

CONTENTS

Preface

Foreword

Special thanks

Acknowledgments

Department of cancer registry

Introduction & outline of report

Chapter 1: Overview

Magnitude of cancer

Leading sites of cancer

Cancer in broad age groups

Tobacco-related cancers

Clinical extent of disease at presentation

Basis of diagnosis

Prior treatment types

Treatment at AOI

Chapter 2: Cancer of specific sites

Breast

Lung

Colorectal

Lymphoma

Female Genital Tract

Urinary Tract

Head & Neck

Hepatobiliary System

Stomach

Thyroid

Brain

Chapter 3: Appendix

Tables

References

PREFACE

It is the ultimate dream envisioned at present by every practicing cancer care clinician to provide optimal state of the art care, and relieve suffering of his or her ailing frail patients working in an integrated multi disciplinary team. He optimistically hopes to deliver a total relapse free cure to his patients in near future. All his diagnostic efforts and therapeutic manipulations revolve around his knowledge and awareness. This awareness must include unique geographic variations, diverse etiologic factors, biologic behavior, and natural history of disease; in addition to diagnostic modalities and treatment options at his disposal. A balanced, standard, well maintained, up to date cancer registry maintained as per international specifications may well serve this purpose. The cancer registry operating at African Oncology Institute Sabratha since 2006; is making all its effort to collect information, analyze data, and disseminate this vital information in the form of published reports for practicing clinicians and researchers. The data is also for benefit of health planners and administrators to revise or modify existing plans and to develop new strategy.

This second report now in your hands, is the 2nd report on hospital based data from AOI in addition to population based data already published in the form of two separate reports. There is nothing absolute, and no effort is free of pitfalls. We are open to and welcome all constructive critical analysis or review by the readers. This will immensely help to improve our future endeavors. We also like to invite other institutes and individuals to join hands in our effort of cancer registry and onwards, with the ultimate aim of improving delivered cancer care to our population.

**Dr. Hussein El Hashmi
Executive Director
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FOREWORD

Cancer or malignant disease is an incremental health care dilemma, increasingly encountered by the practicing physicians globally. This is due to multitude of etiologic influences increasingly affecting the mankind often in combination or sequentially. sophisticated life style and environmental pollution. It is further compounded by The foremost being the ever increasing cost of research and clinical care, and insufficient monetary resources at our disposal especially in the developing World.

Easy connectivity, accessibility, and rapid communication in today's World called "the Global Village": have made life easy at one end. It however has created a driving force, pressing urge, and never ending desire to keep pace with new developments around the globe. It also has provided the impetus for standardization, reproducibility, and validation in the practice of diagnostic and therapeutic oncology from screening and early detection to treatment outcomes. There is a continuum of effort at all levels possible to achieve the zenith and optima of care and management for ailing cancer patients. Conducting research and practicing patient care in isolation in this current era is an undesirable academic or clinical suicide. Every effort to achieve excellence, whether in basic research or clinical care, must be very well integrated, openly communicative, widely collaborative and essentially multi-disciplinary. This is integral to achieve the goal of improving cancer care to the dream of a total cure in future.

An optimal justifiable corner stone of cancer care is to identify the magnitude of problem at local level, discover uniquely diverse etiologic influences or disease history, and devise a practical strategy supported by the political will and administrative quarters. An envisioned, well directed, integrated, and collaborative cancer registry is the first block of this huge structure. African Oncology institute has made the first essential step possible to establish a population based and hospital based data bank in the form of cancer registry. We justifiably and humbly expect others to get on board, to achieve the common and desired goal of improving the cancer care in the country.

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The effort of publishing this hospital-based cancer registry report could not have been successful without the help, support, encouragement, and input of many people. It is my heart felt obligation and utmost duty to acknowledge the efforts of following persons.

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SECOND ANNUAL REPORT
HOSPITAL-BASED CANCER REGISTRY
INTRODUCTION AND OUTLINE

This year, African Oncology Institute has enhanced the level of care with installation of real-time PCR machine and immunohistochemistry which are now being routinely used in improving diagnostic accuracy in care of oncology patients. We have also escalated the use of high-dose chemotherapy treatments with enrichment of our experience in the dedicated bone marrow transplant unit. In addition to providing these sophisticated care, our institute has a dedicate cancer registry program which provides quality data for use by managers.

Here, the institute proudly presents the second annual report of hospital-based cancer registry. Our initial effort with first report of hospital-based registry as well as population-based registry enriched our experience in the field, with the critical feedback provided from readers, and with improved quality controls, we expect to meet your expectations in this report.

This report provides a synopsis of care at the institute. It still lacks survival analysis because of lack of feed but still provides sufficient data to indicate the realm of services.

The format in second report (2007) is largely similar to the first report (2006) to make it comparable and more analytic and we have additionally included more in-depth numerical details for enhanced use at reader's end. Details of prostate, uterus, cervix, liver, pancreas, brain, and thyroid cancers are also added in this report.

The fist chapter provides an overview of all cancers patients registered in 2007 including special pages devoted to tobacco-related cancers.

Second chapter provides details of individual cancers starting with cancer breast. The number, age-distribution, sex-distribution, histopathological subtyping, disease extent at presentation, treatment provided at the institute are main topics discussed for these individual cancers.

Third chapter is an appendix with table of all registered cancer patients as per ICD-10 coding and references.

Our efforts have their inherent limitations and we eagerly await any further comment or suggestion from our readers.

We hope the details will be helpful to all those involved in care of cancer patients.

Scientific Committee
Sabratha Cancer Registry

Chapter 1

Overview

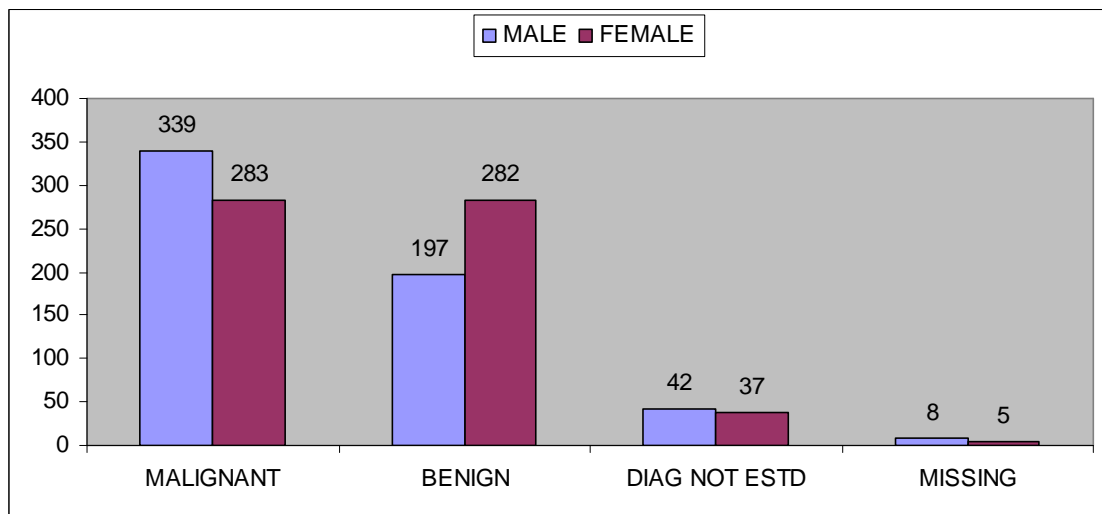
MAGNITUDE OF CANCER

In 2007, a total of 1193 patients were registered and 622 malignancies (52%) were diagnosed whereas for 79 patients diagnosis of benign versus malignant could not be established. Out of total of 1193 patients, 586 were males (49%) and 607 female (51%) patients. These distributions are shown in figures below. It is clear from this figure that a higher proportion of female patients with benign diseases are registered at our institute. The main contribution to this includes overwhelming attendance of females with benign breast disorders at our twice weekly Breast Clinic. Henceforth, the discussion includes only these 622 patients in which malignant nature of disease process was established.

Tables 1.1: Magnitude of cancer (n=1193)

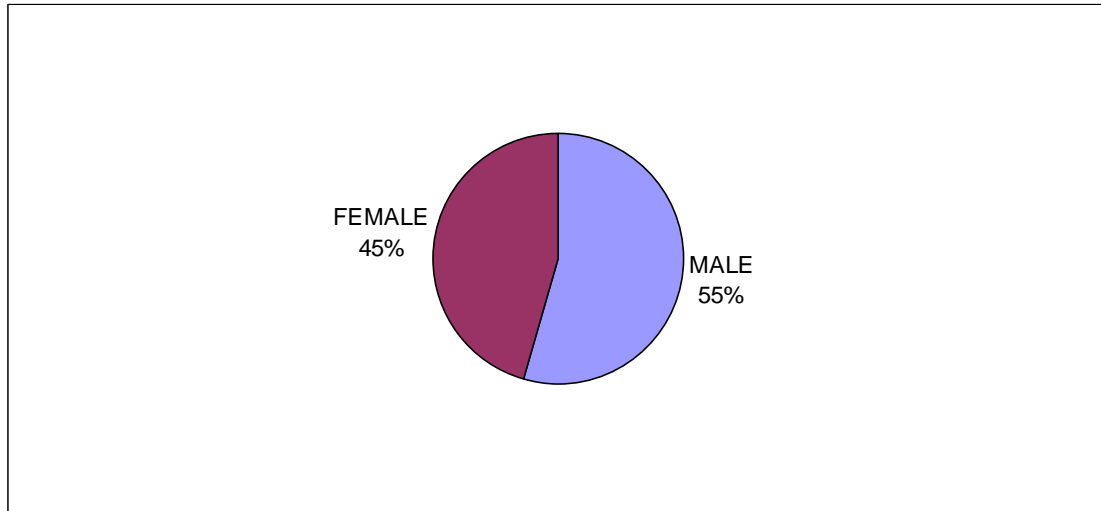
	#	%
MALIGNANT	623	52
BENIGN	478	40
DIAGNOSIS NOT ESTD	79	7
MISSING	13	1
TOTAL	1193	100

Fig 1.1: Overview of all cases (n=1193)



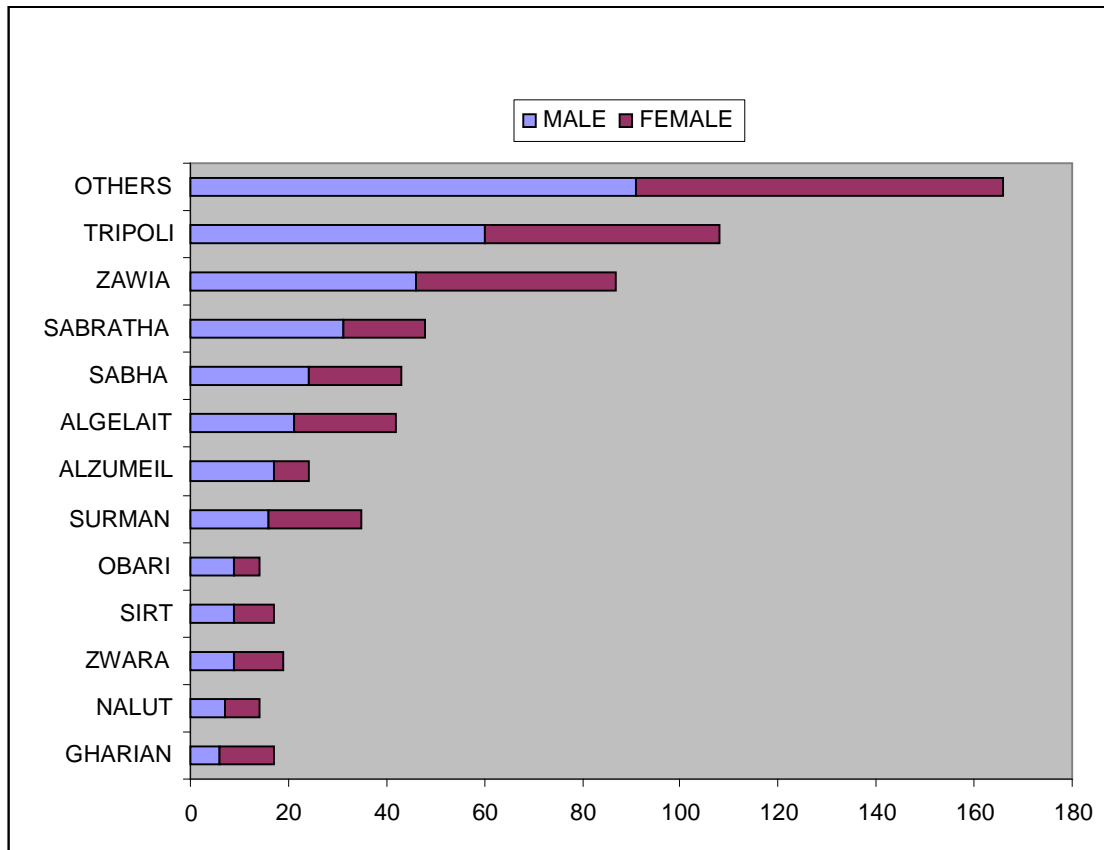
From figure 1.1, it is also obvious that amongst 622 malignancy patients, 339 of patients were males (55%) and 283 patients were females (45%).

Fig 1.2: Male – Female ratio (n=622)



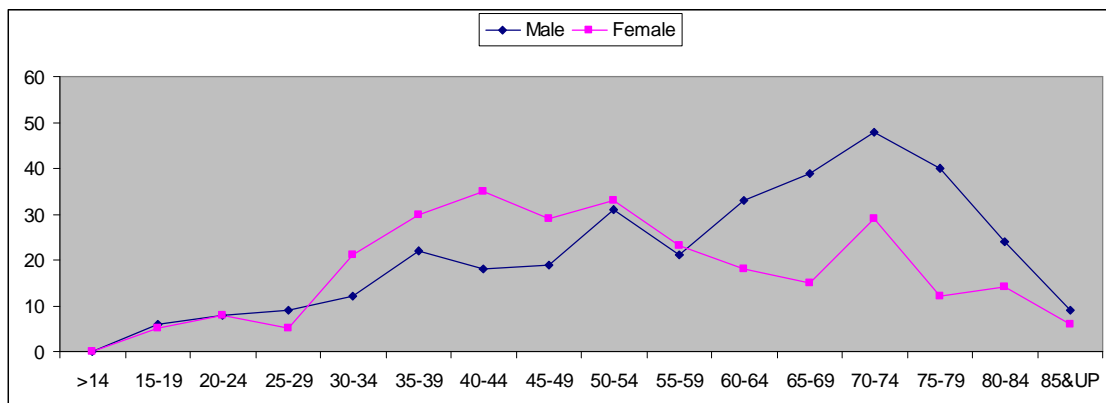
Majority of population served by AOI resides in western part of Libya including the cities of Sabratha, Zwara, Aljameil, Surman, and Zawia. Our institute being the premier institute for oncology care in the country, patients from as far as Sirt and Obari also attend our institute for care. Tripoli and Zawia being the most populous cities nearest to AOI, contribute to highest number of patient load. This may be a reflection of total population of these cities. Distribution according to place of residence of our patients is shown in accompanying figure along with sex wise proportions.

Fig 1.3: Region wise distribution(n=622)



Age wise distribution is shown in figure below. Patients with age above 60 years constitute about 50% of all cancer patients. A progressive rise with increasing age is more obvious in male patients with peak incidence in 70-74 year age group with median age at presentation at 56 years. Female patients depict a peak incidence in age group 50-54 with median age at 44 years which is much lower than males.

Fig 1.4: Age and Sex wise distribution (n=622)



LEADING SITES OF CANCER:

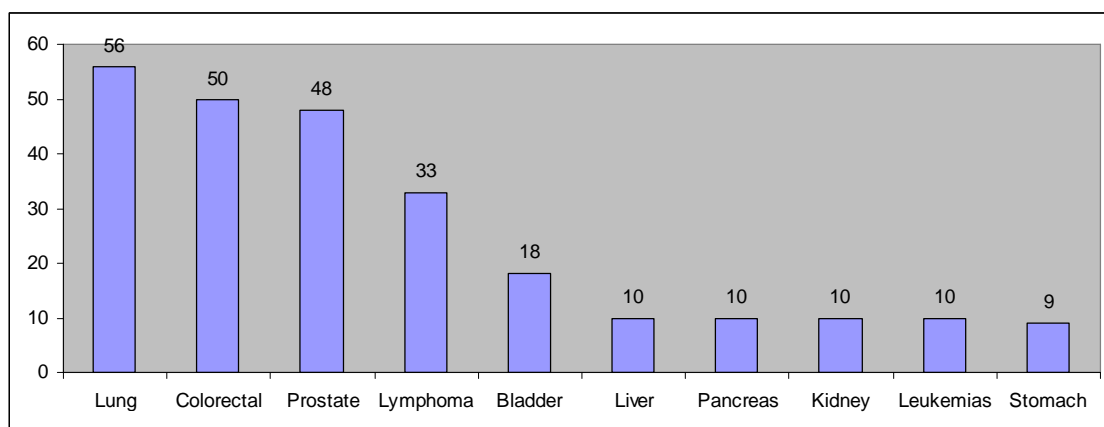
Tables 1.2: Leading sites of cancers

MALE			FEMALE		
SITE	#	%	SITE	#	%
Lung	56	16.5	Breast	100	35.3
Colorectal	50	14.7	Colorectal	30	10.6
Prostate	48	14.2	Lymphoma	27	9.5
Lymphoma	33	9.7	Ovary	17	6.0
Bladder	18	5.3	Lung	13	4.6
Liver	10	2.9	Cervix Uteri	13	4.6
Pancreas	10	2.9	Leukemias	12	4.2
Kidney	10	2.9	Corpus Uteri	8	2.8
Leukemias	10	2.9	Stomach	7	2.5
Stomach	9	2.7	Pancreas	6	2.1
	254	74.9		233	82.3

Leading sites of cancer in males:

Lung cancer is the commonest cancer in males in 2007 closely followed by colorectal and prostate cancer. These three cancers form 45% of all male cancers whereas the leading ten sites form 75% of all cancers in males. Relative contribution of tobacco-related cancers is detailed in next chapter.

