Quarterly report of cancer registry unit

CANCER REGISTRY UNIT
CLINICAL ONCOLOGY DEPARTMENT
Faculty of medicine Zagazig University

Zagazig University Cancer Registry Unit

Quarterly report

2022

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Acknowledgment

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Also, Many thanks to the head of the Clinical Oncology department Prof. Reham Safwat, as well as to the head of Community, environmental and occupational medicine department, Prof. Reem Abbas ,the staff, and all teamwork of the cancer registry unit for their hard work and sincerity to obtain better results.

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Introduction

Figure (1): Sharkia governorate map.

Sharkia governorate

Sharkia Governorate is one of the governorates of the Arab Republic of Egypt, located in the Eastern Province, and the third largest in terms of population. It has great historical importance, as it was considered the eastern gateway to Egypt and the landing site of many prophets, companions and historical leaders.

Historical back ground:

Sharkia Governorate was the 12th district of Lower Egypt and its ancient capital (Bubastis), which at a period of time became the capital of all of Egypt. The region of Al Sharqiah may have been under its current name during the era of the Fatimid state, and before that it was divided into several small “cores” each of which were independent, then they were joined together and called Sharqiya because it was located on the eastern side of Lower Egypt.

In 1315 it was called the Eastern Works, and in 1527 it was launched It is named after the Eastern Province. When Muhammad Ali took over the rule of Egypt in the year 1805 AD, the Egyptian country divided into 7 states in Lower Egypt, 13 states in Upper Egypt. East was one of the states of Lower Egypt and the oldest. The state in Lower Egypt is managed by an employee named “Al-Kashef.” When Muhammad Ali ordered a general survey of the Egyptian country’s lands in 1813 AD, he ordered dividing the states into lines. Each line includes several aspects and each of them A town sheikh or a mayor.

In 1819, Muhammad Ali ordered the replacement of the functions of a detector and governor with a sheriff and he changed the capital from Belbeis to Zagazig. The Egyptian country is divided into 24 regions, 14 of which are from the maritime regions and 10 from the tribal regions. The Sharkia Governorate is divided into two out of the 14 regions. The 1st region includes sections such as Faraskar, Abu Kabir and Al-Sawaleh and the second half includes the sections of Belbeis, Hahya, Shaybah Al-Nakariah and Al-Aziziyah.

In 1829, Sharqiya was included under the banner of the Directorate of Maritime Regions after dividing the Egyptian country into three regions: the maritime regions, the central regions, and the Upper Egypt regions. The regions and their mandates continued to change and fluctuate, whether in terms of their location, borders, naming, or the functions of the rulers who dominate them.

Muhammad Ali in 1833: Restore the names of the ancient geographical regions of Lower Egypt, which it was previously divided into. Modify the borders of most of the regions of Upper Egypt and Lower Egypt. Replacing the name that was given to all regions or parts of it by the name of a directorate, as well as replacing the name of the commissioner who was called the head of the region by the name of a director, and then choosing the city or town that is suitable as a base for each of the directorate for the residence of the director and his employees there, provided that it is his chosen In the middle of each directorate as much as possible, and so the Sharqiya was named after a directorate and its base is Belbeis among 7 directorates in Lower Egypt, and the same in Upper Egypt. Each directorate includes a group of departments under its banner.

A decision was issued in 1871 to launch the word "center" instead of "section" on the departments of Lower Egypt's directorates, so it is said Abu Hammad Center instead of Abu Hammad section. The governorate's borders with its neighbors from other governorates were stabilized in the sixties with the start of the local government experiment and the replacement of districts with governorates.

Sharkia governorate takes a unique position among the governorates of the eastern delta, and the eastern province guards the eastern entrance to the republic.

Administrative division

Sharkia Governorate now includes the following: 13 centers + 4 cities, 2 neighborhoods (first and second) Zagazig, 107 rural local units, 509 villages, 3890 Kafr and Ezbet, and two industrial cities (10th of Ramadan - New Salhia).

Sharqia Governorate Flag:

Al Sharqiya Governorate has taken the wild white horse in the middle of a green carpet as its emblem for its excellence in breeding purebred Arabian horses and the occupation of agriculture in most of the areas in it.

National Day

Al Sharqiya celebrates its national day on the ninth of September of each year in commemoration of the stand of the leader Ahmed Orabi, her righteous son from the village of Hariya Razaneh, the center of Zagazig, against Khedive Tawfiq in Abdeen Square, Cairo, presenting the demands of the army in 1881 AD.

Population

Sharkia Governorate is considered the third governorate in population at the level of the Republic after Cairo and Giza governorates with 7.4% of the population of Egypt, where its estimated population (for 2021) is 7.6 million people, representing 25% urban and 75% rural.

Table (1): The estimated total population in Sharkia Governorate, according to the statement of the Central Agency for Public Mobilization and Statistics for the year 2020/2021:

Population number			Residence	City	N
Total	Female	Male			
129955	64075	65880	Urban	AbuHammad	1
420134	203722	216411	Rural		
550088	267797	282291	Total		
145855	70547	75308	Urban	Abu Kabeer	2
329066	157018	172049	Rural		
474921	227565	247356	Total		
50791	24861	25930	Urban	ElEbrahymia	3
143863	69751	74112	Rural		
194655	94612	100042	Total		
154375	73528	80848	Urban	El Hosaynia	4
559497	267117	292380	Rural		
713872	340645	373227	Total		
473165	234974	238191	Urban	El Zagazig	5
933830	452110	481720	Rural		
1406996	687085	719910	Total		
31008	15280	15727	Urban	Awlad Sakr	6
210277	103141	107136	Rural		
241285	118422	122864	Total		
407339	196472	210866	Urban	Belbis	7
694434	335780	358653	Rural		

Population number			Residence	City	N
Total	Female	Male			
1101772	532253	569520	Total		
76438	37654	38784	Urban	Diarb Negm	8
447655	217915	229741	Rural		
524093	255569	268525	Total		
110418	54972	55446	Urban	Fakous	9
654313	315885	338428	Rural		
764731	370857	393874	Total		
42044	20895	21149	Urban	Kafr Saker	10
255165	126160	129005	Rural		
297209	147055	150154	Total		
71608	34896	36712	Urban	Mashtol El Souk	11
161867	78109	83758	Rural		
233476	113006	120470	Total		
93743	46603	47140	Urban	Minya El Kamh	12
726963	351406	375557	Rural		
820706	398009	422697	Total		
70653	34125	36527	Urban	Hihya	13
247737	120104	127633	Rural		
318390	154229	164161	Total		
1857391	908883	948508	Urban	Total governerate	
5784803	2798219	2986584	Rural		
7642193	3707102	3935091	Total		

Zagazig University Hospitals

Zagazig University Hospitals is a group of hospitals affiliated to the Faculty of Medicine of Zagazig University.

