycle	Pregnancies	Deliveries	Number	Pregnancies	Deliveries
≤34	8	1	1	10	1	1
34 - 39	14	3	2	10	1	1
≥40	5	2	2	9	2	2
<b>total</b>	27	6	5	29	4	4

**Frozen embryos transfer cycle**

	IVF			ICSI		
Age (years)	Number of OPU cycle	Pregnancies	Deliveries	Number	Pregnancies	Deliveries
≤34	6	1	1	7	2	2
34 - 39	10	1	1	13	1	1
≥40	5	0	0	0	0	0
<b>total</b>	21	2	2	20	3	3

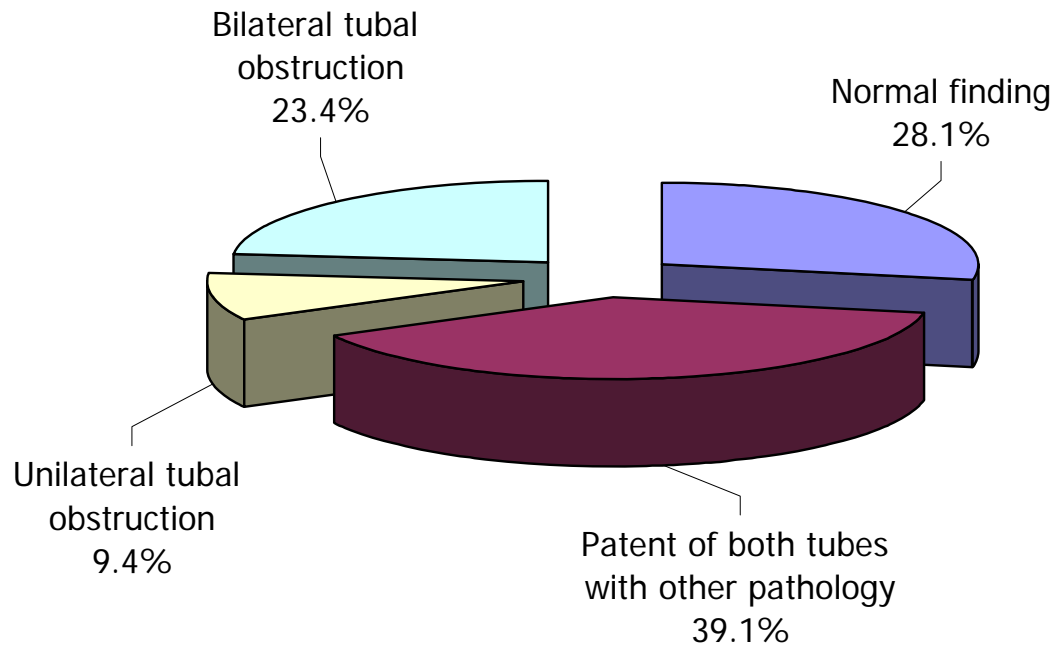
**PART V****ENDOSCOPIC PROCEDURES  
&  
OTHER SURGERIES**

**I. Laparoscopic examination finding in infertile patients**

<b>Finding</b>	<b>Number</b>	<b>Percent</b>
Normal finding with patent of both tubes	18	28.1
Patent of both tubes with		
minimal/ mild endometriosis	21	32.8
mild pelvic adhesion	2	3.1
bilateral salpingitis and ischemic nodosa	1	1.6
paratubal adhesion	1	1.6
Unilateral tubal obstruction with		
minimal / mild endometriosis	3	4.7
pelvic adhesion	1	1.6
myoma uteri	1	1.6
Unilateral cornual obstruction	1	1.6
Bilateral tubal obstruction with	4	6.3
Bilateral tubal obstruction S/P TR	10	15.6
Bilateral hydrosalpinx	1	1.6
<b>Total</b>	<b>64</b>	<b>100</b>

*remark : lysis adhesion was done during the procedure in case of minimal and mild adhesion and cauterization was done in case of minimal and mild endometriosis*