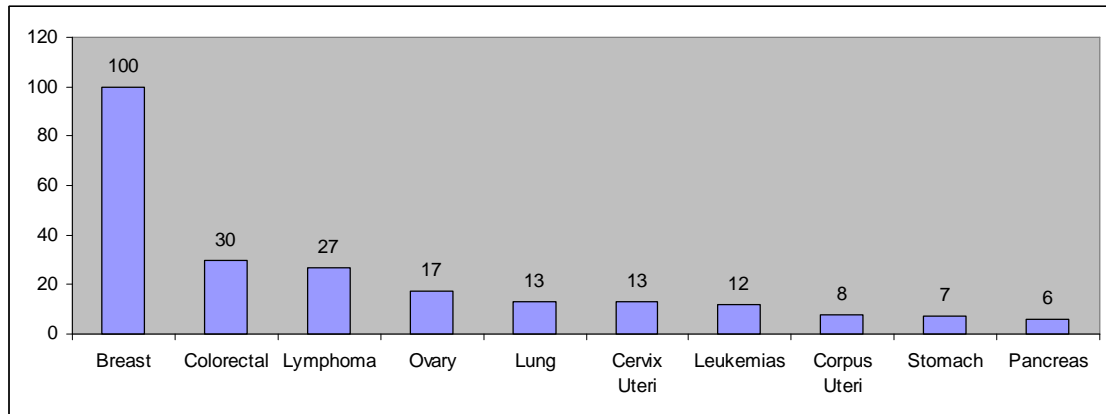
Fig 1.5: Leading sites – Male



Leading sites of cancer in females:

Ten leading sites of cancer for females are shown in accompanying bar chart. Cancer of breast is the commonest cancer in Libyan females and constitutes 35% of all female cancers.

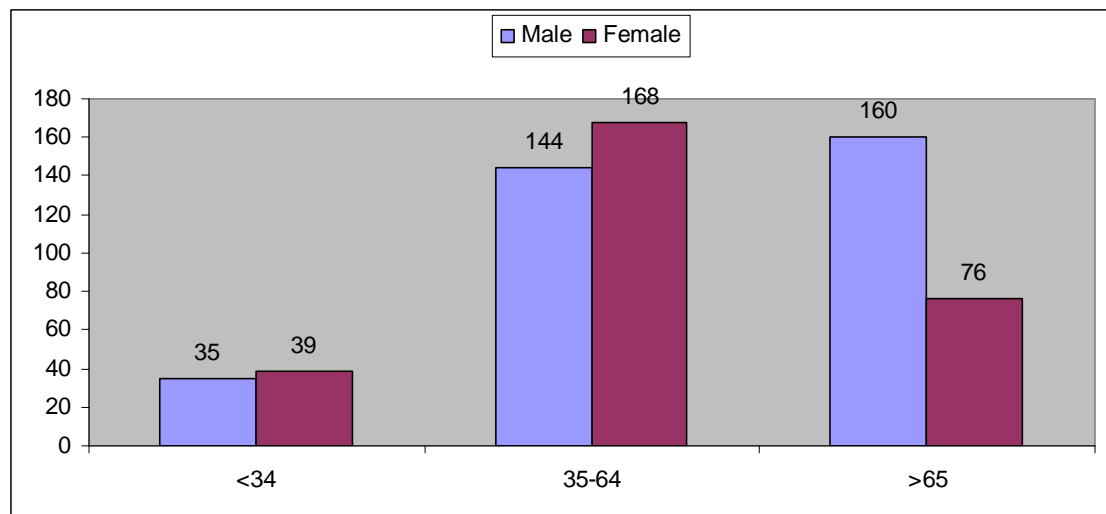
Fig 1.6: Leading sites – Female



CANCERS IN BROAD AGE GROUPS

All 622 patients were regrouped in broad age groups. The youngest group was patients aged 14 years to 34 years. The middle group was from 35 years to 64 years. The elderly group aged from 65 years onwards. The relative contribution of each sex is obvious from the figure below which depicts that female patients are more common in middle age group due to increased incidence of cancer breast in this group.

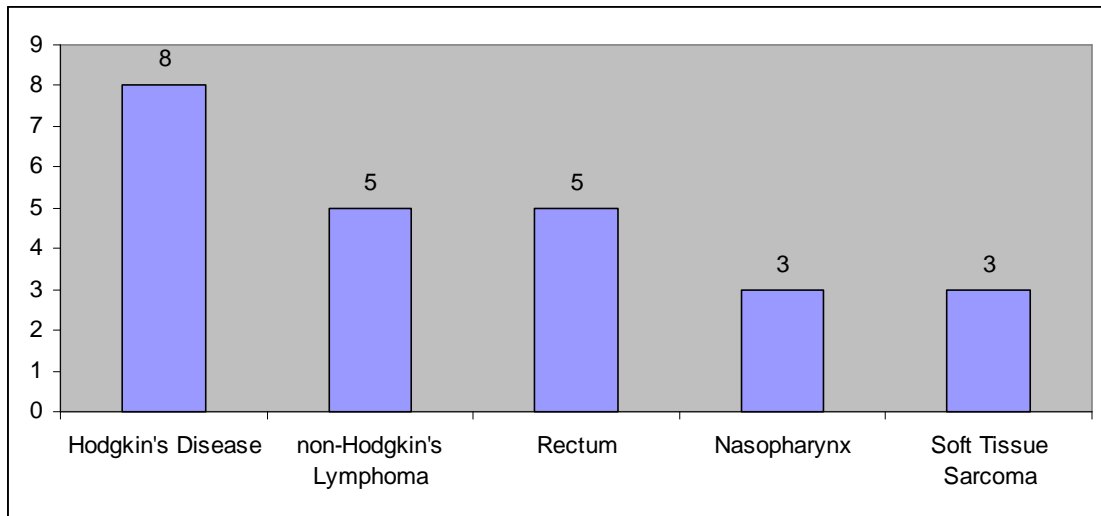
Fig 1.7: Cancer in broad age groups – Sex wise distribution (n=622)



Less than 35 years:

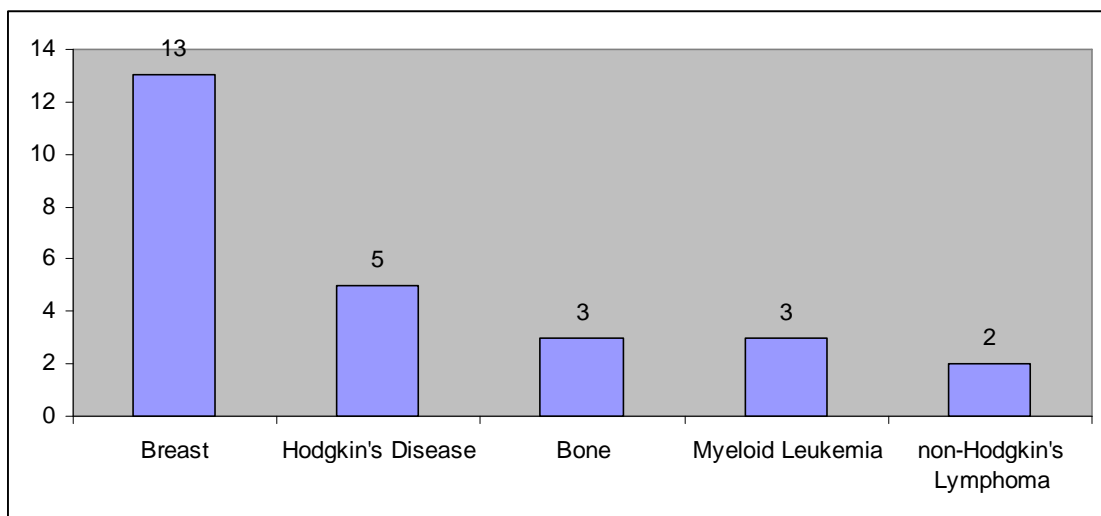
Males: Out of total 35 male patients below the age of 35 years, lymphoma was the commonest pathology contributing to 37% of cases with Hodgkin's lymphoma being commoner than non-Hodgkin's by a ratio of 1.6:1. Between the age of 30 years to 35 years, cancer of rectum contributes to 15% of male cancer patients making it third commonest site for patients below age group of 35 years.

Fig 1.8: Leading five site of cancer in males aged less than 35 years (n=35)



Females: Out of total 39 female patients, cancer breast was the commonest cancer contributing to 33% of cases followed by Hodgkin's lymphoma. The ratio of Hodgkin's versus non-Hodgkin was 2.5:1 in females below the age of 35.

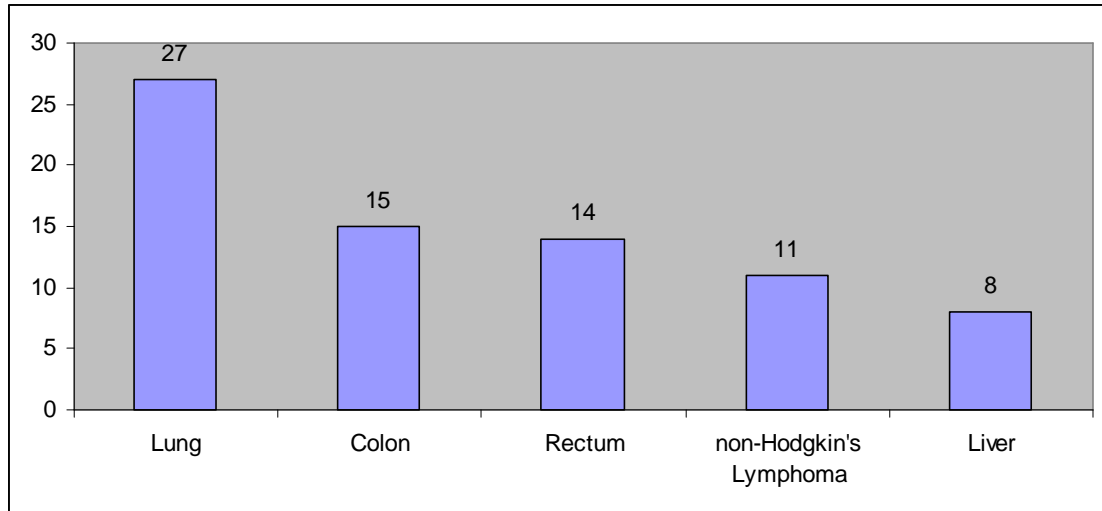
Fig 1.9: Leading five site of cancer in females aged less than 35 years (n=39)



35-64 years:

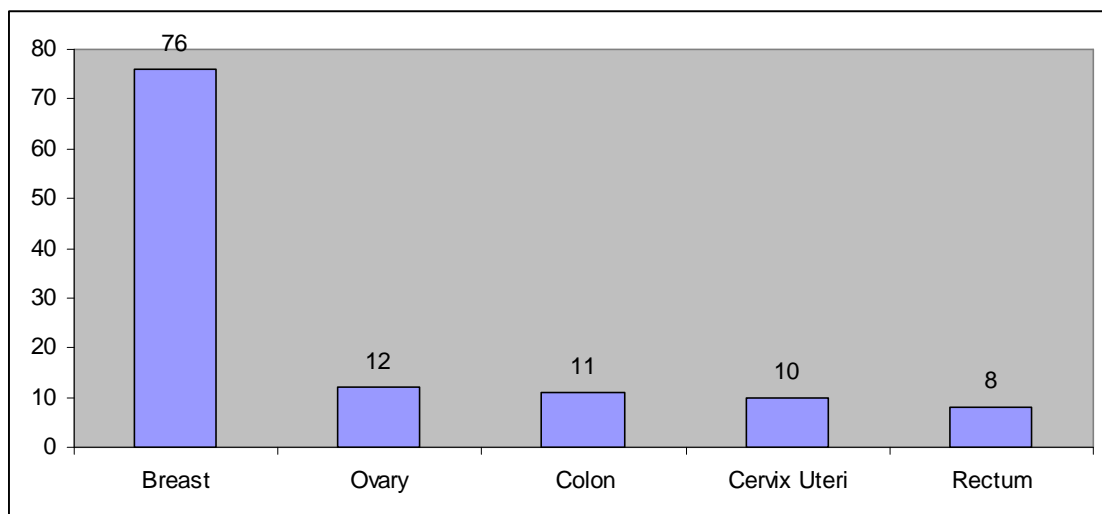
Males: Out of total 144 male patients in age group 35-64 years, cancer of lung is the commonest pathology contributing to about one-fifth of patients. Colorectal cancers, combined together, constitute another one-fifth of these. Further it may be noted that non-Hodgkin's lymphoma is 3 times more common than Hodgkin's lymphoma in this group.

Fig 1.10: Leading five site of cancer in males aged 35-64 years (n=144)



Females: Out of total 168 female patients in age group 35-64 years, cancer of breast is the commonest pathology contributing to 45% of patients. Gynecological malignancies which include cancer of ovary, cervix uteri, corpus uteri, vulva, and vagina (17%) are second commonest followed by colorectal cancers (11%) in this age group.

Fig 1.11: Leading five site of cancer in females aged 35-64 years (n=168)

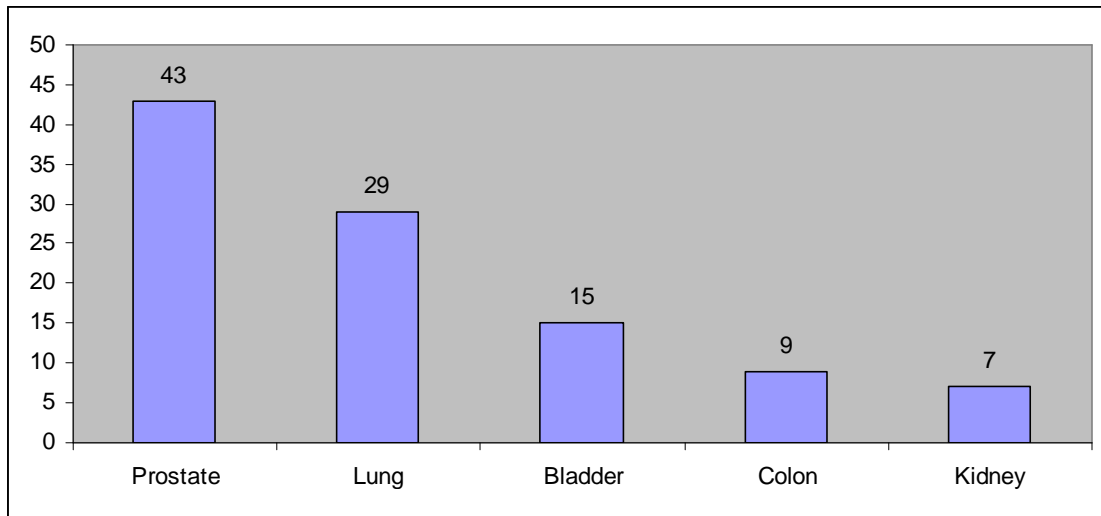


More than 65 years:

Males:

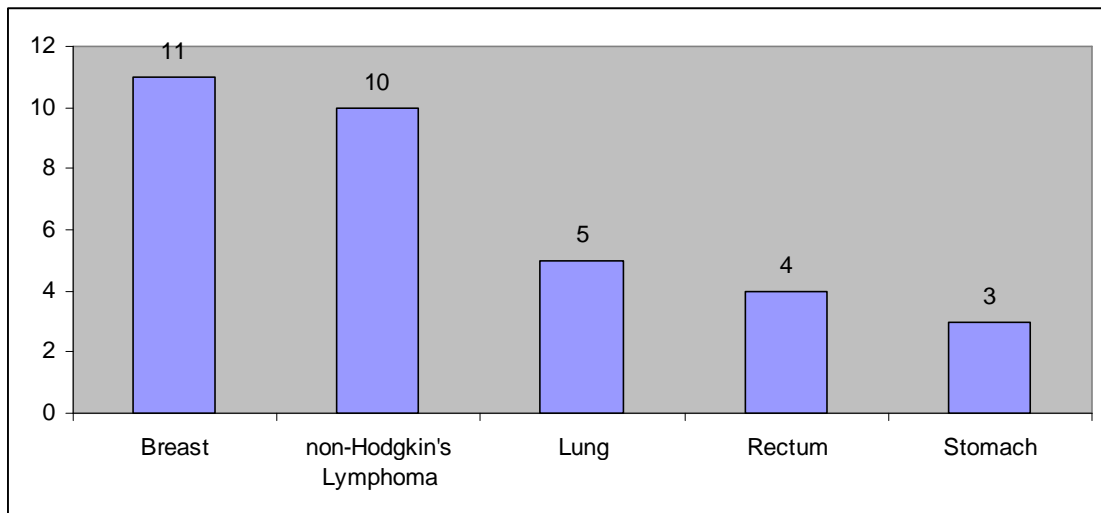
Out of total 160 male patients in age group of more than 65 years, prostate cancer is the commonest pathology contributing to about one-fourth of patients. Lung cancer is the second commonest. With increasing life expectancy, it is expected that prostate cancer will be a bigger problem as compared to lung cancer.