Historical back ground:

The "Nabawi Al-Mohandes Hospital" (affiliated with the Ministry of Health, which was opened in May 1970) was the nucleus of Zagazig University Hospitals. The basic departments of the Faculty of Medicine of Zagazig and its university hospital were established under the supervision of the corresponding departments of the Faculty of Medicine of Ain Shams University, then the Faculty of Medicine of Zagazig was separated from the Faculty of Medicine of Ain Shams in 1974. The total number of doctors when the faculty was established was 17, and the total number of the nursing staff was double that number, and the number of beds 320 beds. Each of the six surgical departments had an operating room with two operating tables in addition to six recovery beds attached to the surgeries.

Structure:

Consist of group of specialized hospitals cover all medical specialty and serve the population of Sharkia governorate as well as Sinai and Suez canal governorates:

1 Emergency Hospital with

2 Gynecological emergency hospital

3 Surgical Hospital

4 Internal Medicine Hospital

5 Out patent's clinic hospital

6 University Children's Hospital

7 University Heart and Chest and oncology Hospital

8 El Salam hospital

9 Economic treatment hospital

Beside the new branch: **University Hospital in Tenth of Ramadan City:**

At a financial cost estimated at one billion pounds and it consists of a main building built on an area of 5,000 square meters and includes 6 floors with a capacity of 200 beds (110 residence beds, 90 care and nursery beds) and includes Departments (radiology, emergency, laboratories, outpatient clinics, dialysis, natural childbirth, endoscopy and surgery, intensive care, pediatric intensive care). The hospital also includes the educational building with a capacity to accommodate 500 students, in addition to the mosque and a number of other service buildings.

Figure (2): Zagazig university hospitals.

Clinical Oncology department

The Department of Clinical Oncology and Nuclear Medicine consists of:

1- Radiation, Radioisotope and Nuclear Medicine Unit.

2-Chemotherapy unit.

Historical back ground

The Department of Oncology and Nuclear Medicine was established in 1987 as a unit of the Department of Diagnostic Radiology under its head, Prof. Dr. Fathy Tantawy under the name of Radiotherapy and Nuclear Medicine Unit.

In 2012 it was separated to become an independent department and the name of the department was changed to become " The Department of Clinical Oncology and Nuclear Medicine". The first Head of the department, Prof. Abbas Sarhan and the current president, Reham Safwat, started from September 2021, and

Structure of The Department:

The department located in Heart, chest and oncology hospital in Sidnawy section of Zagazig university hospital and consist of:

The ground floor and there are Cobalt Simulator, Rooms for viewing and discussing cases, Follow-up clinic, Therapeutic nutrition unit, Psychiatric clinic, Patient waiting room, meeting and seminar room and archive room where all patient files are located since 1987.

The first floor consists of:

1-The internal section (men and women) and has 50 beds for free patients, health insurance and state expense.

2- A room for doctors during the period of shifts and staying up late, and a room for supervisors and nurses.

3- Intermediate care unit for oncology patients, consisting of 3 beds.

4- Economical treatment pharmacy

5 -Prof.Dr.'s office head of the department

6 -The room of the nursing staff and secretaries

The linear accelerator unit is separate unit

The linear accelerator for radiotherapy with modern technologies in the use of radiation fields directed at the tumor while protecting the tissues and organs adjacent to the tumor with high and variable radiation energy, and it is considered the latest radiotherapy devices in the treatment of cancer.

Outpatient clinics:

Located in the out patient's clinic building at the University Hospital, second floor, for examination, treatment and follow-up of oncological diseases, daily 50-60 cases. One-day chemotherapy clinic and provides one-day chemotherapy service for 50 cases.

The department's radiotherapy devices

• Radiation Oncology Device - Cobalt 60

• The linear accelerator for radiotherapy with modern technologies in the use of radiation fields directed at the tumor while protecting the tissues and organs adjacent to the tumor with high and variable radiation energy, and it is considered the latest radiotherapy devices in the treatment of cancer.

Radiological Planning Unit in the Department:

• Simulator device for radiographic planning

Mold room and masks to plan patients before radiotherapy.

• Three-dimensional computer planning device.

• Radiation dosimetry device.

The services provided by the department to patients:

As a result of the distinguished service and continuous development in the Department of Oncology, in addition to the high level of health awareness for many people, it led to attention to the prevention of tumors with early detection and diagnosis of tumors with The cure rate has increased significantly in the last ten years.

The department has human experience and sufficient cadres of faculty members who have a doctorate degree in oncology from professors, retired professors, assistant professors, lecturers and their assistant lecturers and demonstrate doctor resident doctors.

Department Staff members and working force:

Position	Number
Professors	11
Assistant professors	8
Lecturers	12
Assistant lecturers	7
Demonstrate doctor	1
Resident doctors	12
Physicists	5
Technicians	25
Secretary	2
Nursing	39
Workers	8

The Department of Oncology at Zagazig University is an important regional center in the governorates of Sharkia and East Delta, which receives at least 10,000 cases annually, and about 150 patients visit the department's outpatient clinic daily to receive radiotherapy and chemotherapy and periodic follow-up.

Patients are treated in the department for free and under the care of health insurance. Treatment is also carried out by treatment decisions at the expense of the state, and about “60” decisions at state expense are issued by the Ministry of Health per week for chemotherapy and radiotherapy.

All faculty members, doctors, pharmacists, supervisors and wise women in the Department of Oncology provide all services to patients while providing them with full care and treatment, whether in the department free of charge or by decisions of state expense.

Radiation therapy unit: - Radiation therapy devices • Cobalt 60 device works from 6 am to 5 pm receives 40 cases per day • Liner accelerator device: for radiation therapy with modern technologies in the use of radiation for tumors while protecting healthy tissues with variable radiation energy (works from 6 a.m. - 5 p.m.) It takes 40-50 cases per day. The department's policy aims to provide educational services for master's and doctoral students for postgraduate students and therapeutic services.

