

# Female Genital Cancer in Basrah, Iraq between 2005 – 2009

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## ABSTRACT

**Objective:** To determine the incidence of genital cancer among women in Basrah during 2005-2009 in comparison to previous incidence 10 years ago.

**Patients and Methods:** Analysis of all new cases of cancer which were diagnosed by histopathologist in Basrah, Iraq during 2005-2009 and registered in the Oncology Center, Cancer Registration Section in the Department of Pathology and Cancer Control Center in Southern Iraq.

**Results:** The highest incidence rate of genital cancer was observed during 2008. Ovarian tumour was the highest and commonest type of genital tumour (172 cases) followed by cervical cancer (108 cases) and the least determined incidence was the secondaries metastases during the period of study.

Cervical cancer was higher at age group 45-49 years (15/100000), while both endometrial and ovarian cancers were higher at age group 65-69 years (33.4/100000 and 19/100000 respectively).

Epithelial tumour composed the largest group of ovarian cancer (116 cases), germ cell tumour accounted for 36 cases while sex cord tumour 15 only.

**Conclusion:** A remarkable decline can be seen in the incidence of all types of genital tumour during 2005-2009 in comparison with incidence between 1987-2000.

## INTRODUCTION

Despite a great efforts to improve survival of patients with cancer through different modalities of cancer therapy, successes are still limited. Many types of cancer are very aggressive, diagnosed very late and might metastasis has developed making the chances for cure are doubtful.

In Iraq, according to various estimates, somewhat between 16000 to 20000 new cases may diagnosed annually with 50% of them die within the first 5 years.<sup>1</sup> Thus, cancer is a big health problem in Iraq as far as number of cases, cost of treatment and the mortality are concerned. For instance, in Asia in 2002 the mortality rates were 108.7 and 74.0 per 100000 for males and

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females respectively.<sup>2</sup> In United Kingdom, the mortality rate of all sites during 2002 was 261.2 per 100000<sup>3</sup> of cancer is still vague and the role of specific risk factors is unresolved with substantial variation across the world.<sup>2,4,5</sup> However, cancer did not receive sufficient scientific research in Basrah. Therefore, this study was designed to determine the incidence of genital cancer among women in Basrah during 2005-2009 in comparison to previous incidence between 1987-2000.

## PATIENTS AND METHODS

Analysis of diagnosed genital cancer between 2005-2009 are based on all new cases of genital cancer which were diagnosed by histopathologists in Basrah during 2005-2009 and registered with the following institutions:-

- Oncology Center in AL-Sadr Teaching Hospital which is the main center for registration of cases which are eligible for chemotherapy and administration of cytotoxic chemotherapy.
- Cancer Registration section at the Department of Pathology and Forensic Medicine, College of Medicine, University of Basrah.
- The Center for Cancer Control in southern Iraq. This center is the official cancer registry in Basrah. This center registers any case sent to by all sources where diagnosed and treatment of cancer case are carried out.
- Pathological Center in Maternity and Child Hospital. Data available include patient's age and type of cancer were collected from the record of patient and reviewed and analyzed.

The work has been approved by the ethical committee at the College of Medicine, University of Basrah, Iraq.

## RESULTS

The annual incidence rates of genital malignant diseases among females in Basrah province during 2005-2009 with a highest rate was observed during 2008 (4.4/100000) (Table 1).

Ovarian tumour rate was the highest and commonest type of genital cancer (172 cases), followed by cervical cancer (108 cases) while the least rate was observed in the fallopian tube (one case) (Table 2).

Table (3) showed the distribution of cervical genital cancer according to the age group. The highest incidence (15/100000) was found among age group 45-49 years.

As far as the endometrial cancer is concerned, the highest incidence (33.4/100000) was reported among age group 65-69 years (Table 4).

The highest incidence rate for the commonest ovarian cancer (19/100000) was determined among the age group 65-69 years (Table 5).

The histopathological investigation was also recorded for ovarian cancers (Table 6). Surface epithelial tumour composed the highest numbers of patients (116 cases) followed by germ cell tumour (36 cases) and then sex cord-stromal cancer (15 cases).

It should be stated that a remarkable decline can be seen in the incidence of all types of genital tumours during the years 2005-2009 in comparison to the years 1987-2000 (Table 7).