Fig 1.12: Leading five site of cancer in males aged more than 65 years (n=160)



Females: Out of total 76 patients, cancer breast was the commonest cancer contributing to 14% of cases followed by non-Hodgkin's lymphoma, lung, rectum, and stomach. Lymphomas combined together become the commonest cancer in this age group.

Fig 1.13: Leading five site of cancer in females aged more than 65 years (n=76)



TOBACCO-RELATED CANCERS

Consumption of tobacco in various forms is associated with cancers of aerodigestive tract as well as urinary bladder. Due to higher prevalence of smoking in males, these cancers are more common in males. The relative proportion of each site is shown in figures as well as tables below.

Tables 1.3: Tobacco-related cancers

Site	ICD-10	Male	Female
Tongue	C02	3	0
Gum	C03	3	1
Hypopharynx	C13	0	1
Esophagus	C15	6	0
Larynx	C32	5	0
Trachea	C33	1	0
Lung	C34	56	13
Bladder	C67	18	4
Total		92	19
All Sites		339	283

Fig 1.14: Tobacco-related cancers in males (n=92)

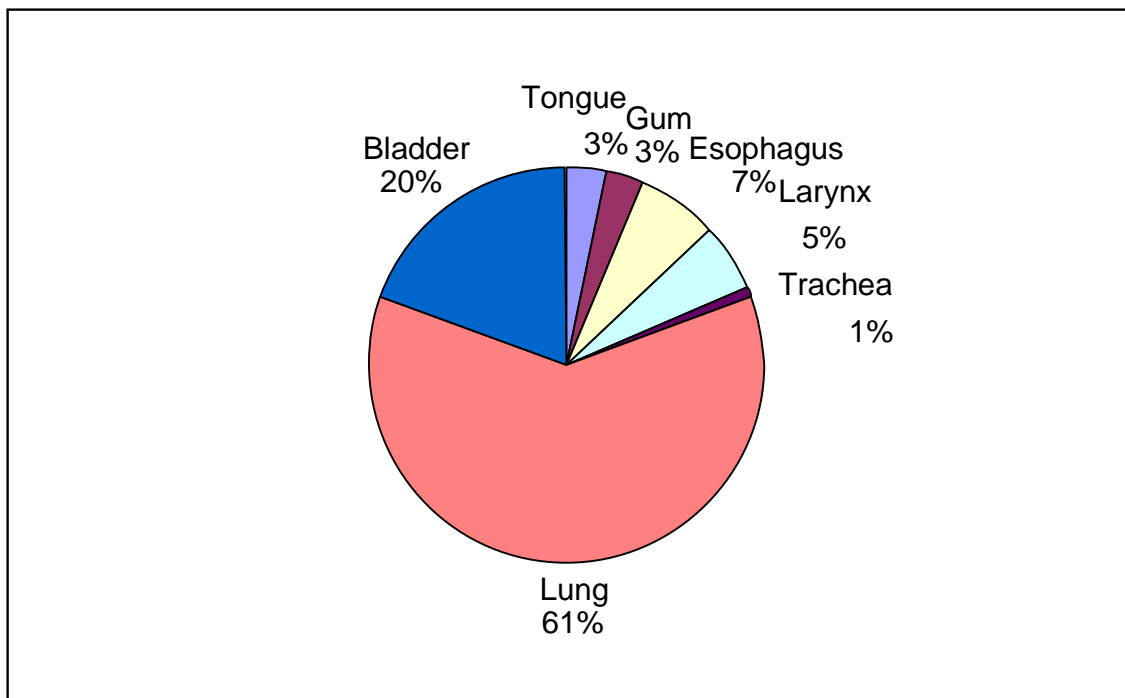
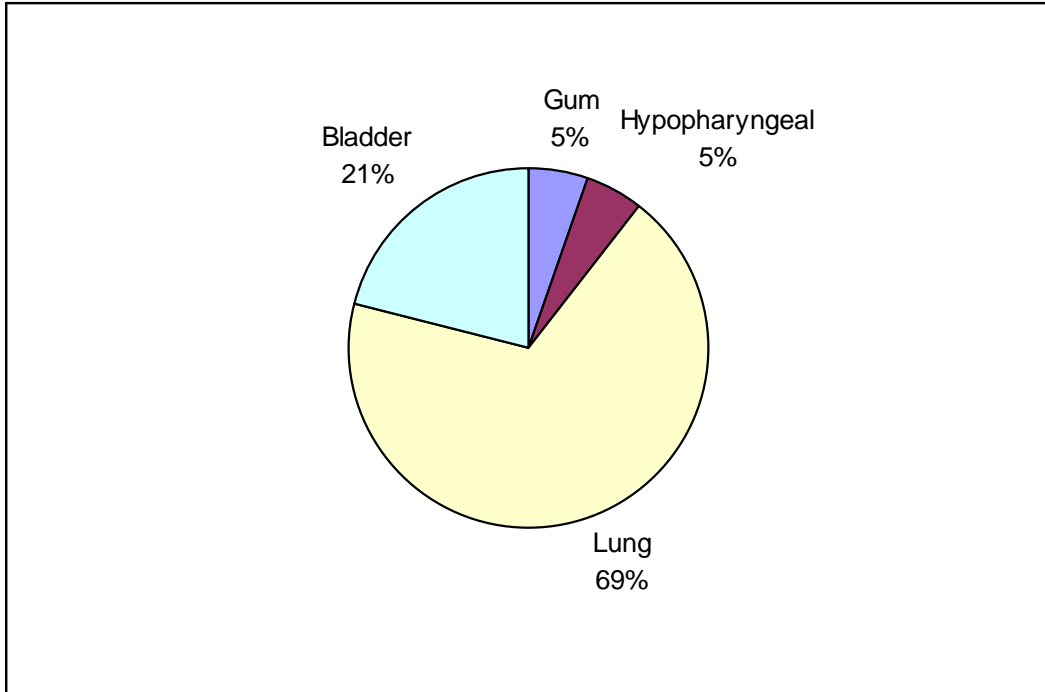


Fig 1.15: Tobacco-related cancers in females (n=19)



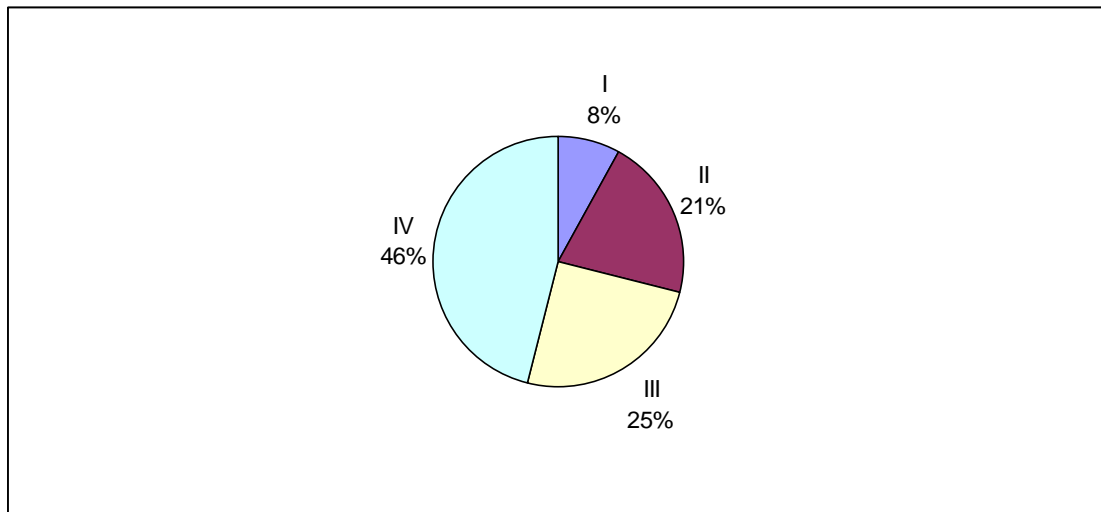
CLINICAL EXTENT OF DISEASE AT PRESENTATION

At the time of registration at AOI, an attempt is made to stage all the patients as per current staging guidelines (AJCC, 2002). Difficulty is obvious in patients who attend the institute with residual or recurrent disease after receiving prior oncological treatment elsewhere and complete stage workup prior to treatment is not available.

Tables 1.4: Stage wise distribution

Stage	#
I	31
II	81
III	98
IV	179
Unknown	226

Fig 1.16: Stage wise distribution (n=389)



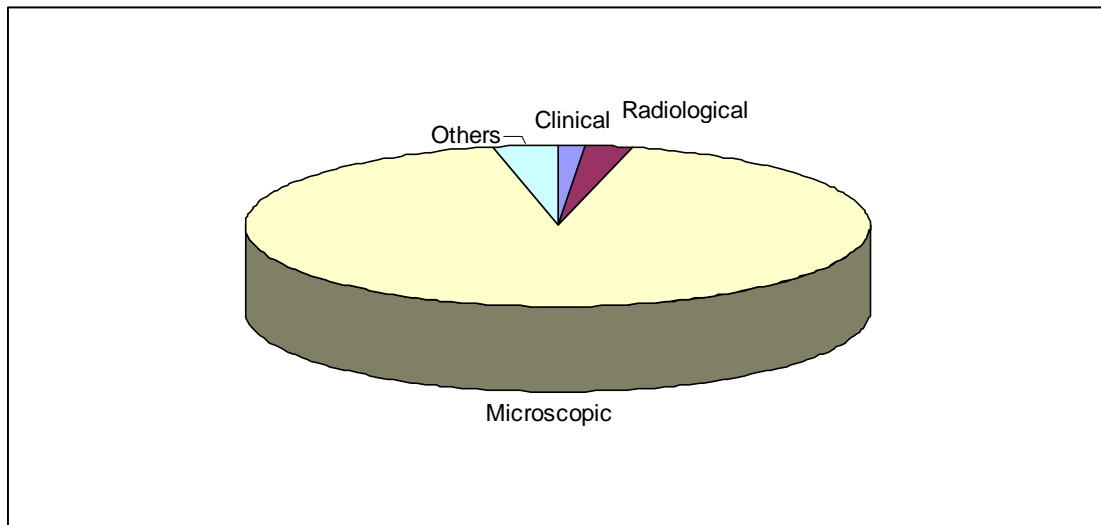
BASIS OF DIAGNOSIS

The modality which established oncological diagnosis was recorded in 23 different categories which were grouped later into clinical, radiological (CT/MR imaging), microscopic (cytology, bone marrow examination, or biopsy), and other modalities (PSA and other tumor markers). About 93% of diagnoses were confirmed pathologically.

Table 1.5: Basis of diagnosis

Basis of diagnosis	#	%
Clinical	8	1
Radiological	16	3
Microscopic	578	93
Others	20	3
Total	622	100

Fig 1.17: Basis of diagnosis (n=622)

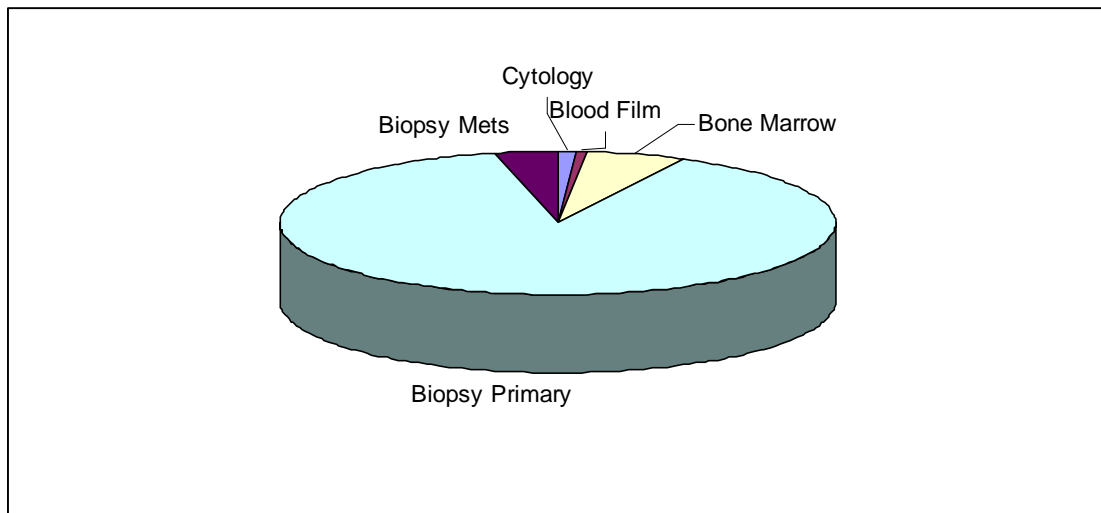


Pathological diagnosis was established by biopsy of primary site in about 90% of patients. Bone marrow examination established the diagnosis mainly for hematological malignancies. Recently, flow cytometry is being used more and more to assist the diagnosis for patients with hematological malignancies. Six patients diagnosed by cytological examination included advanced cases of ovarian cancers presenting with ascites.

Table 1.6: Pathological basis of diagnosis

Basis	#	%
Cytology	6	1
Blood Film	4	1
Bone Marrow	34	6
Biopsy Primary	513	89
Biopsy Mets	21	4
Total	578	100

Fig 1.18: Pathological basis of diagnosis (n=578)



PRIOR TREATMENT TYPES

Of the available data of 589/622 patients regarding prior treatment received prior to registration at AOI, about 55% of patients received some type of cancer-directed treatment elsewhere including oncological centers in neighboring countries. Majority of patients received surgical management in form of excision biopsy or resection.

Fig 1.19: Treatment prior to registration (n=589)

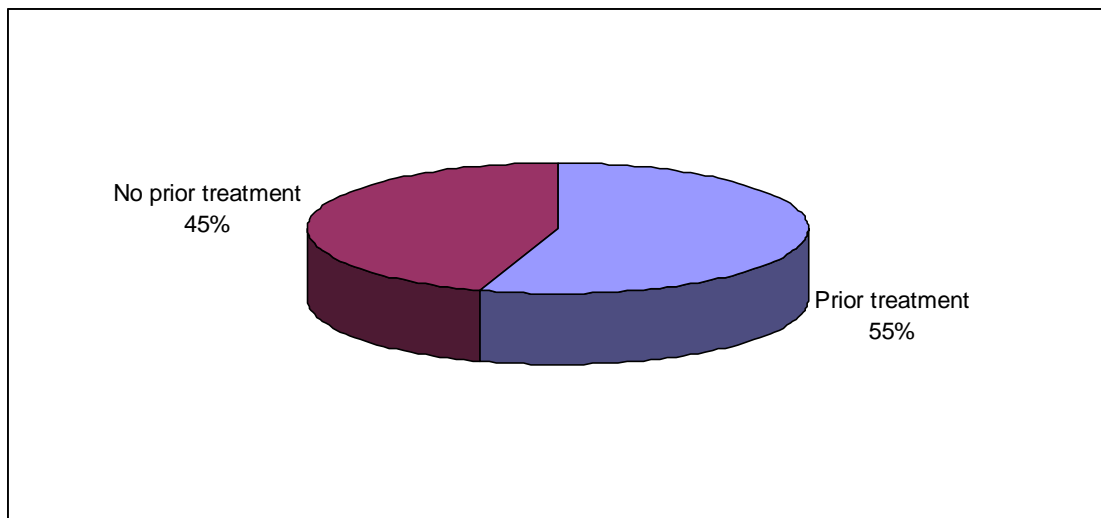
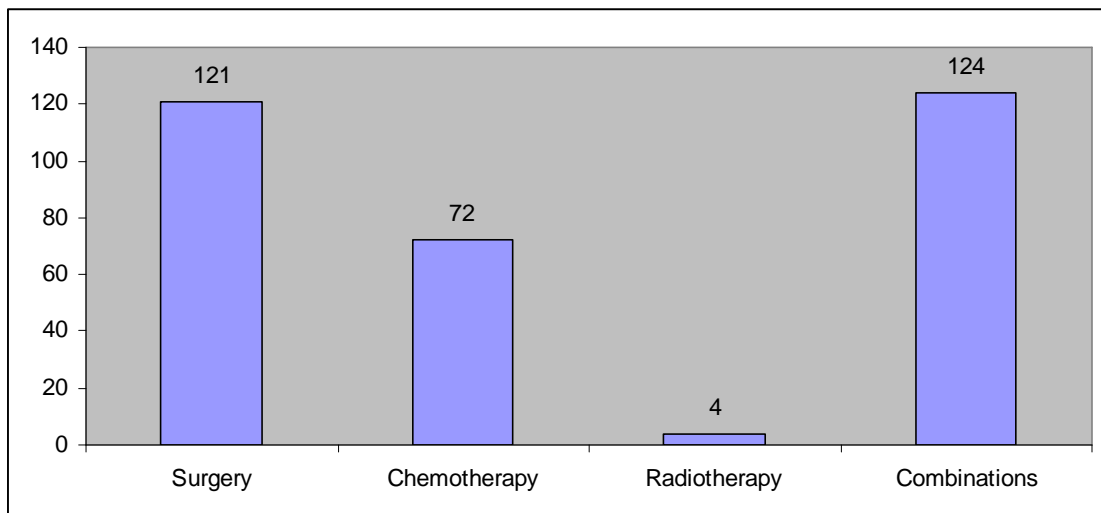


Fig 1.20: Treatment type prior to registration (n=321)



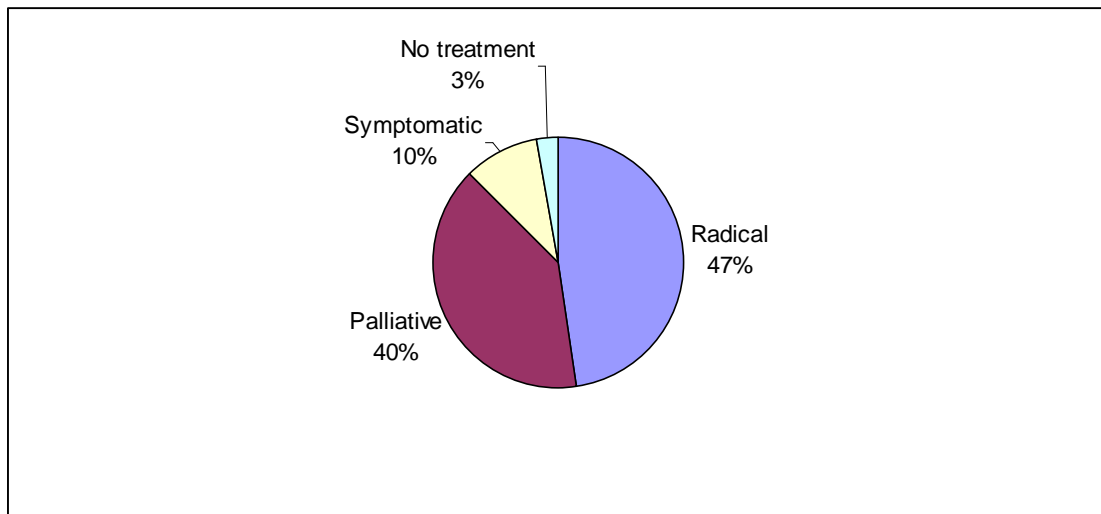
TREATMENT AT AFRICAN ONCOLOGY INSTITUTE

In 2007, at African Oncology Institute, about half of patients were considered for a radical plan of management. Remaining patients were subjected to palliative (40%), symptomatic (no active oncological intervention), and no treatment group. This analysis is depicted in table as well as figure below. The “no treatment” and “symptomatic treatment” groups include patients who had low performance status, advanced disease (including hepatocellular carcinoma), patients refusing treatment, patients who have already completed their treatment elsewhere and attended AOI only for followup service, and patients with disease requiring observation only.