Scientific activity in the department

The department organizes a weekly scientific day (Tuesday of every week) in which a scientific lecture is given and the most important developments of the

department are discussed.

Each unit in the department discusses the cases that have been treated on a weekly basis.

The department conducts periodic lectures for postgraduate students in the department.

The department carries out a number of scientific researches in the form of scientific theses that are assigned to postgraduate students under the supervision of the faculty members of the department.

The department sends a lot of assistant lecturers and resident doctors for scientific missions to train on the latest methods of radiotherapy and chemotherapy in the field of oncology.

Department development plan:

The department will be provided with the latest linear accelerator devices with modern technologies in the use of radiation fields directed at the tumor while protecting the tissues and organs adjacent to the tumor with high and variable radiation energy, and it is considered the latest radiotherapy devices in the treatment of cancer to improve the accuracy and efficiency of radiotherapy.

A simulator device will also be provided for radiological planning, modernization and expansion of the chemotherapy unit, the cobalt unit, and the internal department. and the establishment of an electronic information network.

Vision:

• To raise the level of teaching and clinical training for postgraduate students, as well as the level of scientific research and health service provided in order to rank regionally.

Mission:

• The department worked to provide educational and training services for doctors and medical staff, and to advance in scientific research by conducting research with other Egyptian universities to exchange experiences.

• Providing distinguished health services to the people of the Sharkia Governorate and the neighboring governorates.

Cancer Registry unit

The Cancer Registration Unit was established with beginning of years 2022. The unit is affiliated with and located in the Department of clinical Oncology at Zagazig University Hospitals.

The unit aims to register all data related to oncology patients visited the department with the aim of improving the quality of medical care provided to them and developing the hospital's capabilities in the field of scientific research.

The administrative structure

Dean of faculty:

Prof /Abdelsalam Eid AbdElsalam

Head of clinical oncology department:

Prof/ Reham Safwat

Supervision team:

Assistant Prof/ Dina Sameh Mohamed Elrafey

(Community, environmental and Occupational department)

Assistant Prof/ Amira Elwan Mohamed

Dr /Eman Ali El Sebai (Lecturer)

Dr/ Rawda Ahmed Balata (Lecturer)

Dr/Mohamed Refaat (Lecturer)

(Clinical oncology department)

Data coding team:

Dr/ Eman Saad Abdel Raof

Dr/Amira Hany Hanaa

Dr/ Doaa Abdel Hady Kateet

Dr/ Noha Mohamed Mohamed

Dr/ Salma Khalid Abdel maksoud

Dr/ Omnia Yousef Thabet

Dr/ Shireen Shaaban Mohamed

Dr/ Doaa Mostafa Khashaba

Dr/ Hadeer Yasser Gendia

Dr/ Sanaa Ahmed Behery

Dr/ Shiamaa Shaban Fathy

Dr/ Sarah El Sayed Ghareb

Data entering team:

Mrs/Amira Ismail Hussin (Nurse)

Mrs/Asmaa Kotib abdel moniem (Nurse)

Statistical Methods

Statistical analysis

- The collected data were computerized and statistically analyzed using SPSS program (Statistical Package for Social Science) version **27.0** (IBM, 2020)
- Qualitative data were represented as frequencies and relative percentages.
- Quantitative data were expressed as mean ± SD (Standard deviation) and range.

I-Arithmetic Mean:

Where: $\frac{\sum x}{n} = \bar{x}$

Σx = sum of individual data.

n = number of individual data.

II-Standard deviation (SD):

where $SD = \sqrt{\frac{\sum x^2 - \frac{(\sum x)^2}{n}}{n-1}}$

Σx = sum of data

Σx2 = sum of squares of data.

n = number of data.

Cancer incidences

Unit statistics

During the period from 1st May 2022 to 1st August 2022, 243 cases were documented and include in the report.

Demographic data of the cases:

The age of the cases ranged from 12 to 80 years with mean 53.58±14.52 years and almost half of the cases were adult (from 46 to 65 years). Regarding sex distribution female represent 55.6% while male represent 44.4%. More than three quarters of the cases were from rural area (84.8%). Smoking was reported in only 18.1% of the cases almost half of them were heavy smoker. (table 2)

Table (2): Sociodemographic data of the cases:

Variable		(n=243)	
		N	%
Age	*Adolescent 12-18 years*	3	1.2
	Young adult 19-45 years	70	28.8
	Adult 46-65 years	110	45.3
	Old age >65 years	60	24.7
	Mean± SD *Range*	53.58±14.52 12-80	
Sex	*Male*	108	44.4
	Female	135	55.6
Residence	*Rural*	206	84.8
	Urban	37	15.2
Smoking	*No*	199	81.8
	Yes	44	18.1
Smoking index	*Mild*	13	29.5
	Moderate	12	27.3
	Heavy	19	43.2

Main complaint and medical history:

The main compliant reported by cases in 1st visit to hospital. Most five frequent complaints were breast lump (23.9%), pain (11.9%), headache (4.9%), neck swelling (3.3%) and abdominal mass (3.3%). (table 3)

Table (3): Main complaint among the cases:

Variable		(n=243)	
		N	%
Presentation/ Complaint	*Breast lump*	58	23.9
	Pain	29	11.9
	Headache	12	4.9
	Neck swelling	8	3.3
	Abdominal mass	8	3.3
	Weight loss	7	2.9
	Hematuria	7	2.9
	Axillary swelling	6	2.5
	Cough	6	2.5
	Dysuria	6	2.5
	Disturbed speech	5	2.1
	Dyspnea	5	2.1
	Bleeding per rectum	5	2.1
	Dysphagia	4	1.6
	Abnormal vaginal bleeding	4	1.6
	Skin ulcer	3	1.2
	Skin swelling	3	1.2
	Motor insult	3	1.2
	Inguinal swelling	3	1.2
	Vomiting	2	0.8
	Blurring of vision	2	0.8
	Sensory insult	2	0.8
	Anorexia	2	0.8
	Oral ulcer	2	0.8
	Bleeding	2	0.8
	Hoarseness	2	0.8
	Hematemesis	2	0.8
	Testicular swelling	2	0.8
	Abnormal nipple discharge	1	0.4
	Abnormal gaiting	1	0.4
	Abnormal behavior	1	0.4
	Nasal obstruction	1	0.4
	Face swelling	1	0.4
	Air way obstruction	1	0.4
	Yellowish discoloration of sclera	1	0.4
	Vulvar swelling	1	0.4
	Urine retention	1	0.4
	Others	34	13.9