**Table (1) Incidence rate of female genital cancers in Basrah during 2005-2009.**

Year	No. of cases	No. of population	Incidence rate per 100000
2005	54	2162794	2.49
2006	70	2222810	3.14
2007	79	2282826	3.40
2008	105	2344462	4.40
2009	99	2410107	3.68

**Table (2): Incidence of types of genital malignancies among females in Basrah between 2005-2009.**

Type of tumor	2005		2006		2007		2008		2009		Total
Ovarian	33	1.35	25	1.12	30	1.31	43	2.15	41	1.13	172
Endometrial	9	0.43	18	0.9	14	0.7	25	1.12	28	1.5	94
Sarcoma	0	0	4	0.5	4	0.2	3	0.25	0	0	13
Choriocarcinoma	1	0.5	2	0.10	1	0.15	1	0.42	0	0	5
Cervical	7	0.35	18	0.92	27	1.32	29	1.02	27	1.12	108
Vaginal 1	1	0.5	2	0.21	1	0.15	1	0.42	1	0.05	9
Vulval	0	0	0	0	1	0.51	2	0.8	4	0.23	7
Ftube	0	0	1	0.05	0	0	0	0	0	0	1
Secondaries	3	1.1	0	0	2	0.21	1	0.42	1	0.05	7
Total	54		70		79		105		99		

**Table (3) Distribution of cases of cervical cancer by age in Basrah 2005-2009.**

Age in year	Denominator population	Percentage	No. of case in five year	IR/100.000/y
<5	134889	12.1	0	0.0
5-9	1348889	12.1	0	0.0
10-14	122626	11.0	0	0.0
15-19	113708	10.2	6	0.6
20-24	112593	10.1	5	0.5
25-29	111478	10.0	11	2.5
30-34	85838	7.7	12	3.0
35-39	71346	6.4	13	4.6
40-44	63543	5.7	23	11.8
45-49	43476	3.9	26	15
50-54	45706	4.1	3	1.3
55-59	27870	2.5	7	6.2
60-64	16722	1.5	2	12
65-69	10033	0.9	0	0.0
70-74	8918	0.8	0	0.0
After 75	10037	0.9	0	0.0
Total	1114782	100.0	108	2.6

Table (4) Distribution of cases of endometrial cancer by age in Basrah during 2005-2009.

Age in years	Denominator population	Percentages	No. of cases in 4 years	IR per 100000 per year
<5	134889	12.1	0	0.0
5-9	134889	12.1	0	0.0
10-14	122626	11.0	0	0.0
15-19	113708	10.2	2	0.4
20-24	112593	10.1	0	0.0
25-29	111478	10.0	7	1.5
30-34	85838	7.7	5	1.2
35-39	71346	6.4	8	3.6
40-44	63543	5.7	15	5.7
45-49	34476	3.9	17	13.0
50-54	45706	4.1	14	8.1
55-59	27870	2.5	10	10.7
60-64	16722	1.5	15	24.9
65-69	10033	0.9	3	33.4
70-74	8918	0.8	2	12.0
After 75	10033	0.9	1	2.5
Total	1114782	100.0	94	2.2

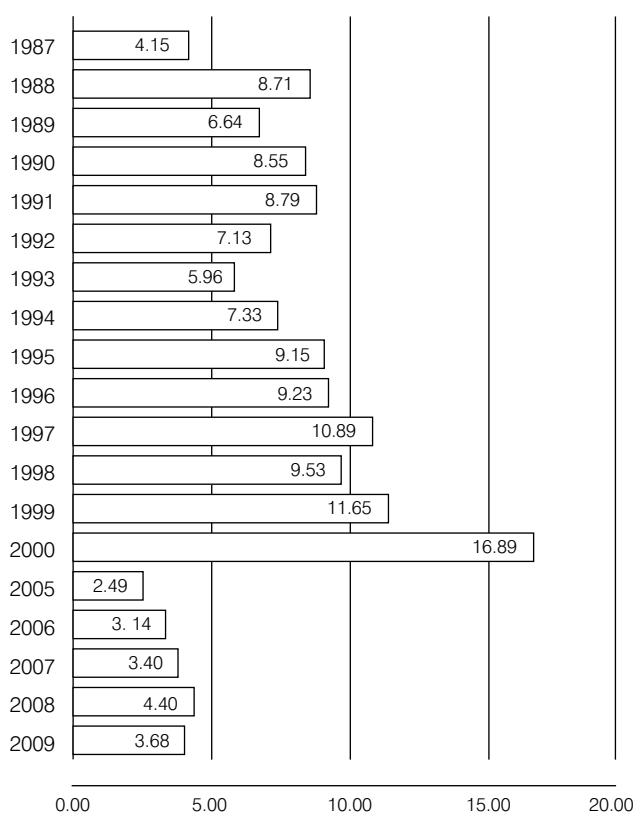
Table (5) Distribution of cases of ovarian cancer by age in Basrah.