Table 1.7: Intent of treatment at AOI

Intent	#
Radical	274
Palliative	227
Symptomatic	56
No treatment	16

Fig 1.21: Intent of treatment at AOI (n=573)



At AOI, majority of patients received combined modality treatment. The distribution of various treatment modalities is shown in tables and figures below. It is obvious that chemotherapy alone is the most commonly used (50%) modality at our institute. Combined modality, i.e., surgery, radiotherapy, chemotherapy, or hormonal therapy combined in variable sequences is the second commonest treatment approach. Further analysis of combined approach shows that chemoradiotherapy is the commonest plan currently practiced. In accordance to this, department of medical oncology is the most utilized therapeutic department in the institute.

Fig 1.22: Treatment type at AOI (n=401)

Key: Comb = Combined modality, H = Hormonal therapy, CT = Chemotherapy, RT = Radiotherapy, S = Surgery

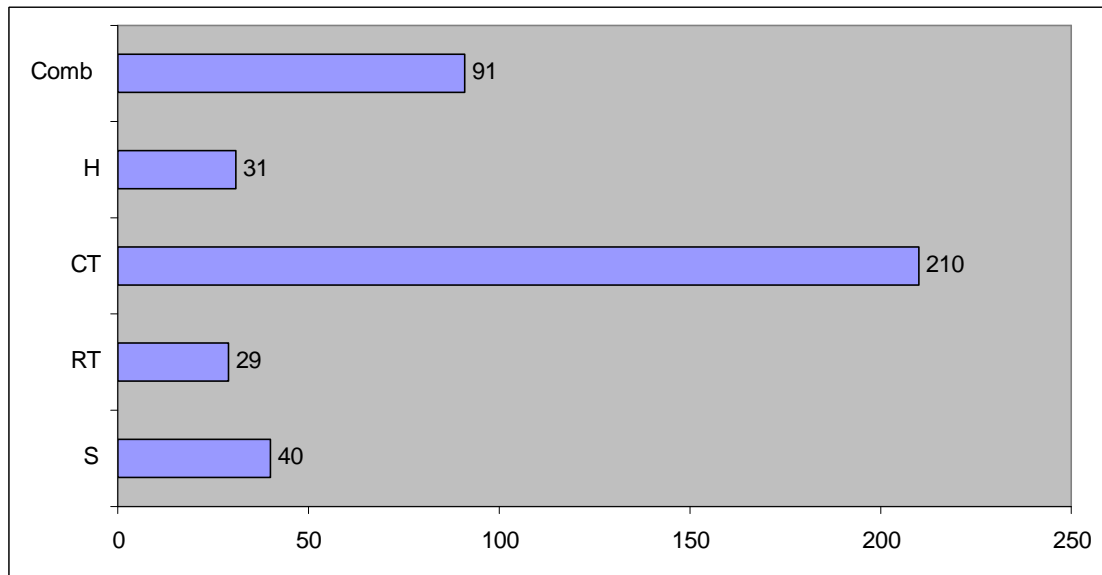


Fig 1.23: Combined treatment types at AOI (n=91)

Key: H = Hormonal therapy, CT = Chemotherapy, RT = Radiotherapy, S = Surgery

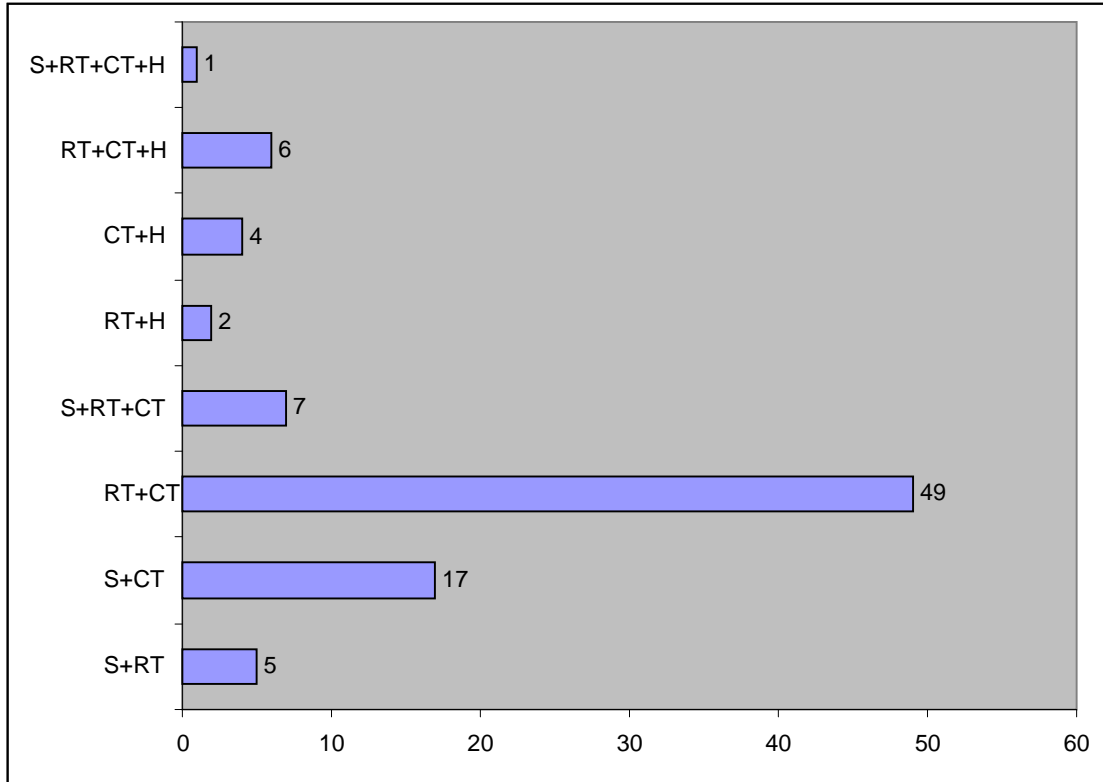
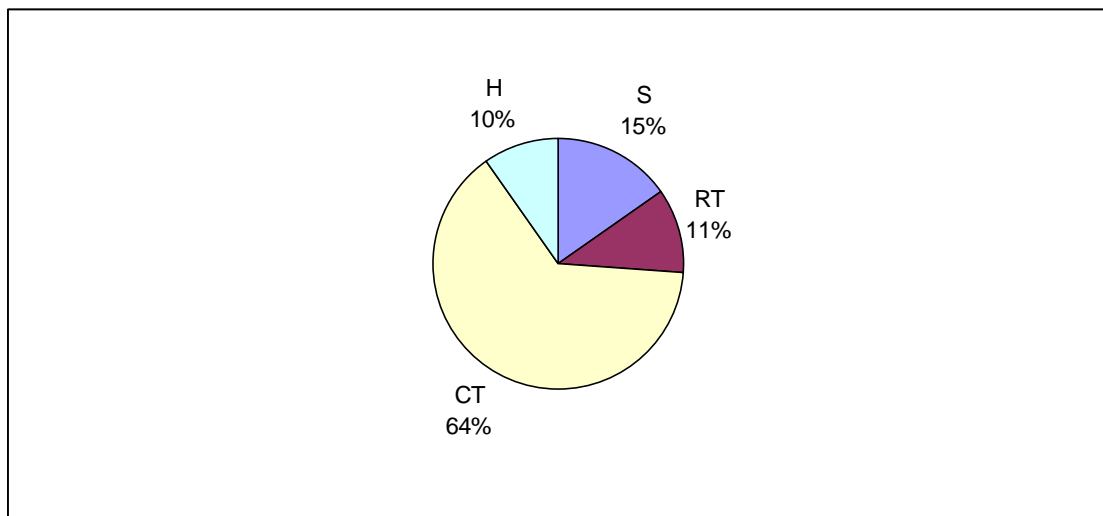


Fig 1.24: Departmental utilization at AOI (n=458)

Key: H = Hormonal therapy, CT = Chemotherapy, RT = Radiotherapy, S = Surgery



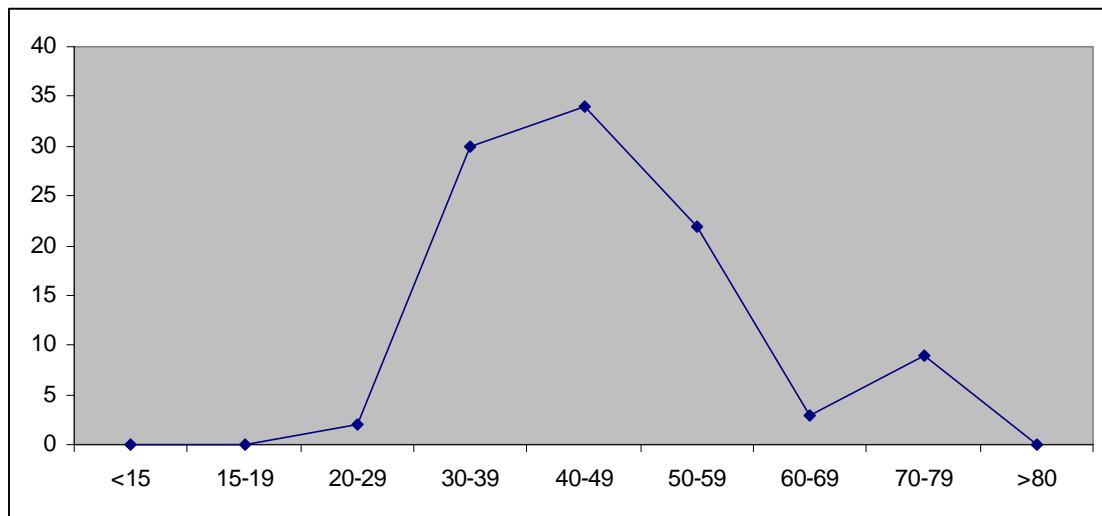
Chapter 2

Cancer of specific sites

FEMALE BREAST CANCER (C50)

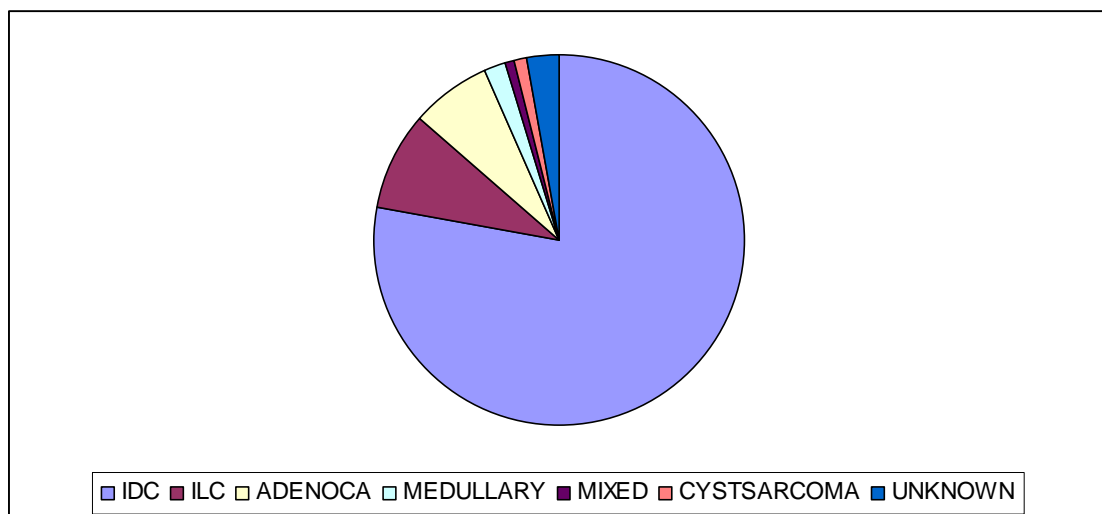
The most common cancer in Libyan females is cancer breast with an incidence rate of 31 per 100,000 population in Western Libya. Out of a total of 622 cancer patients registered, female breast cancers were 16% (100/622) and male breast cancers were only 0.5% (3/622) resulting in a M:F ratio of 33:1. It constituted 35.5% of all female cancer patients in 2007 which remains static as compared to 2006. The median age at presentation was 43 years. The age distribution is shown in the figure below.

Fig 2.1: Age distribution – Cancer breast in females (n=100)



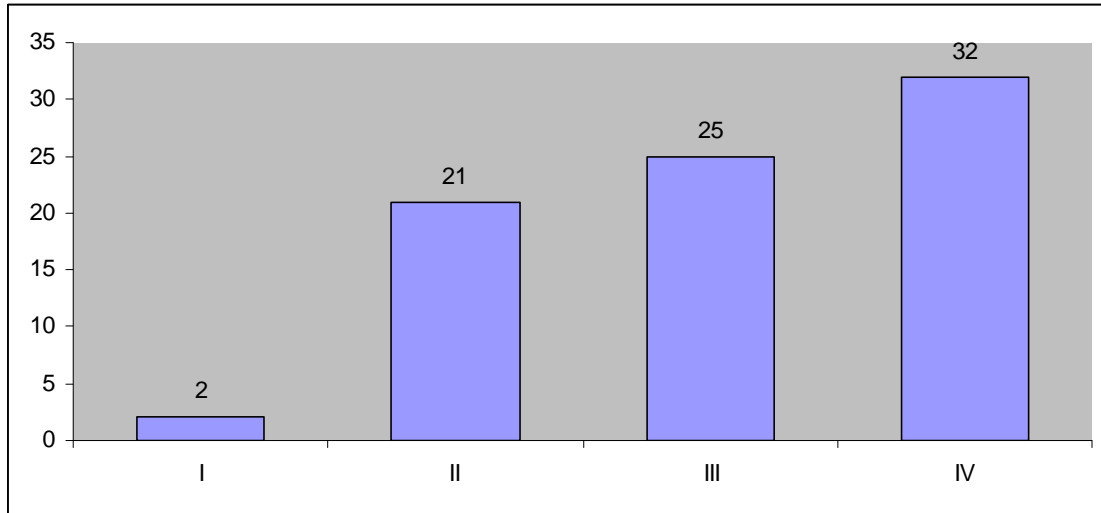
The commonest histopathology was infiltrating duct carcinoma (78%) and this is depicted in accompanying figure.

Fig 2.2: Histopathological Types - Female breast cancer (n=100)



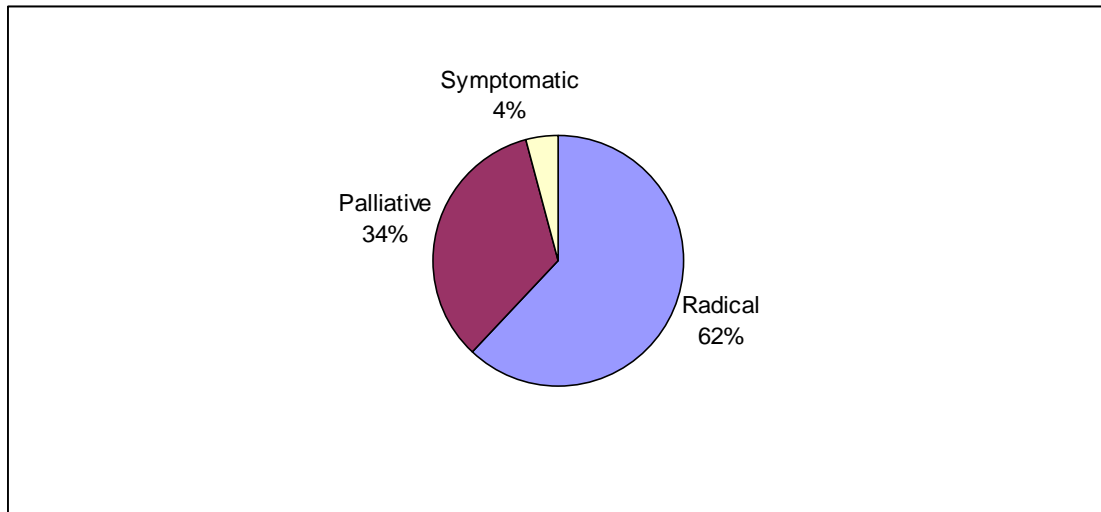
Breast cancer is curable even in locally advanced stages and at our institute about 60% of patients presented in stage I, II, or III.