About one quarter of the cases (25.5%) reported comorbidity (DM, HPT, hepatic and cardiac disease). History of previous surgery reported in 56.4% of the cases. Family history of cancer was founded in 7% of the cases and history of previous cancer founded in 18.5% of the cases with history of previous chemotherapy, radiotherapy, target therapy radiofrequency, hormonal and immunotherapy. (figure 3)

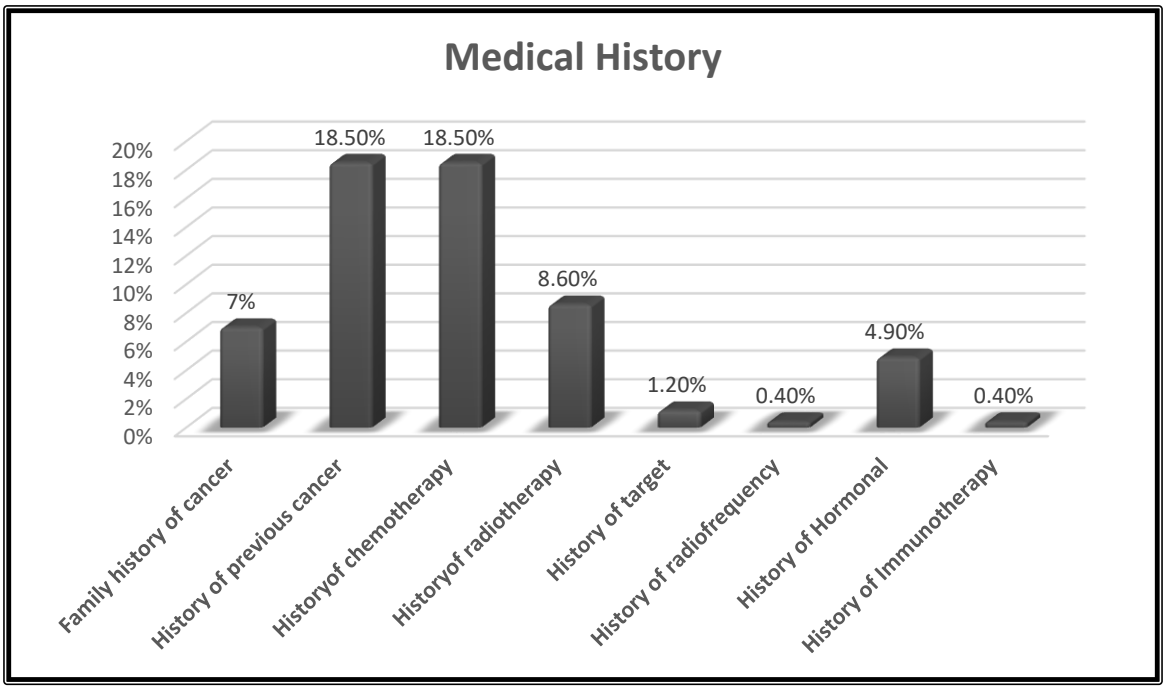

Figure (3): Medical history of the cases.

Cancer sites:

Most frequent cancer sites were breast, liver, colon, brain and bladder (23.5%, 6.6%, 6.2%, 5.8% and 4.9% respectively). (figure 4)