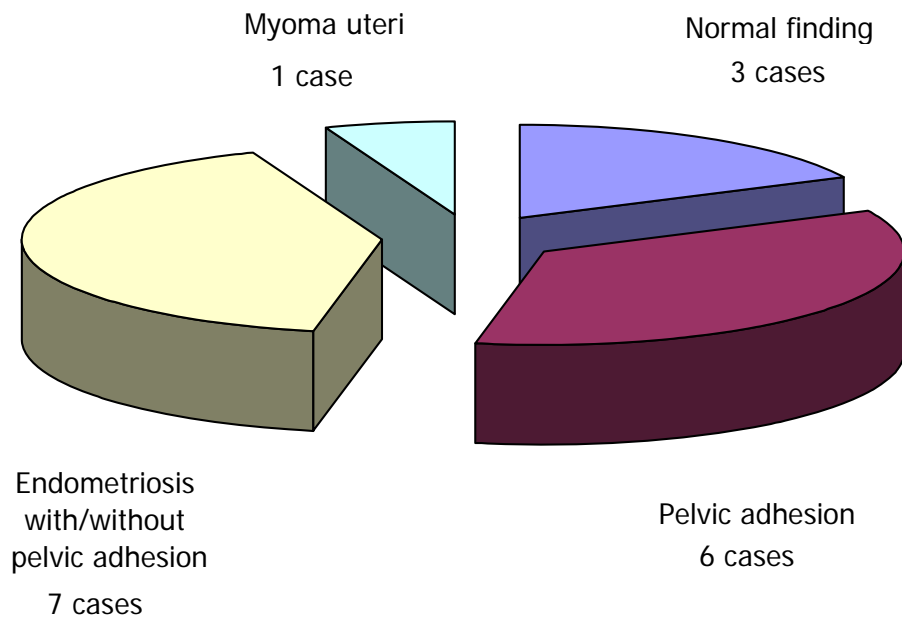


**Figure VIII.** Laparoscopic findings in infertile patients

## II. Laparoscopic examination finding in gynecologic patients with dysmenorrhea / chronic pelvic pain

Finding	Number
Normal finding	3
Pelvic adhesion	6
Endometriosis with / without pelvic adhesion *	7
Myoma uteri	1
<b>Total</b>	<b>17</b>

\* cauterization and lysis adhesion was done during the procedure



**Figure IX.** Laparoscopic finding in gynecologic patients

**III. Hysteroscopic finding & procedures in infertile couples, recurrent implantation failure and recurrent pregnancy loss**

Finding	Number	Percent
WNL	39	37.9
Endometrial polyp <sup>a</sup>	22	21.4
Submucous myoma uteri <sup>b</sup>	24	23.3
Endometrial hyperplasia <sup>c</sup>	3	2.9
Cervical stenosis <sup>d</sup> (cervical dilatation were done)	5	4.9
Intrauterine adhesion <sup>e</sup>	7	6.8
Septate uterus <sup>e</sup>	2	1.9
cornual obstruction <sup>f</sup> (recornualization was done)	1	1.0
	103	100

<sup>a</sup> polypectomy was done in 16 cases and curettage in 6 cases

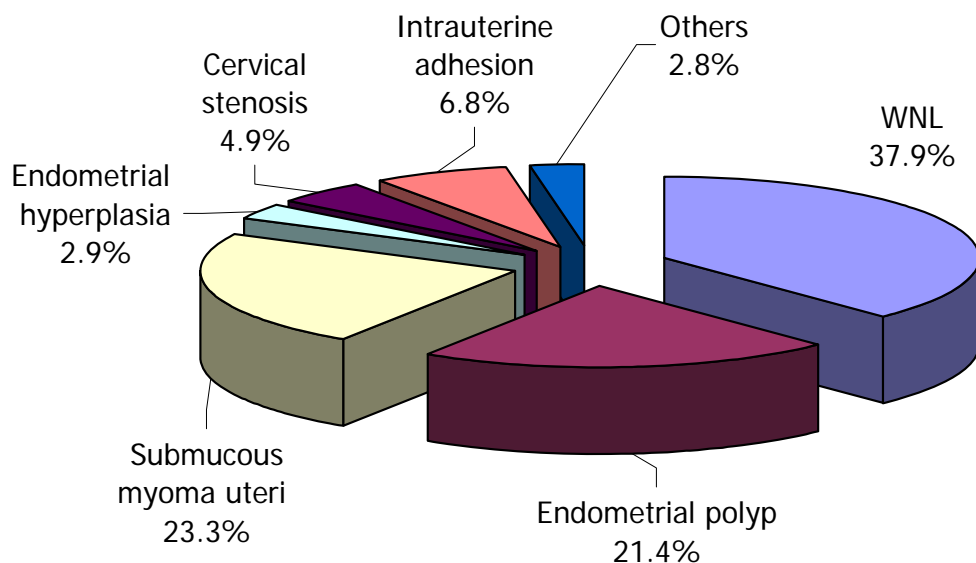
<sup>b</sup> resection of myoma uteri was done