Fig 2.3: Stage wise distribution - Female breast cancer (n=80)



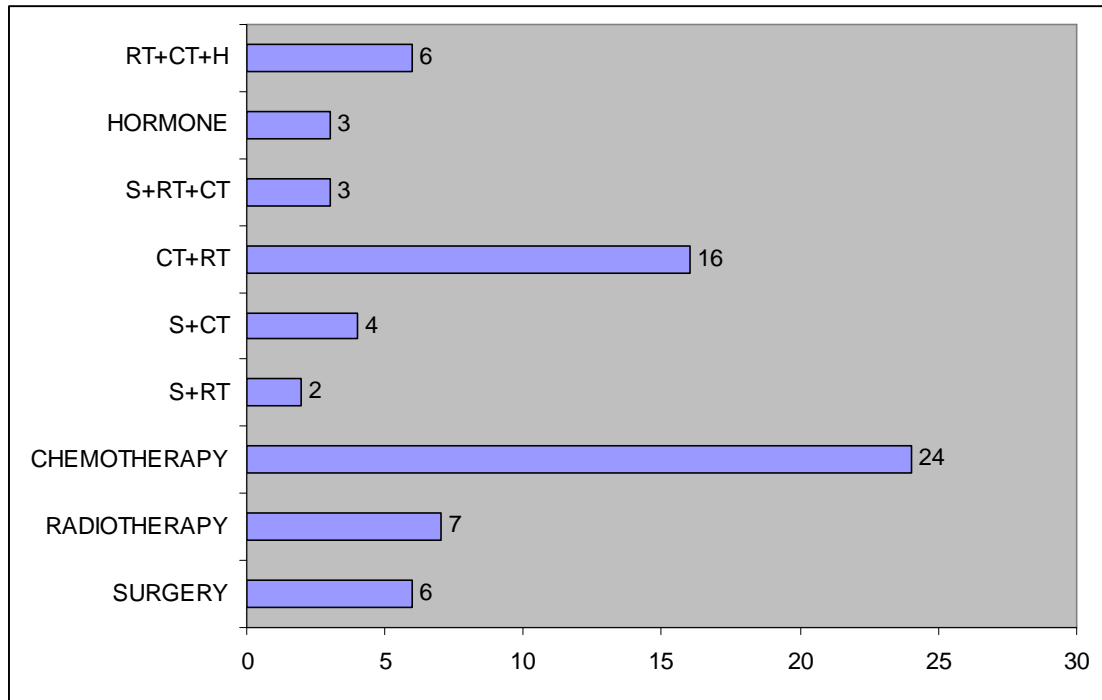
In accordance with this type of presentation (shown as pie chart below), nearly 60% of patients received a radical treatment plan.

Fig 2.4: Intent of treatment at AOI - Female breast cancer (n=97)



Both locoregional and systemic treatments are part of multimodality treatment plan and systemic chemotherapy being the commonest modality of treatment with $\frac{3}{4}$ of all patients receiving chemotherapy alone or in combination with surgery or radiotherapy.

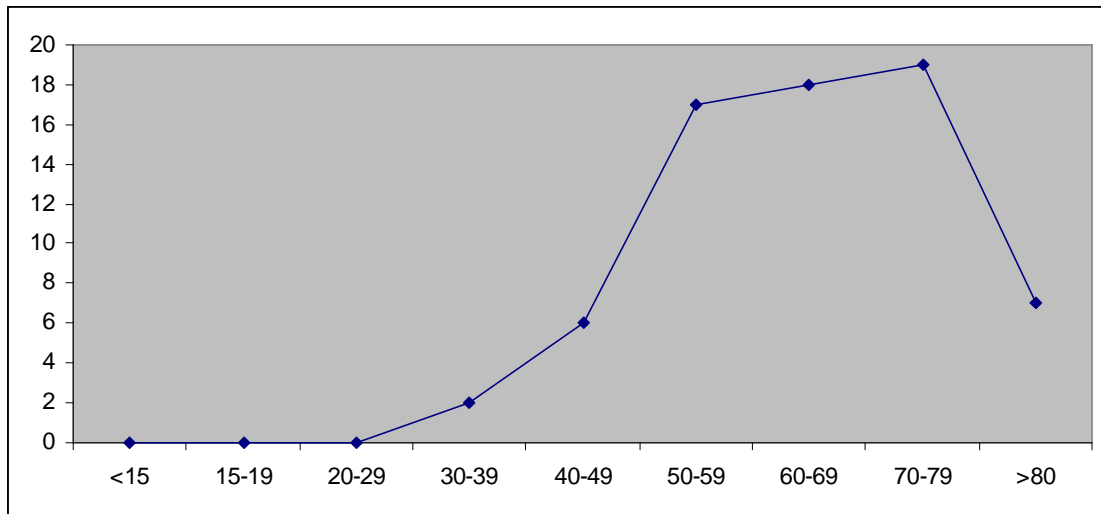
Fig 2.5: Treatment type at AOI - Female breast cancer (n=71)



CANCER LUNG

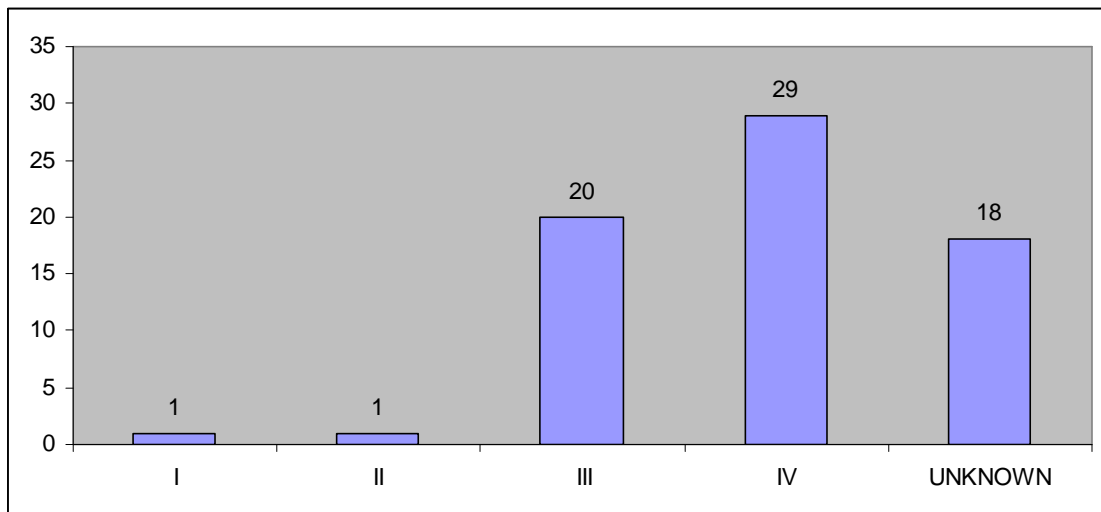
Cancer of lung is the commonest site of cancer for males in 2007, contributing to 16.5% of all male cancer patients. In females, it constituted about 5% of all cases. The median age at presentation for males was 65 and for females was less at 55 years. The combined age distribution is shown in figure 2.6.

Fig 2.6: Age distribution – cancer lung (n=69)



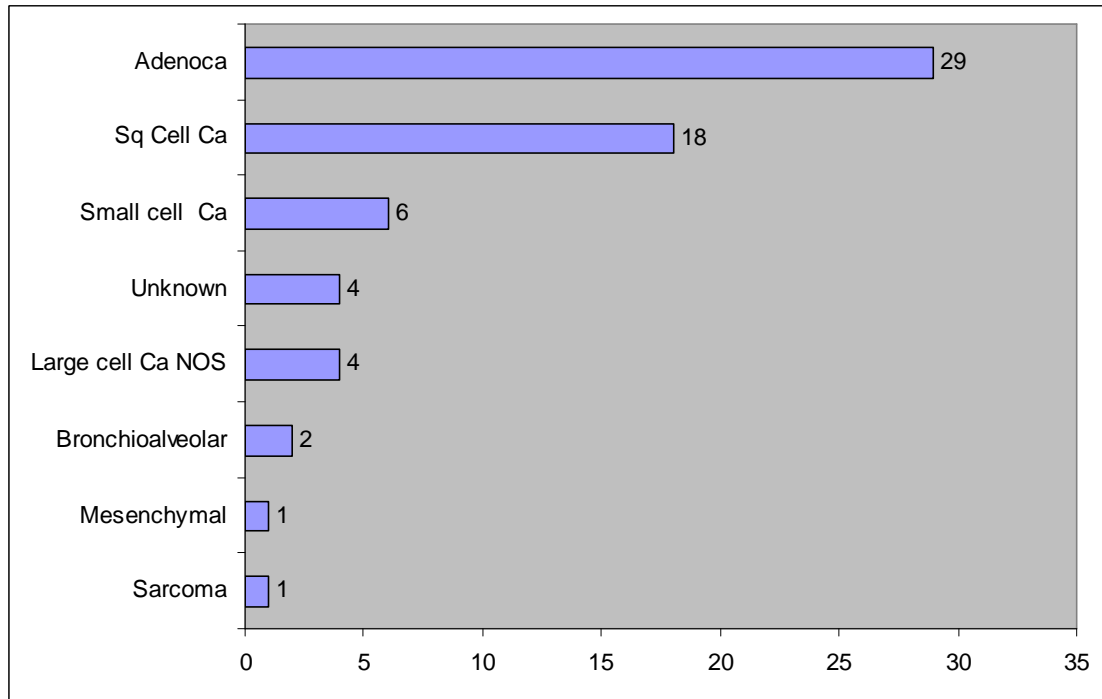
Majority of patients present with advanced and inoperable status as shown in figure 2.7.

Fig 2.7: Stage distribution – cancer lung (n=69)



Adenocarcinoma is the commonest type of pathology and was nearly three times more common than squamous cell carcinoma (Figure 2.7). This trend is in contrast with that of 2006 where squamous cell carcinoma was slightly more common than adenocarcinoma. This might be due to changes in smoking pattern observed worldwide.

Fig 2.8: Histopathological distribution – cancer lung (n=65)



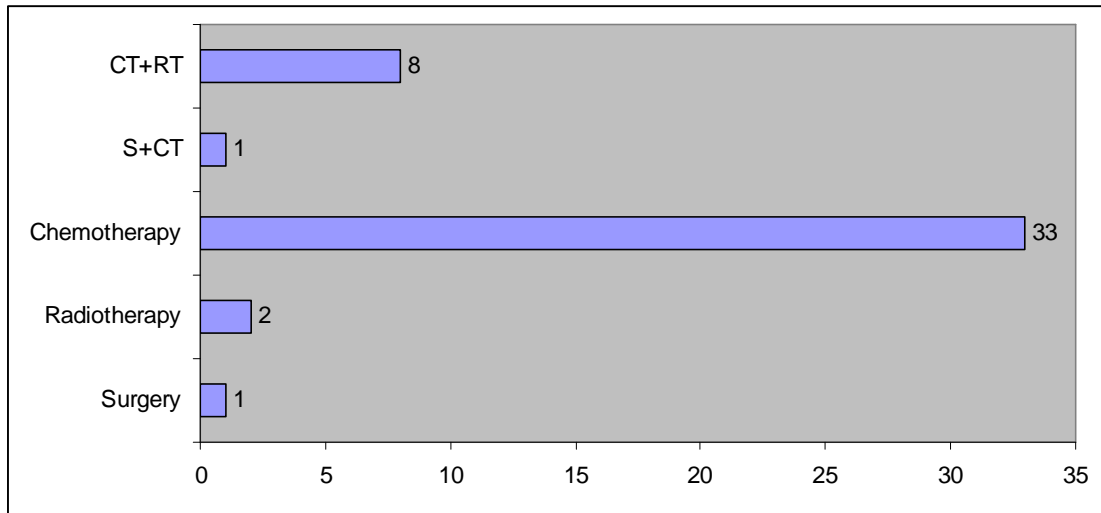
With large number of patients presenting in stage III and IV, majority of lung cancer patients are considered unfit for radical treatment plan. In addition, advanced median age at presentation further complicates the scenario with about 30% patients decided for symptomatic care only. This is obvious from the data presented in table 2.1.

Table 2.1: Intent of treatment at AOI – cancer lung (n=69)

Intent of treatment	#
Radical	9
Palliative	41
Symptomatic	19

The small number of patients found suitable for radical treatment underwent surgery and/or radiotherapy but majority of patients received chemotherapy utilizing both radical as well as palliative regimens.

Fig 2.9: Treatment at AOI – cancer lung (n=45)



COLORECTAL CANCERS

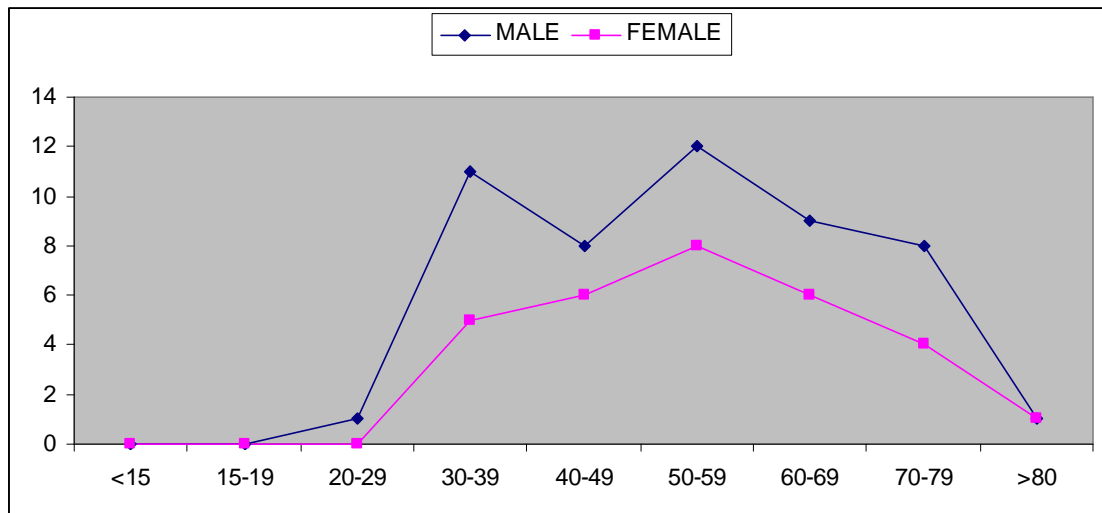
Colorectal cancers contribute to 13% (80/622) of all cancer patients. These include cancers of colon from ascending colon to rectum. When considered together, they constitute the second commonest cancer in Libyan population. Cancers of small intestine and anal canal are not included here. Colon cancer is the commonest one among these. The relative site wise distribution is shown in the table below.

Table 2.2: Site wise distribution – Colorectal cancers (n=80)

	ICD-Code	Male	Female	Total	%
Colon	C18	24	16	40	50
Rectosigmoid	C19	4	2	6	7.5
Rectum	C20	22	12	34	42.5
Total		50	30	80	100

The M:F ratio was 1.7:1. These cancers are seen more frequently in younger population with median age at presentation for males being 51 and 56 for females. This age distribution in younger age may be an environmental, dietary, or genetic effect. This however may have an effect in survival data as young age cancers might be more aggressive. The age distribution is shown in figure below. The universal preference for colonic cancers compared to distal sites is also obvious. It may also be noted that age-adjusted incidence rates for colorectal cancers in western Libya are closer to global incidence of 20.1 per 100,000 for males and 14.6 per 100,000 for females but higher than that reported from other neighbouring countries from southern Mediterranean region.

Fig 2.10: Age wise and sex wise distribution – Colorectal cancer (n=80)



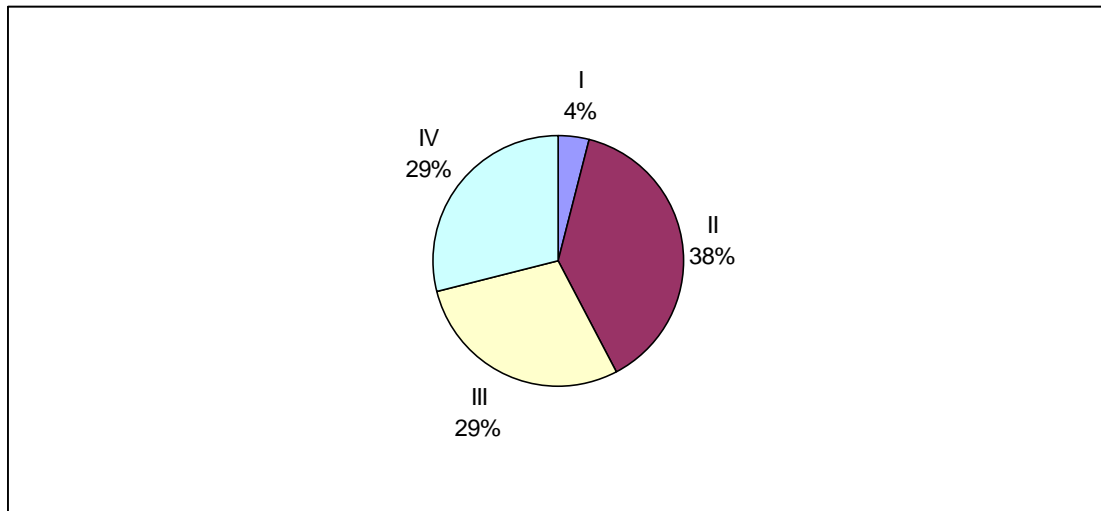
Histopathologically, all the patients with colorectal cancers had adenocarcinoma (79/79) with four patients having mucin-secreting and one patient having signet ring variant.