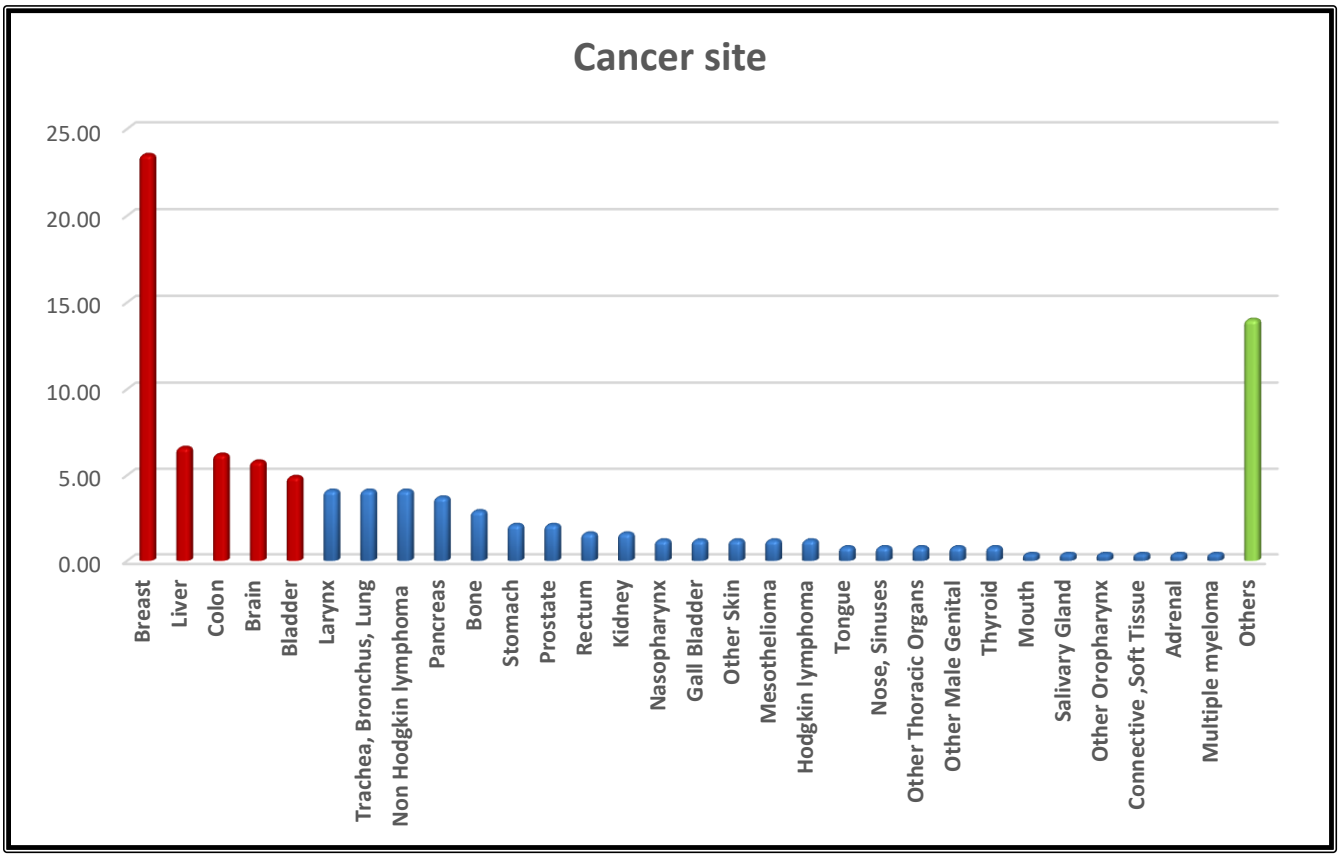

Figure (4): Frequency of different cancer sites among the studied cases.

Cancer site according to sex and age group:

Most common cancer sites among male were liver, bladder and brain while in female breast, colon and NHL. (table 4)

Table (4): Most frequent cancer sites according to sex:

Male (n=108)		Female (135)	
Cancer site	N (%)	Cancer site	N (%)
Liver	12 (11.1%)	Breast	54 (40%)
Bladder	11 (10.2%)	Colon	10 (7.4%)
Brain	9 (8.3%)	Non Hodgkin lymphoma	8 (5.9%)
Larynx	9 (8.3%)	Brain	5 (3.7%)
Pancreas	7 (6.5%)	Liver	4 (3%)
Lung	7 (6.5%)	Bone	4 (3%)

Most common cancer sites among male from 12 to 18 years was skin tumor, among male from 19 to 45 was brain tumor, among male from 46 to 65 was liver tumor and among male > 65 years was larynx tumor. In female from 12 to 18 years brain tumor was the most frequent site. In all other age groups braest cancer was the most frequent. (table 5)

Table (5): Most frequent cancer sites according to age group in male and female:

Age group	Male		Female	
	Cancer site	N (%)	Cancer site	N (%)
12-18 years	Skin	1 (100%)	Brain	1 (50%)
19-45 years	Brain	11 (28.6%)	Breast	18 (36.7%)
46-65 years	Liver	9 (17.1%)	Breast	32(46.4%)
>65 years	Larynx	9 (20%)	Breast	4 (26.7%)

Histopathological characters of tumors:

Regarding the pathological types of cancer founded among the cases, Adenocarcinoma were the most frequent cancer type with percent 38.3% followed by squamous cell carcinoma (11.1%), hepatocellular carcinoma (6.2%), Diffuse large cell lymphoma (3.7%) and Transitional cell carcinoma (3.7%). (figure 5). T, N, M, and stages of the cases reported in figure (6).

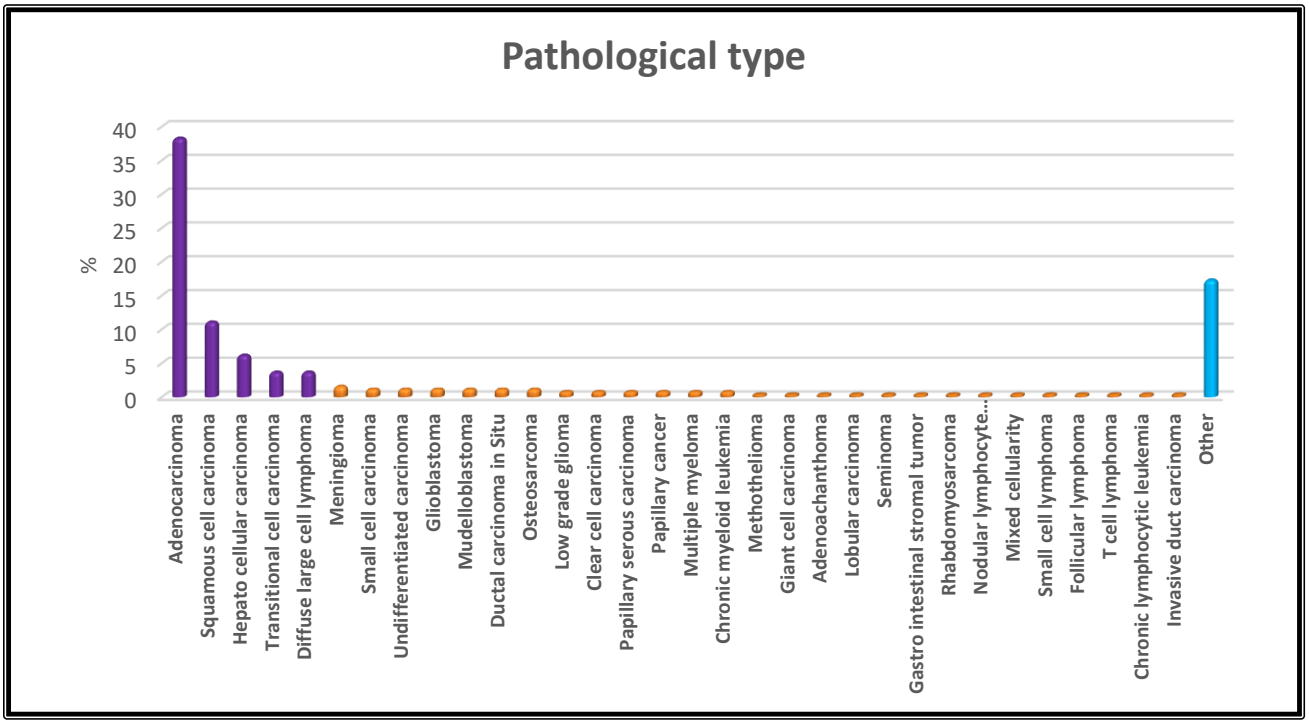

Figure (5): Frequency of different pathological types among the studied cases.