Age in years	Denominator population	Percentages	No. of cases in 4 years	IR per 100000 per year
<5	134889	12.1	0	0.0
5-9	134889	12.1	0	0.0
10-14	122626	11.0	3	0.6
15-19	113701	10.2	15	3.3
20-24	112593	10.1	8	1.8
25-29	111478	10.0	14	3.1
30-34	85838	7.7	15	4.4
35-39	71346	6.4	16	6.1
40-44	63543	5.7	23	10.1
45-49	43476	3.9	17	9.8

50-54	45706	4.1	21	12.0
55-59	27870	2.5	6	5.4
60-64	16722	1.5	12	17.5
65-69	10033	0.9	10	19.9
70-74	8918	0.8	7	14.4
After 75	10033	0.9	5	12.5
Total	1114782	100.0	172	3.8

**Table (6): Incidence of ovarian cancer according to histopathology.**

Histopathology	2005	2006	2007	2008	2009	Total
Epithelial	22	17	24	25	28	116
Germ cell	8	6	4	10	8	36
Sex cord & Stromal	1	2	2	6	4	15
Lymphoma	2	-	1	-	-	3
Malignant mixed mullerian tumor	-	-	-	1	1	2
Secondaries	3	-	2	1	1	7
Total	33	25	30	43	41	172

**Table (7) Incidence rate of malignant disease in Basrah from 1987-2009.**

## DISCUSSION

Cancer is usually considered to be a disease of the industrialized world, where as infectious diseases are the major diseases burden of the developing world. The increase in life expectancy in most developing countries even in the least developed one together with drastic changes in life style are expected to lead to an epidemic of cancer in developing countries.<sup>6</sup>

The annual incidence rate of malignant disease of genital tract among women in Basrah during the study between 2005 and 2009 is recorded with high incidence during 2008 (4.4) in comparison with the incidence of genital cancer during 1990. The incidence of cancer at 1987 was 4.15 with rapid increase in the incidence till 2000 was 16.8.<sup>7</sup> After 2005 there was clear decline in the incidence of genital to 3.73 at 2009. The genital cancer represents the 3<sup>rd</sup> and 4<sup>th</sup> rank among female cancer in Basrah.<sup>1</sup> The incidence of new gynecological cancer and death worldwide in 2002 were 896,525 and 448,692 respectively.<sup>8</sup>

National population based cancer registries in the 2006 represented that cervical cancer age-adjusted incidence was 16 followed by ovarian cancer was 6.6 and corpus uteri 6.5 worldwide.<sup>9</sup> The incidence rate of genital cancer in developed countries were 11.4 for cervical cancer and 9.9 for ovarian cancer and 11.3 for endometrial cancer.<sup>9</sup>

The age –adjusted incidence rate in developing countries was (18.7, 4.9, 3.7) respectively.<sup>10</sup> The incidence of cervical cancer varies by geographical region due to access to screening worldwide. It is the sixth most common type of cancer worldwide and accounted for 9.7 % of all cancer in women.<sup>8,11</sup> Three – quarters of cases occur in developing countries where the life time risk of having cervical cancer is 3%, the highest rates occur in Latin American, Subsahavan Africa, the Caribbean, southern Asia.<sup>8</sup>

Cervical cancer in Basrah during the year 2005-2009 accounted for 3<sup>rd</sup> rank among cancer cases in females (4.7%). The annual incidence rate is 3.6 and the age standardized incidence rate is 5.4 per 1000.000 female in comparison to the incidence rate during 1990s the annual incidence rate is 4.5 and age standardized incidence rate 7.1/100.000.<sup>1,7</sup>