Stage-wise analysis shows a very small detection of stage I cancers as shown in figure below. About 30% of patients presented with metastatic disease on presentation.

Table 2.3: Stage wise distribution – Colorectal cancers (n=52)

Stage	#
I	2
II	20
III	15
IV	15

Fig 2.11: Stage wise distribution – Colorectal cancers (n=52)

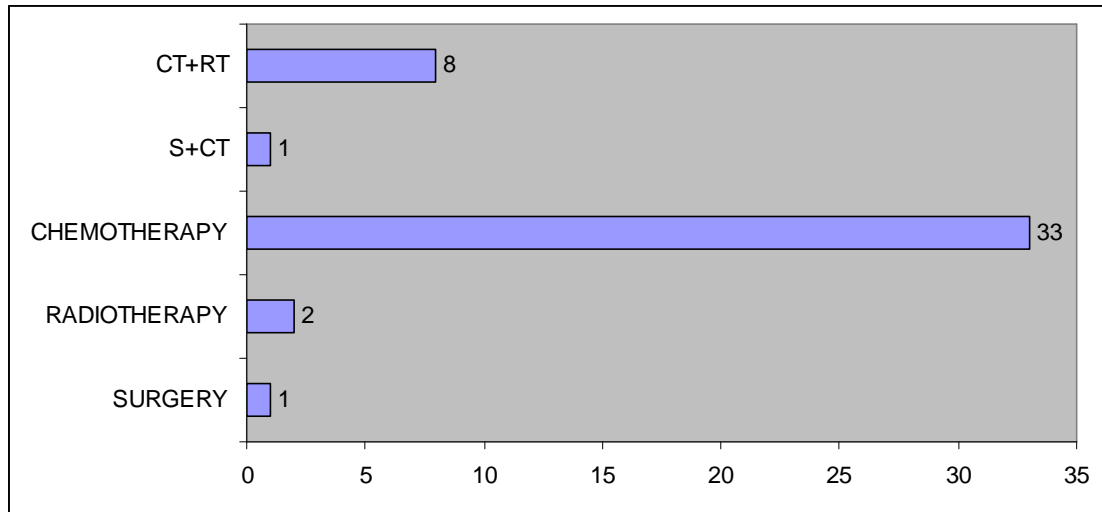


Due to a larger proportion of patients with disease confined to organ (22/52), a larger number of patients were found suitable for radical treatment plan.

Table 2.4: Intent of treatment – Colorectal cancers (n=80)

Intent of treatment	#
Radical	53
Palliative	20
Symptomatic	7

Fig 2.12: Treatment type at AOI – Colorectal cancers (n=45)



The commonest modality used for treatment was chemotherapy. A majority of patients also benefitted by combined-modality approaches including the use of neo-adjuvant chemoradiotherapy at our institute.

LYMPHOMA

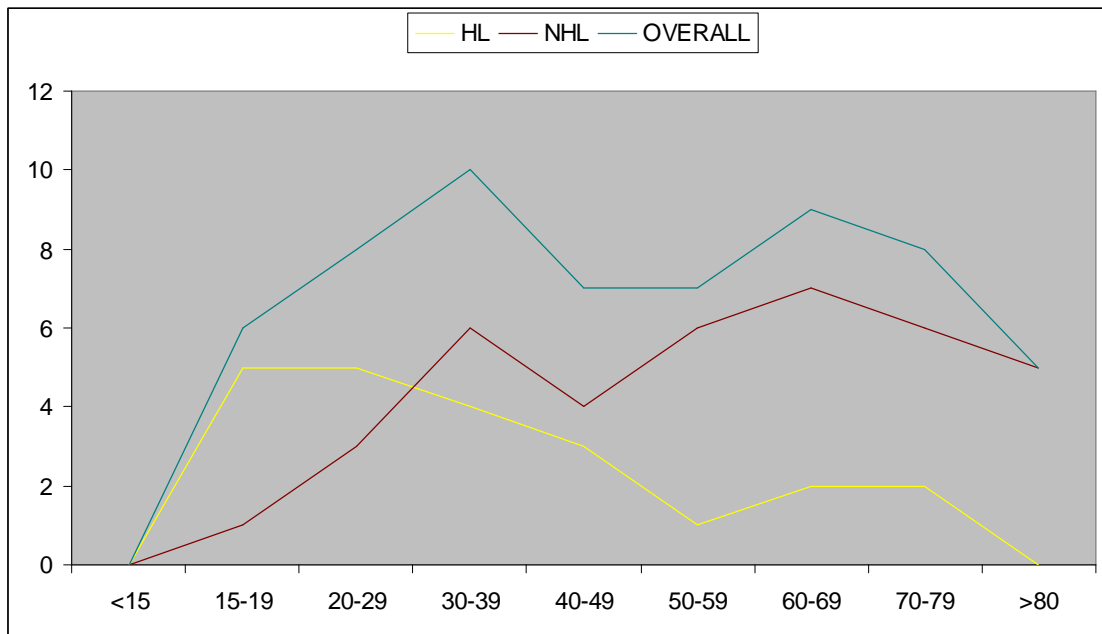
Lymphomas constitute 4th most common cancer in males (9.7%) and 3rd most common cancer in females (9.5%). In less than 35 years age group, it is the commonest cancer in males and second commonest in females. The sex wise distribution is shown in table 2.5 and age wise distribution is shown in figure 2.13.

Table 2.5: Overall distribution – Lymphomas

Lymphoma	Male	Female	Total
HL	13	9	22
NHL	20	18	38
Total	33	27	60

Fig 2.13: Age wise distribution – Lymphomas

Key: HL = Hodgkin's, NHL = non-Hodgkin's, Overall = HL+NHL



HODGKIN'S LYMPHOMA

The stage wise distribution is shown in figure below. For lymphoma, even in advanced stages, patients are taken up for radical treatment plans with chemotherapy being the mainstay of treatment plan.

Fig 2.14: Stage wise distribution – Hodgkin's lymphoma (n=22)

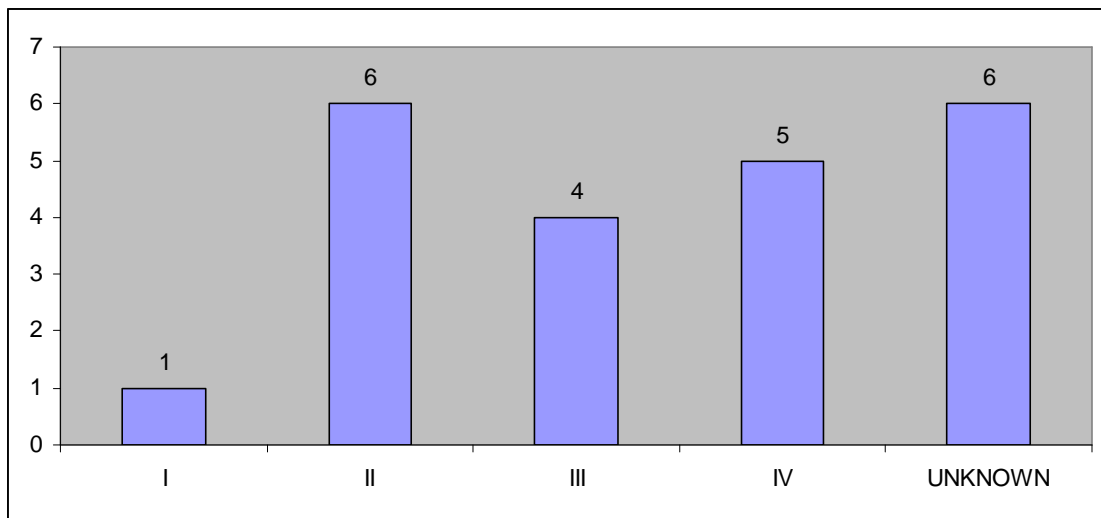
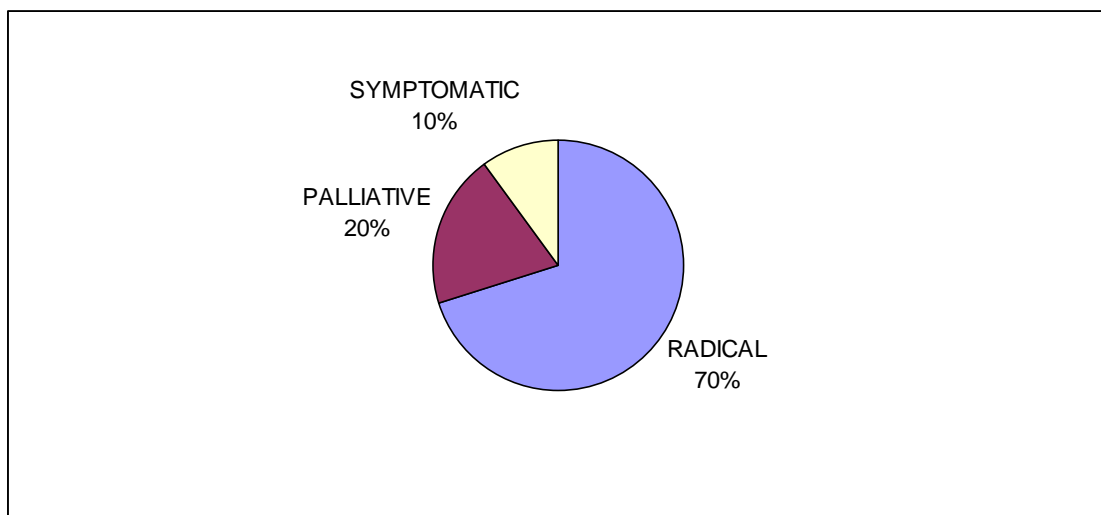


Fig 2.15: Intent of treatment – Hodgkin's lymphoma (n=20)



NON-HODGKIN'S LYMPHOMA

For non-Hodgkin's lymphoma, more patients presented in advanced stages as compared to Hodgkin's but about 70% patients were found suitable for radical treatment plan based on various chemotherapeutic plans.

Fig 2.16: Stage wise distribution – non-Hodgkin's lymphoma (n=38)

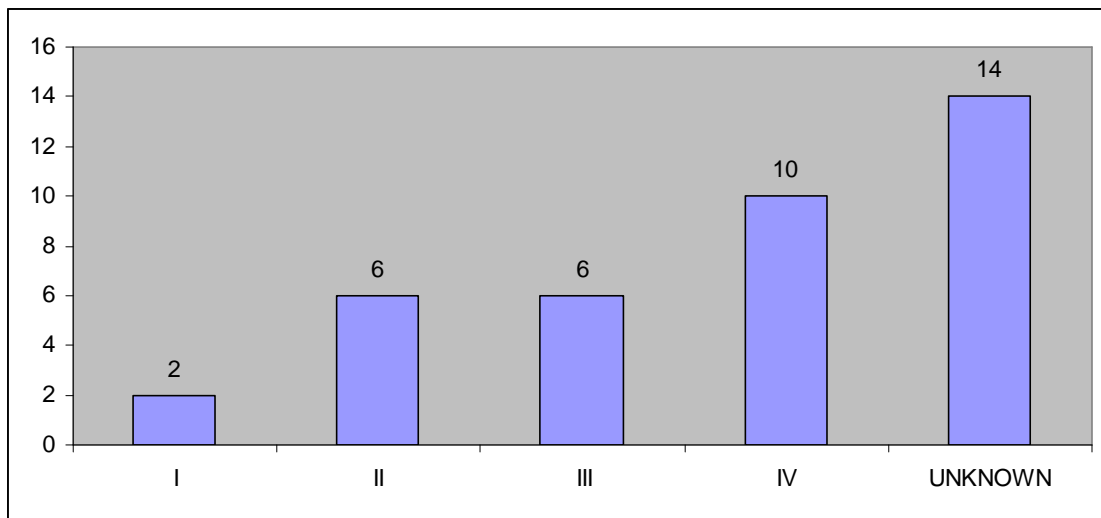
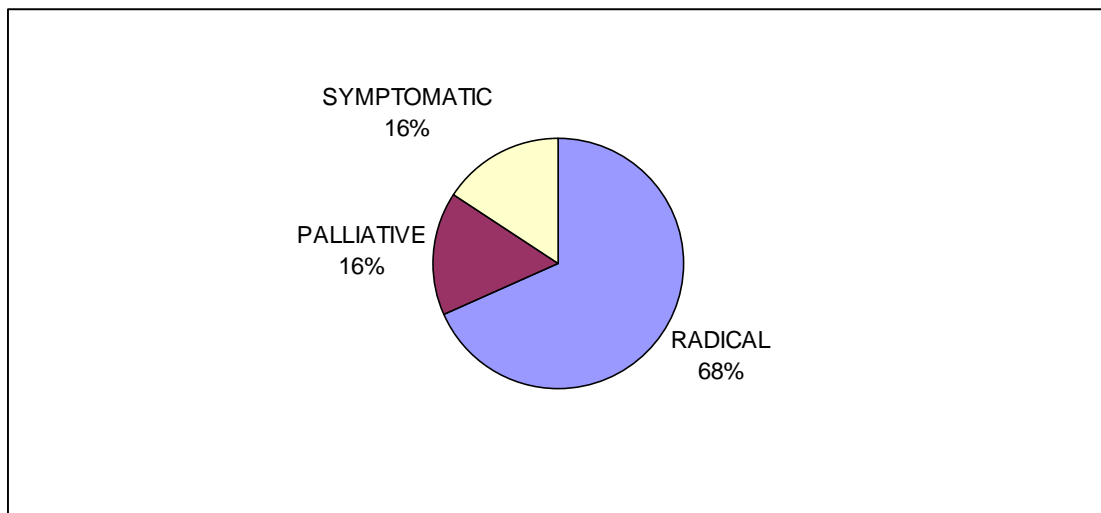


Fig 2.17: Intent of treatment – non-Hodgkin's lymphoma (n=38)



LEUKEMIAS

Leukemias constitute 9th most common cancer in males (2.9%) and 7th most common cancer in females (4.2%). The sex wise distribution is shown in table 2.6 and age wise distribution in shown in figure 2.18. The aberrant distribution is probably due to lack of statistical significance. This discordance was rectified when data was redistributed into acute and chronic types and the median age at presentation is shown in table 2.7.

Table 2.6: Overall distribution – Leukemias

Leukemia	Male	Female	Total
Lymphoid	8	3	11
Myeloid	2	9	11
Total	10	12	22

Fig 2.18: Age wise distribution – Leukemias

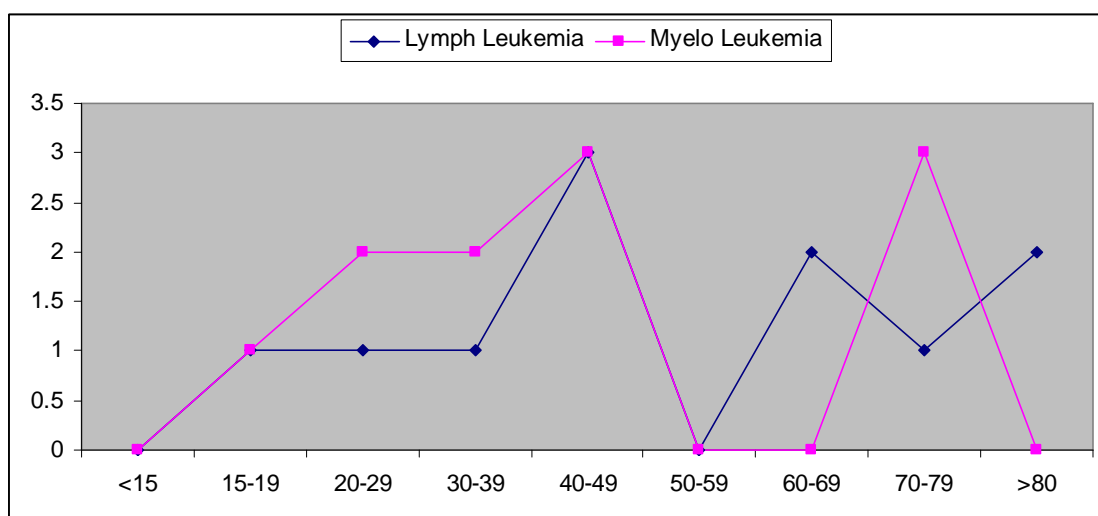


Table 2.7: Median age at presentation – Leukemias (n=20)

Type	Median age at presentation (years)
AML	42
ALL	23
CML	52
CLL	65

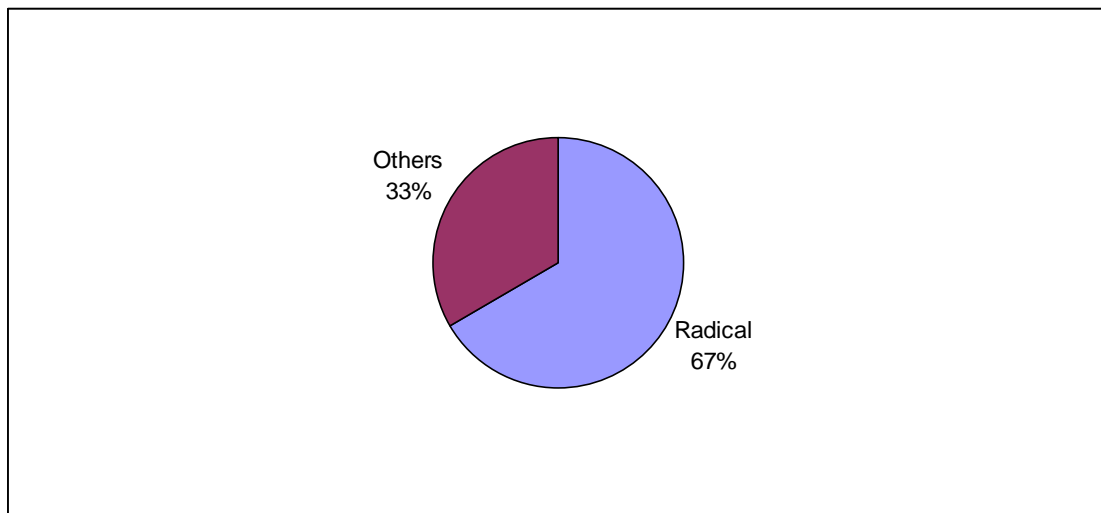
The sex-wise distribution is shown in table 2.8 and it appears that acute myelocytic leukemia is the commonest leukemia in female while chronic lymphocytic leukemia is the commonest malignancy in males.