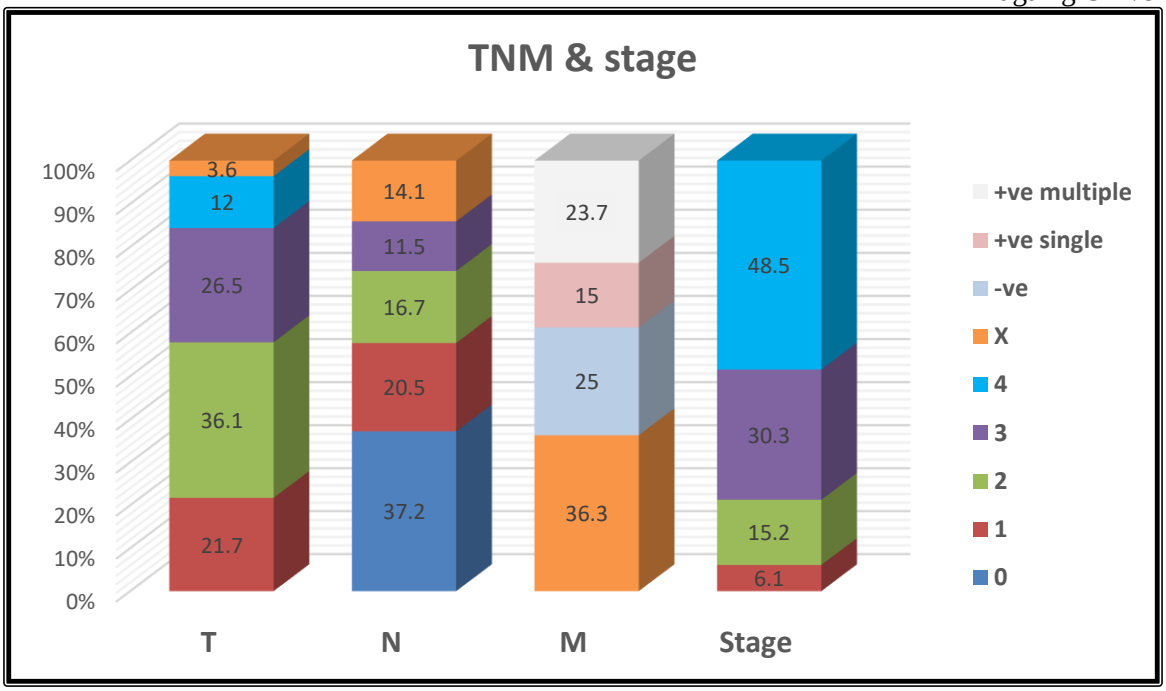

Figure (6): TNM classification and stage of tumor among the studied cases.

Breast cancer cases represent 23.8% of the cases. 54.2% of these cases had +ve ER & PR receptors while 27.1% had +ve Her2 neu receptors. (figure 7)

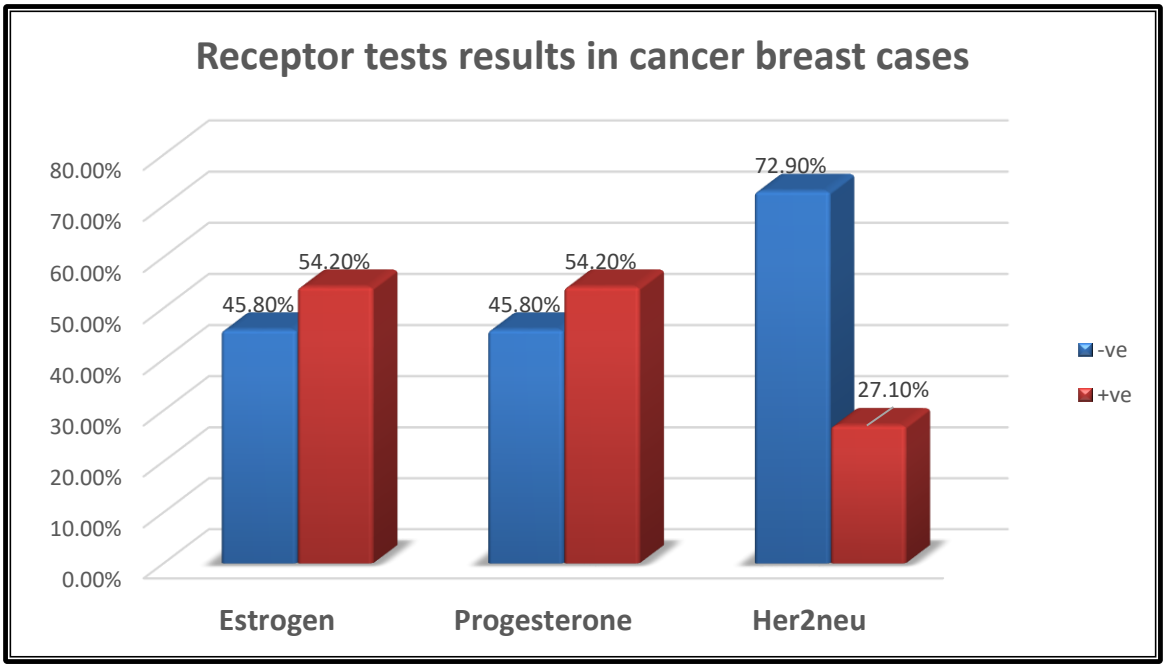

Figure (7): Receptors examinations among breast cancer cases.

Treatment protocols:

Most frequent treatment used among the cases was chemotherapy (14%) followed by radiotherapy (7.8%), target therapy (4.1%) and hormonal therapy (2.5%). No cases of immune therapy reported during the documentation time.

Most frequent side effects reported among the cases were vomiting, anemia, leukopenia, desquamation and high ALT, AST and creatinine levels.

Figure 8, 9,10, 11 & 12 showed types of each therapy protocol used among the cases.