The mean age for cervical cancer is 52 years with bimodal graph with two peak at 35-39 years and second at 60-64 years of age.<sup>9</sup>

The highest incidence of cervical cancer in Arabic world was in Somalia 28.4/100.000.<sup>10</sup> The incidence in the Arabic countries near Basrah like Kuwait 4.6, Saudia Arabia 3.2 in comparison with incidence in Basrah 3.6/100,000.<sup>10</sup>

The third commonest genital cancer in Basrah is endometrial which is the 6<sup>th</sup> rank among female cancer during 2005-2009 (94 cases) which it was the third commonest genital cancer for last 15 years.<sup>7</sup>

Endometrial cancer is the seventh most common cancer in women worldwide, and in the United States it makes up to 6% of all cancer cases.<sup>12,13</sup>

The rates of uterine cancer had increased dramatically, and peaked in the mid 1970s which pointed the increased risk of endometrial cancer.<sup>12</sup>

Similarly, the highest incidence of uterine cancer was observed in Lebanon followed by 24.9/100,000 in Kuwait, Saudia Arabia 3.5/100,000, Egypt 2.3/100000 and least incidence was in Yemen 0.5/100,000.<sup>10</sup>

Among the European community, the lowest uterine cancer incidence rates were reported in United Kingdom while the highest rates were found is Solvokia.<sup>12</sup>

Vaginal carcinoma is rare cancer during the last 5 years with highest during 2006 (0.7/100,000) worldwide primary malignancies of vagina are quite rare with an incidence of 1/100,000 women. It accounted for 3% of all female genital cancer.<sup>13</sup> Vulval carcinoma is rare and approximately accounted for 4% of genital cancer.<sup>8</sup>

The American cancer society estimates that 3.460 women were diagnosed and 870 women die from vulval carcinoma during 2008,<sup>14</sup> the overall age adjusted incidence rates was 2.2/100,000 women /year during 1975 and the incidence has increased slightly to 0.6/100,000 till 2008.<sup>11</sup>

The incidence of vulval carcinoma in situ nearly doubled between the mid 1970s and the mid 1980s, where as the overall rate of invasive squamous cell carcinoma has remained relatively stable.<sup>15</sup> Carcinoma of fallopian tube is reported to be the rarest of all gynecological malignancies less than 1% with a yearly incidence of 3.6/100,000 women.<sup>8</sup>

In the present study there was one case of primary tubal cancer during the 5 years. There were 5 cases of

choriocarcinoma during 2005-2008. Three of them gave history of previous attack of hydatiform mole all cases were primary uterine choriocarcinoma. During 2005-2009 ovarian cancer represent 4.7% among female cancer cases in Basrah which occupied the 4<sup>th</sup> rank,<sup>1</sup> and is the highest and commonest type of genital tumor (172 cases).

Worldwide, ovarian cancer is the sixth most common cancer in women accounting for 4% of all female cancer cases.<sup>16</sup> Ovarian cancer is the fourth leading cause of cancer death in the United States and the most common cause of death from a gynecological malignancies and it regarded as killer cancer.<sup>17</sup>

Regard Arabic world, the highest incidence of ovarian cancer is in Jordan 5.1/100,000 and least incidence in Yemen 2.2/100,000.

Epithelial ovarian cancer is accounted 90% of ovarian cancer,<sup>13</sup> with mean age 56. Serous cystadenocarcinoma are three to four times more common than mucinous cystadenoma.<sup>14</sup> Endometrial carcinoma accounted 16% of ovarian carcinoma.<sup>18</sup>

Germ cell tumour is the second commonest types of genital ovarian cancer and is most common in the second and third decade of life.<sup>18</sup> In the present study 2/3 of cases were below 30 year. Sex cord –stromal tumour of the ovary accounted for about 5% to 8% of all ovarian malignancies.<sup>19</sup>

About 5-6% of ovarian tumour are metastatic from another organs, most frequently from the female genital tract, breast, or the gastrointestinal tract. All cases in the study were in advanced stage.<sup>19</sup>

It would be predicted that there is declines in the incidence of cancer genital system in female after 2005 in comparison with its incidence during 1990s and 2000 and on long run an attempt to reducing the incidence by

promoting life style such as increased intake of nutrients which contain anti-carcinogenic factors and reducing exposure to other risk factors like smoking and chemical pollutants.

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