Table 2.8: Sex-wise distribution – Leukemias (n=20)

Type	Male	Female
AML	1	8
ALL	2	0
CML	1	1
CLL	5	2

Two-thirds of patients (10/15) with leukemia were considered for radical intent chemotherapy at our institute.

Fig 2.19: Intent of treatment – Leukemias (n=15)



FEMALE GENITAL TRACT

This entity comprises of cancers of ovary (C 56), corpus uteri (C 54), cervix uteri (C 53), vagina (C 52), and vulva (C 51). In year 2007, cancer ovary was the 4th commonest site of cancer in females, cervix uteri as 6th commonest, and corpus uteri as 8th commonest site. Altogether, cancers of female genital tract constituted 15% (41/283) of all female cancer patients. Remarkably, cancer of vagina is rare in Libyan females.

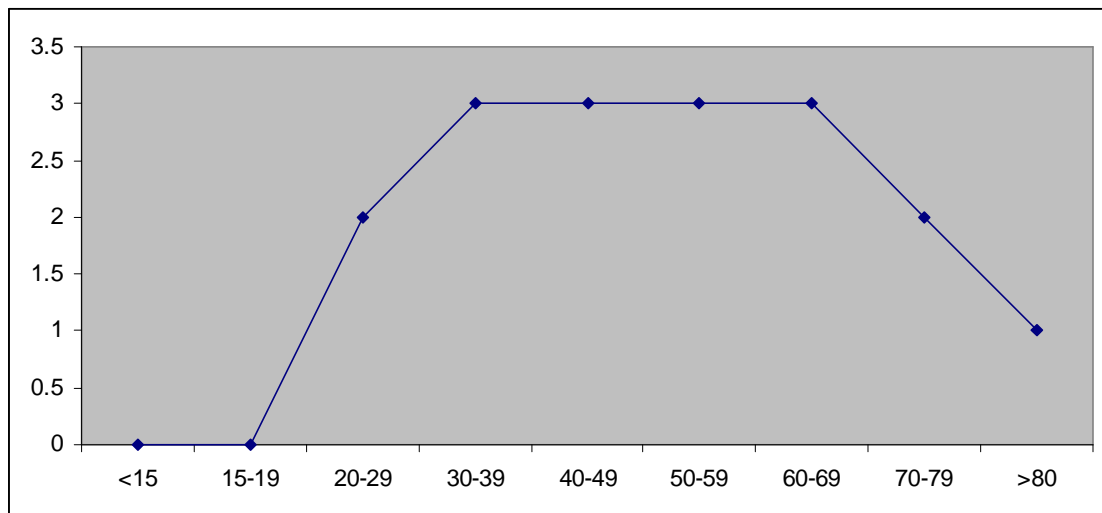
Table 2.9: Median age at presentation – Female genital tract cancers

Site	#	Median Age (years)
Ovary	17	50
Uterus	8	56
Cervix	13	47
Vulva	3	80
Total	41	--

CANCER OVARY

The reported incidence of cancer ovary from Western Libya is 2.95 per 100,000 population and this varies from 2.7 (Tunisia) to 4.3 (Sudan) in North Africa. At our institute, cancer ovary contributed to 6% of all female cancer patients. The median age at presentation for cancer ovary was 50 years and the age distribution shows a plateau from 30 to 70 years of age.

Fig 2.20: Age distribution – Cancer ovary (n=17)



Epithelial cancers are predominant histopathological type (94%) with only 1 patient reported with germ cell tumor. Majority of patients present in incurable stage III or IV (73%) resulting in a dismal survival rate.

Table 2.7: Stage wise distribution – Cancer ovary

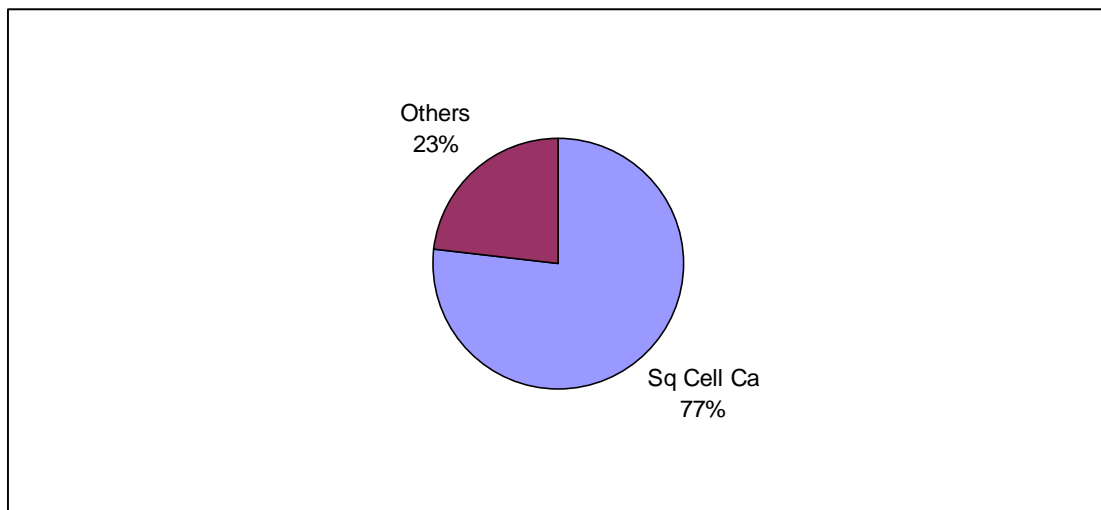
Stage	#
I	3
II	0
III	4
IV	4

Prior to registration at AOI, about 50% of patients received oncological treatment including surgery or chemotherapy elsewhere. At AOI, 50% of patients did undergo surgical management as part of their treatment. About 63% of patients were planned to receive radical treatment with chemotherapy forming the mainstay of treatment.

CANCER CERVIX UTERI

Cancer of cervix uteri was detected as second commonest gynecologic cancer this year forming 32% of these. In fact, this is one of the cancers which showed relatively significant increase over the year 2006 (source: Hospital-based Cancer Registry, AOI, 2006). These were younger patients with median age at presentation being the lowest amongst all gynecological malignancy at 47 years. Seventy percent patients were below the age of 60 years. Out of these, majority were squamous cell carcinomas (10/13) while one case of adenocarcinoma was detected.

Fig 2.19: Histopathological distribution – Cancer cervix (n=13)



Majority of these were advanced cases with stages III and IV contributing to (5/12) cases. Out of these, radical treatment was planned for seven cases.

CANCER CORPUS UTERI

Cancer of corpus uteri remained relatively stable in presentation when compared to 2006 with only 8 patients detected in 2007. The median age at presentation was 56 years. Remarkably, 6/8 cases presented in limited stages (I and II) and the intent of treatment was radical for majority of cases (6/8).

CANCER VULVA

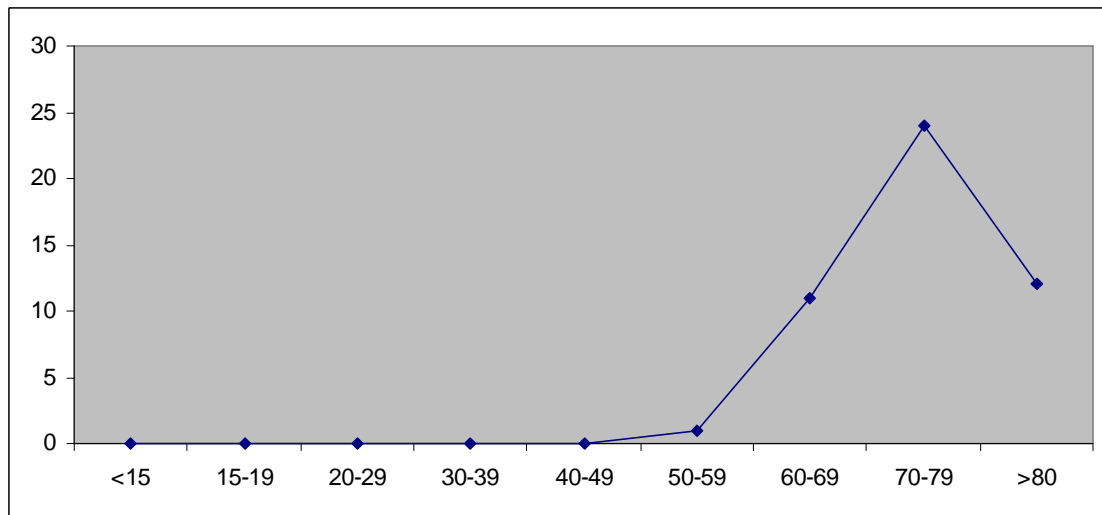
The number of patients with vulval malignancy was also significantly increased from one case in 2006 to 3 cases in 2007. Along with cervical cancer, this indicates an increasing trend for squamous gynecological malignancies. For vulval cancer, all the patients were elderly and the median age at presentation was 80 years. Histologically, all three were squamous cell cancers. One of these underwent surgical management while remaining two received both surgery and postop radiotherapy as their treatment plan.

UROLOGICAL CANCERS

PROSTATE (C61)

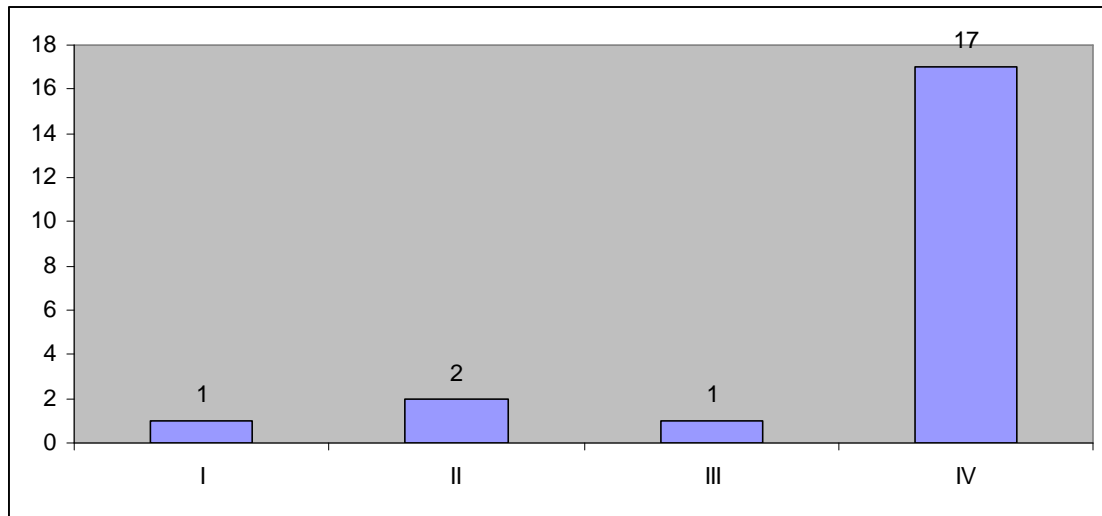
Prostate cancer is the second commonest malignancy in male cancer patients at AOI in 2007 and represents about 15% of all male cancer patients. It is superseded to third commonest rank by colorectal malignancies if colon and rectum are considered together as one site. This is a disease of elderly population with median age at presentation at 73 years. The youngest patient was aged 56 years. The age distribution is shown below. This is the commonest malignancy in the eldest age group (>65 years) contributing to more than 25% of cases in this age group.

Fig 2. : Age wise distribution – Prostate cancer (n=48)



Histopathologically, all of these were adenocarcinomas (48/48). The stage-wise distribution is depicted in following figure. Remarkably, 80% of patients had metastatic disease at presentation amongst staged cases (17/21). Nearly half of our registered patients attended our institute after receiving some prior treatment elsewhere which primarily included both surgical and hormonal therapy.

Fig 2. : Stage wise distribution – Prostate cancer (n=21)

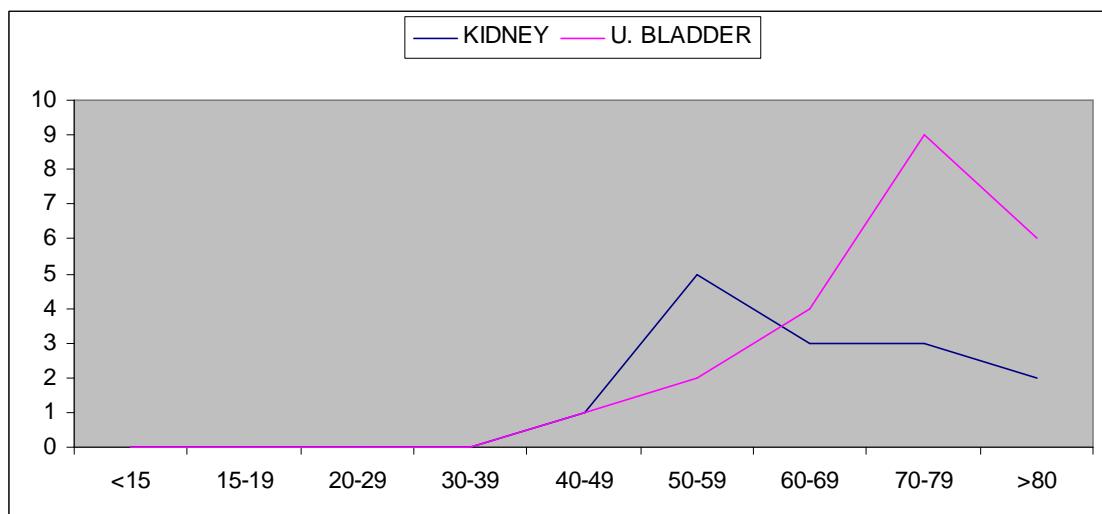


Because of this advanced presentation in elderly population, only 4% of patients were deemed suitable for radical treatment plan, and at our institute, radical surgery as well as radical radiotherapy have been equally utilized for radical treatment. For rest of patients, hormonal therapy alone was used for three-fourth of patients.

KIDNEY (C64)

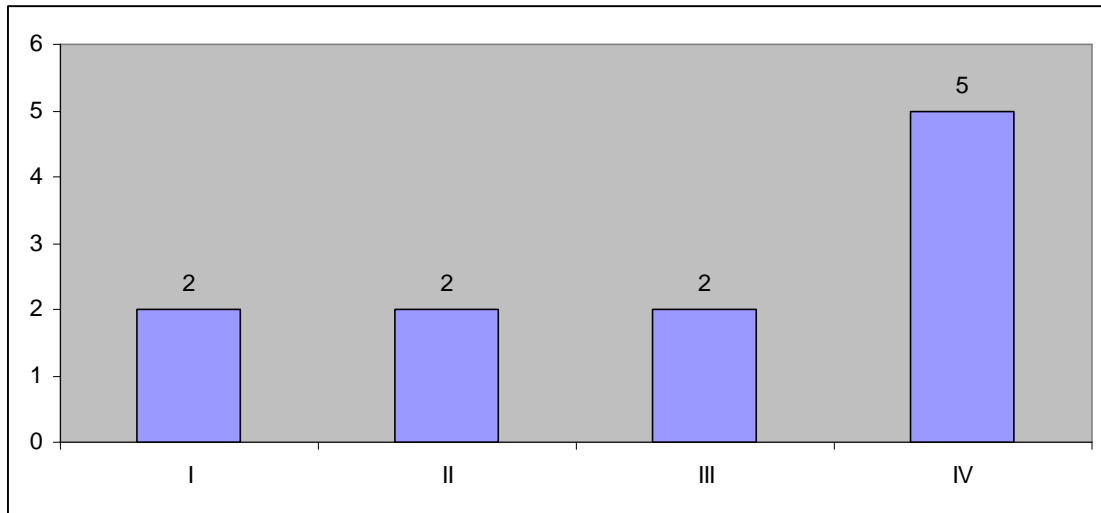
Fourteen new patients with renal malignancies were registered in 2007 with a M:F ratio of 2.5:1. The median age at presentation was 65 years and the distribution is shown below. Notably, renal cancers present at an earlier age as compared to cancers of urinary bladder by about 10 years.