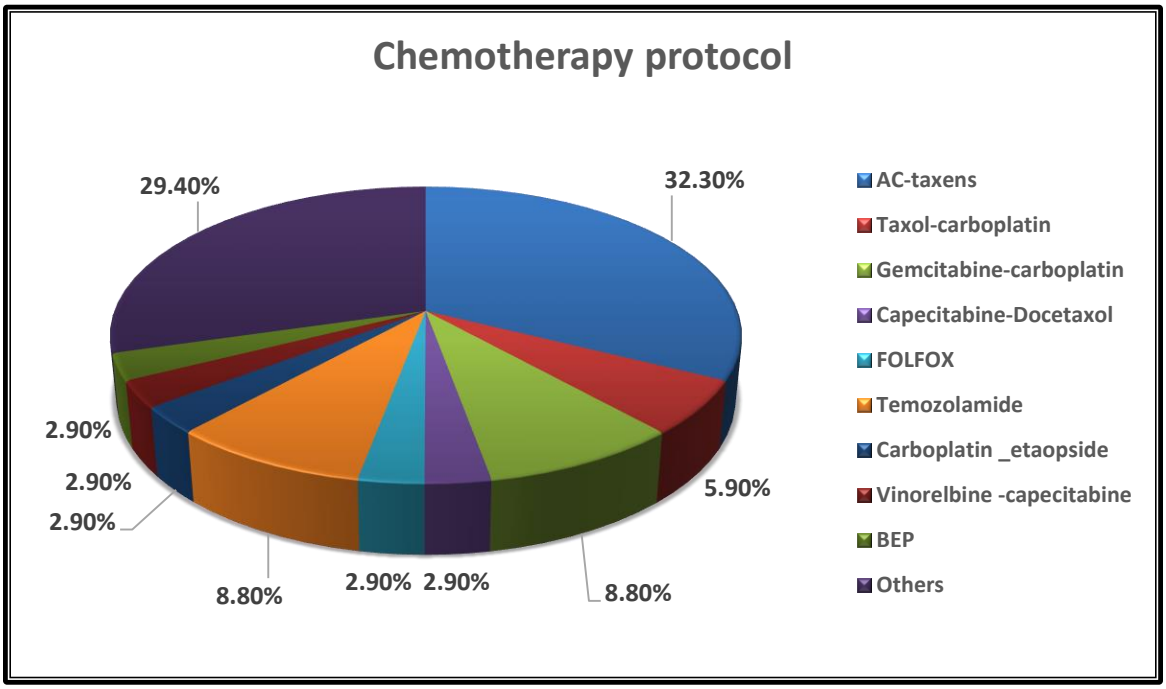

Figure (8) Types of chemotherapy used among the cases.

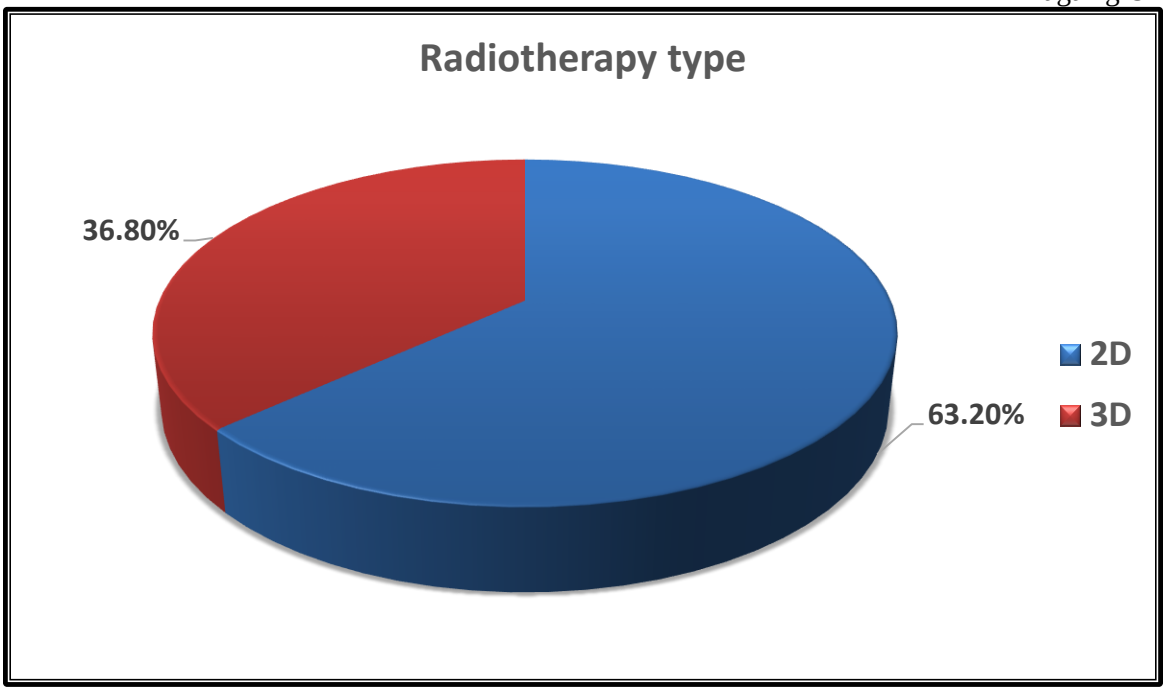

Figure (9) Types of radiotherapy used among the cases.