<sup>c</sup> curettage was done

<sup>d</sup> cervical dilatation was done

<sup>e</sup> lysis adhesion was done

<sup>f</sup> cornual catheterization was done



**Figure X.** Hysteroscopic finding in infertile patients

#### IV. Hysteroscopic finding & treatment in gynecologic patients

<b>Diagnosis</b>	<b>Treatment</b>	<b>Number</b>
AUB	Curettage	6
Hypermenorrhea	Ablation	2
Intrauterine mass	Resection of uterine mass	1
Intrauterine adhesion	Lysis adhesion	2
Foreign body in the uterus	Removal of foreign body	1
Retained placenta	Curettage	1
Uterine didelphis (noncommunicated rudimentary horn)	Examination	1
<b>Total</b>		<b>14</b>

## V. Laparoscopic surgery procedure of infertile & gynecologic patients

Procedure	Diagnosis / finding	Number	Percent
Unilateral ovarian cystectomy	Ovarian cyst	14	12.1
Unilateral ovarian cystectomy with myomectomy	Ovarian cyst with myoma uteri	2	1.7
Unilateral ovarian cystectomy with salpingectomy and/or fimbrioplasty	Ovarian cyst with hydrosalpinx	3	2.6
Unilateral ovarian cystectomy and lysis adhesion	Ovarian cyst with pelvic adhesion	6	5.2
Bilateral ovarian cystectomy	Bilateral ovarian cyst / endometrioma	20	17.2
Salpingectomy / Salpingostomy / Remove conceptive product	Tubal pregnancy	12	10.3
Salpingectomy + lysis adhesion	Severe pelvic adhesion	1	0.9
Uni/ bilateral Salpingectomy	Hydrosalpinx	9	7.8
TLH +/- BSO	Myoma uteri	6	5.2
Lysis adhesion	Pelvic adhesion	19	16.4
Lysis adhesion + salpingectomy	Severe pelvic adhesion	2	1.7
Gonadectomy	Testicular feminization	1	0.9
Bilateral salpingo-oophorectomy	Turner syndrome	1	0.9
Unilateral salpingo-oophorectomy	Ovarian cyst	3	2.6
Fimbrioplasty	Peritubal adhesion /hydrosalpinx	3	2.6
Tubal resection	Nullipara	14	12.1
<b>Total</b>		<b>116</b>	<b>100</b>

## VI. Explor laparotomy and other surgeries

Procedure	Diagnosis / finding	Number
TAH+BSO	Severe endometriosis	5 <sup>a</sup>
TAH+cystectomy +/-SO	Bilateral endometrioma	2
TAH	chronic pelvic pain / hypermenorrhea / adenomyosis	3
TAH with vaginoplasty	Vaginal & cervical agenesis	1
Vaginal hysterectomy	Adenomyosis	1
Vaginal reconstruction	Vaginal agenesis	1
Resection of vaginal septum	Vaginal septum	1
Excision endometriosis of abdominal surgical scar	Endometriosis of abdominal surgical scar	1
Transvaginal myomectomy	Myoma uteri	1
Reverse TR	S/P post TR	13
Labial aglutination	Labial separation	1
Cornual resection (failed lap.Sx.)	Cornual pregnancy	1 <sup>b</sup>
Cystectomy (failed lap.Sx.)	Dermoid cyst	1 <sup>b</sup>
Myomectomy	Myoma uteri	8
Myomectomy with salpingectomy oophorectomy lysis adhesion	Myoma uteri with hydrosalpinx ovarian cyst pelvic adhesion	3 <sup>a</sup> 2 <sup>b</sup> 1 <sup>b</sup>
Surgical sperm recovery	Azoospermia	1
Aspiration of ovarian cyst	Ovarian cyst	1
<b>Total</b>		<b>48</b>

<sup>a</sup> failed laparoscopic surgery 2 cases

<sup>b</sup> failed laparoscopic surgery

**PART V****GYNECOLOGIC ENDOCRINE PATIENTS**

### **Distribution of gynecologic endocrine patients**

<b>Diagnosis</b>	<b>No. of cases</b>	
	<b>New case (cases)</b>	<b>On going (visits)</b>
Hyperprolactinemia / Macro or Microadenoma of pituitary gland/Prolactinoma/Pituitary adenoma	5	119
Primary amenorrhea	1	3
Secondary amenorrhea	7	36
PCOs/ Chronic anovulation / oligo-ovulation	9	157
Premature ovarian failure	0	54
Precocious puberty	1	7
Habitual abortion	13	18
AUB / DUB	2	31
Premature menopause / Surgical menopause	0	9
Gonadal dysgenesis	1	12
Turner's syndrome	1	29
Hypogonadotropic hypogonadism	-	7
Panhypopituitarism	-	3
Asherman's syndrome/ Ut. Synechia	0	7
Testicular feminization	-	8
Empty stella syndrome	-	5
Mccune Albright syndrome	1	2
Kallman syndrome	-	3
Hirsutism	1	-
<b>Total</b>	<b>40</b>	<b>510</b>