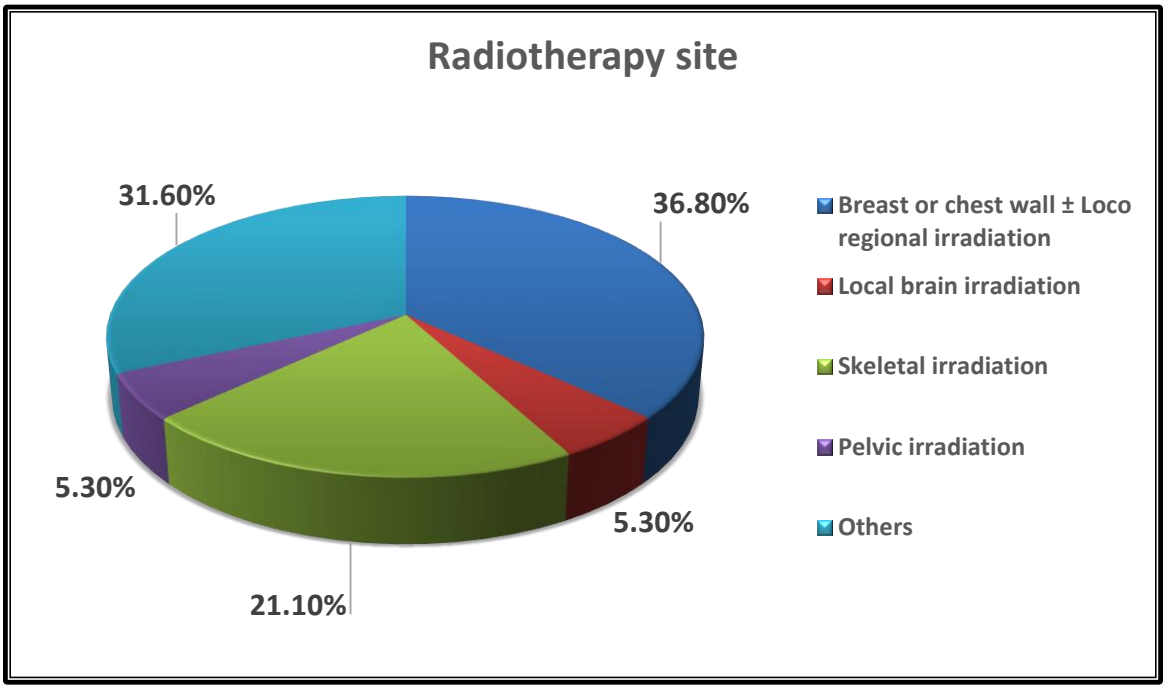

Figure (10) Sites of radiotherapy used among the cases.

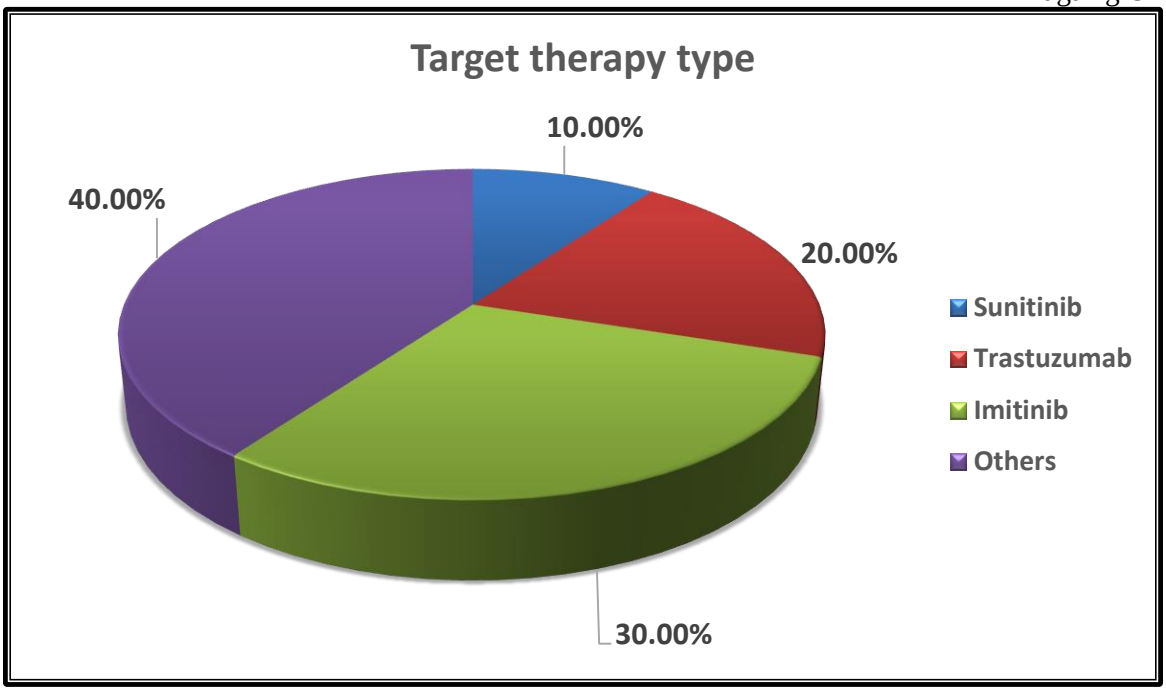

Figure (11) Types of target therapy used among the cases.

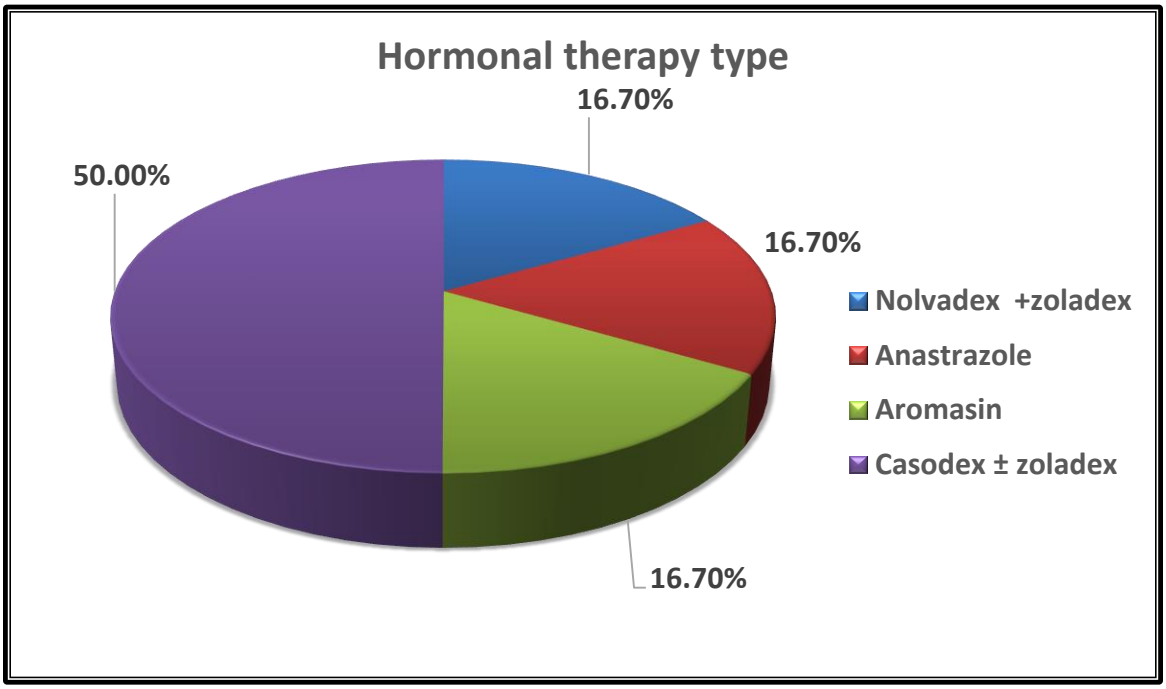

Figure (12) Types of Hormonal therapy used among the cases.

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