Fig 2. : Age wise distribution – Urological cancers



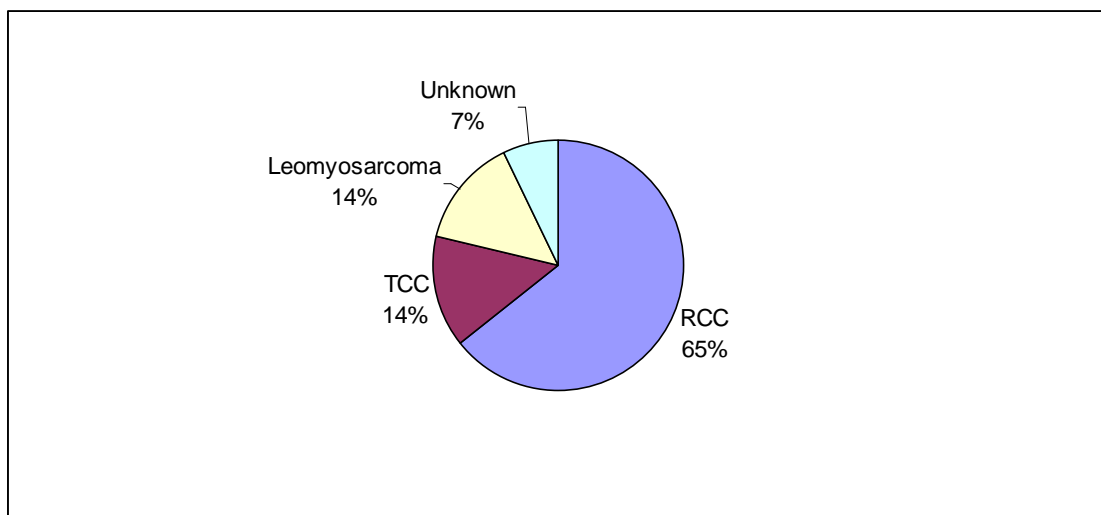
A larger number of patients were registered with metastatic disease as is shown in bar chart below whereas 43% (6/14) of patients presented with operable disease and thus underwent radical surgery.

Fig 2. : Stage wise distribution – Kidney cancer (n=11)



The commonest histopathology was renal cell carcinoma (65%) and the pie-chart depicts this distribution.

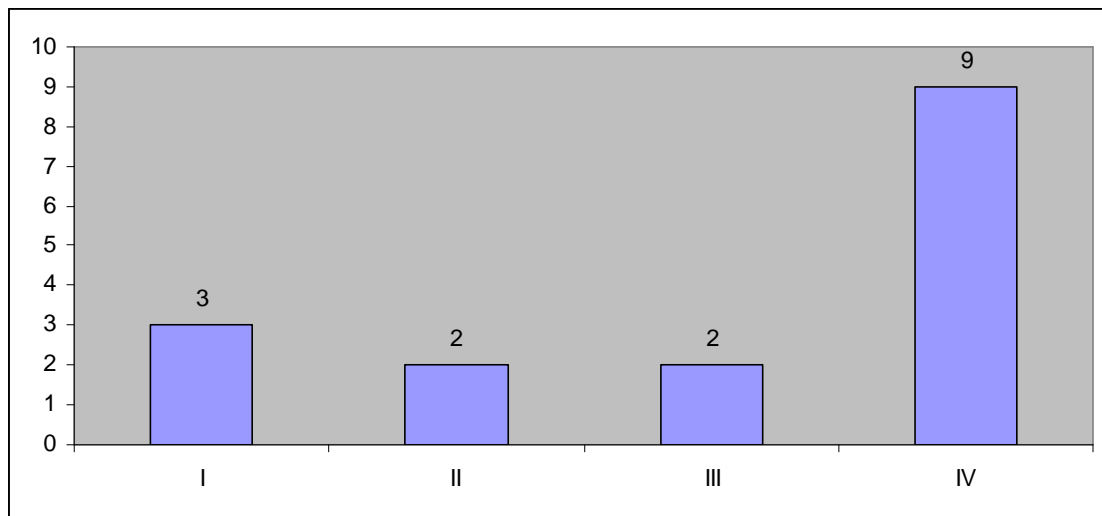
Fig 2. : Histopathological distribution – Kidney cancer (n=14)



URINARY BLADDER (C67)

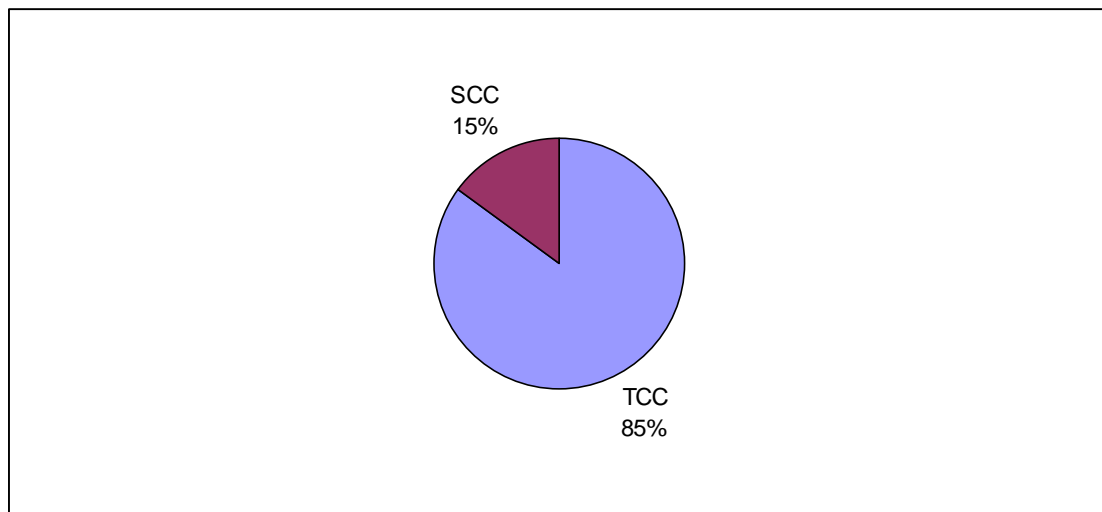
A total of 22 patients with cancer of urinary bladder were registered at our institute. Majority of these were males (18/22) with a M:F ratio of 4.5:1. The median age at presentation was 73 years and about 86% of patients were above the age of 60 years (19/22). Majority of the patients (56%) presented with stage IV disease. The age wise distribution and stage wise distributions are shown as figures.

Fig 2. : Stage wise distribution – Urinary bladder cancer (n=16)



Histopathologically, transitional cell cancers (17/20) were far more common than squamous cell cancers. About 45% of patients (9/20) were considered for radical treatment plan and included various combinations of surgery, radiotherapy, and chemotherapy for these patients.

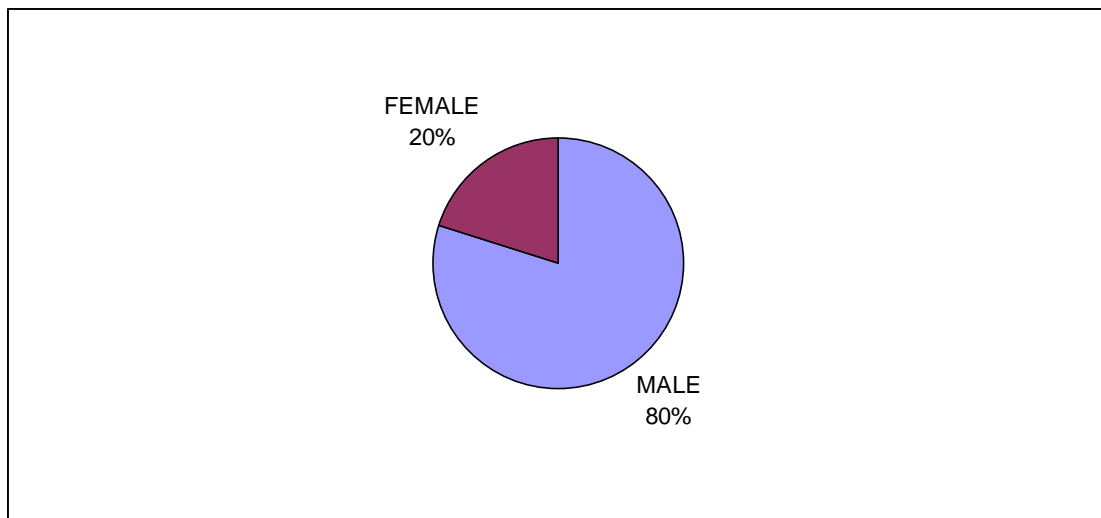
Fig 2. : Histopathological distribution – Urinary bladder cancer (n=20)



HEAD & NECK CANCERS

This description includes all cancers of head & neck (H&N) region excluding skin cancers and melanomas. A total of 24 male and 6 female patients were registered contributing to 4.8% of all cancers. The M:F ratio was 4:1.

Fig 2. : Sex wise distribution – Head & neck cancers (n=30)

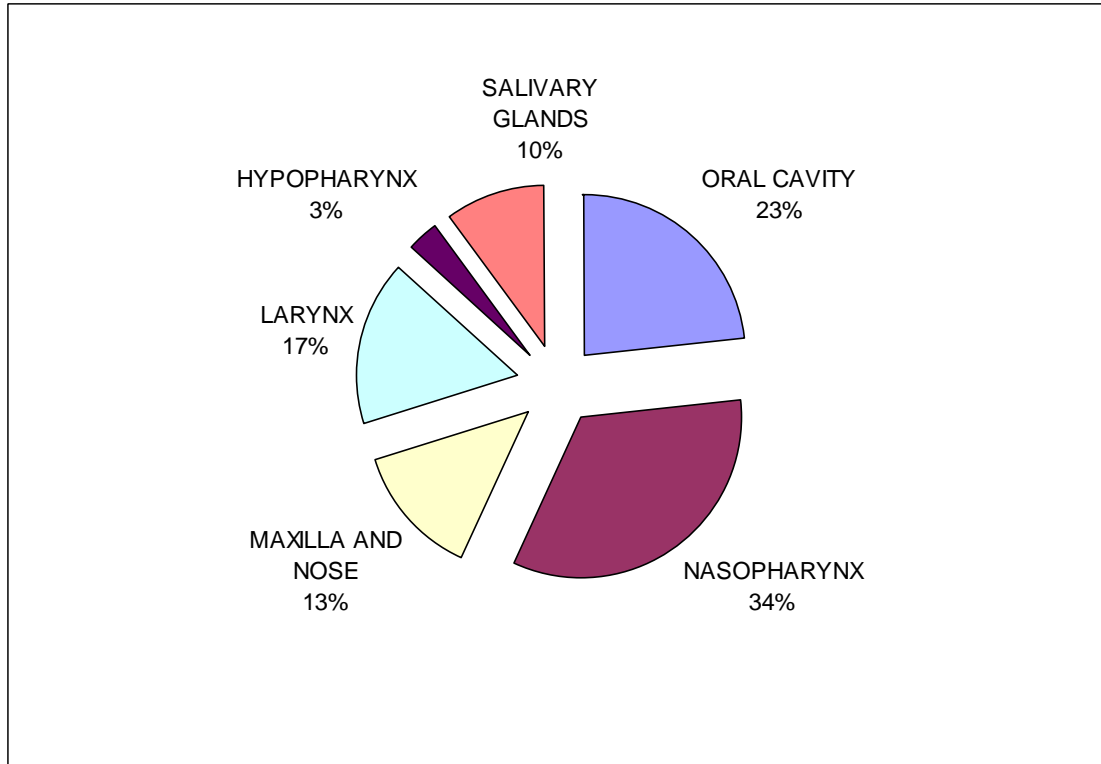


The commonest subsite involved was nasopharynx, closely followed by oral cavity. Cancers of oropharynx are relatively less in Libya as compared to other nations and the distribution is shown in table below.

Table 2. : Site wise distribution – Head and neck cancers

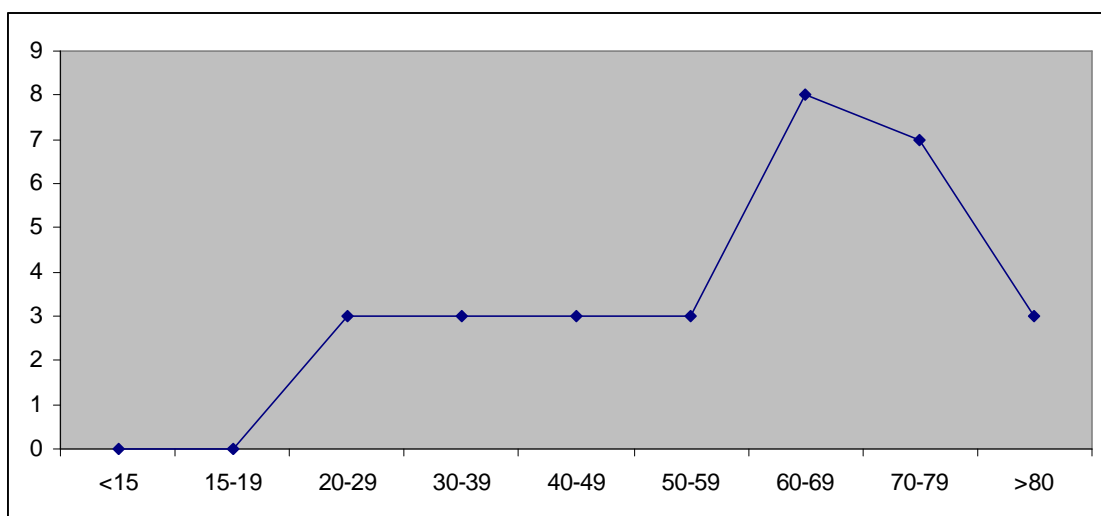
Site	#
Oral Cavity	7
Nasopharynx	10
Maxilla And Nose	4
Larynx	5
Hypopharynx	1
Salivary Glands	3
Total	30

Fig 2. : Site wise distribution – Head and neck cancers (n=30)



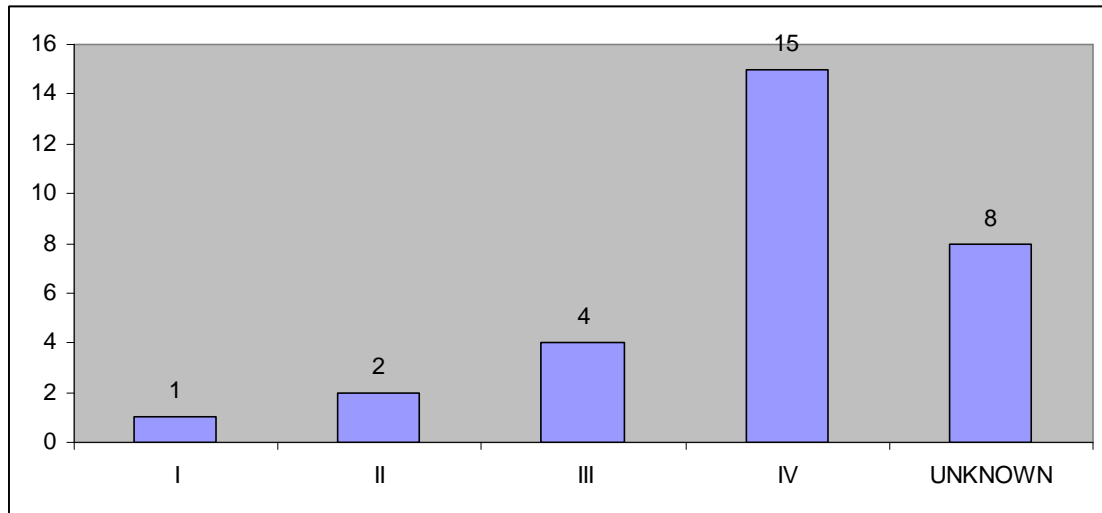
Cancers of head and neck region are more common in elderly population with 60% of patients above the age of 60 years.

Fig 2. : Age wise distribution – Head & neck cancers (n=30)



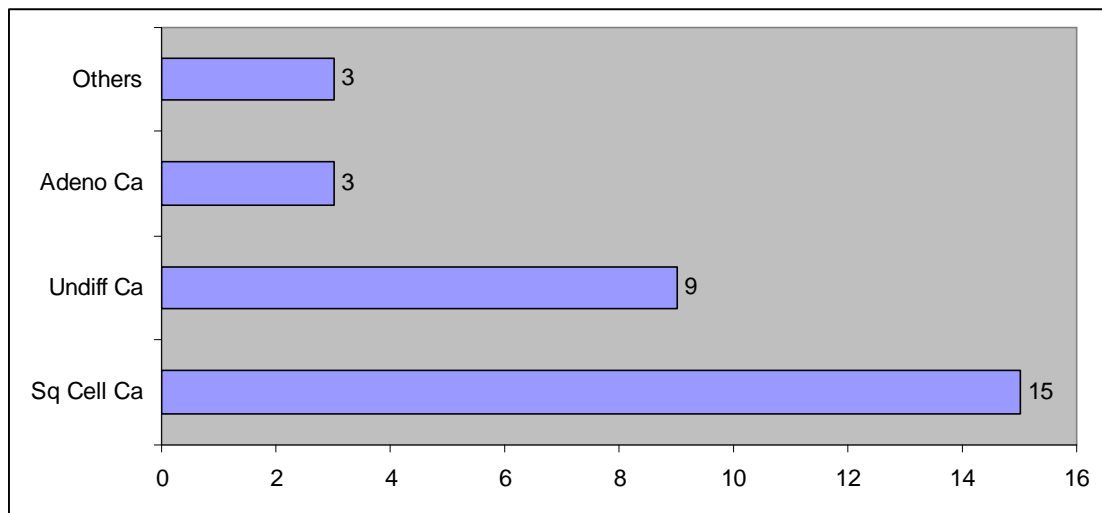
In spite of being readily accessible region, majority of patients present with locoregionally advanced cancers. This along with advanced age results in poor overall outcomes in spite of treatment with radical surgery and chemoradiotherapy.

Fig 2. : Stage wise distribution – Head & neck cancers (n=30)



Histopathologically, squamous cell carcinomas were most common contributing to half of cases.

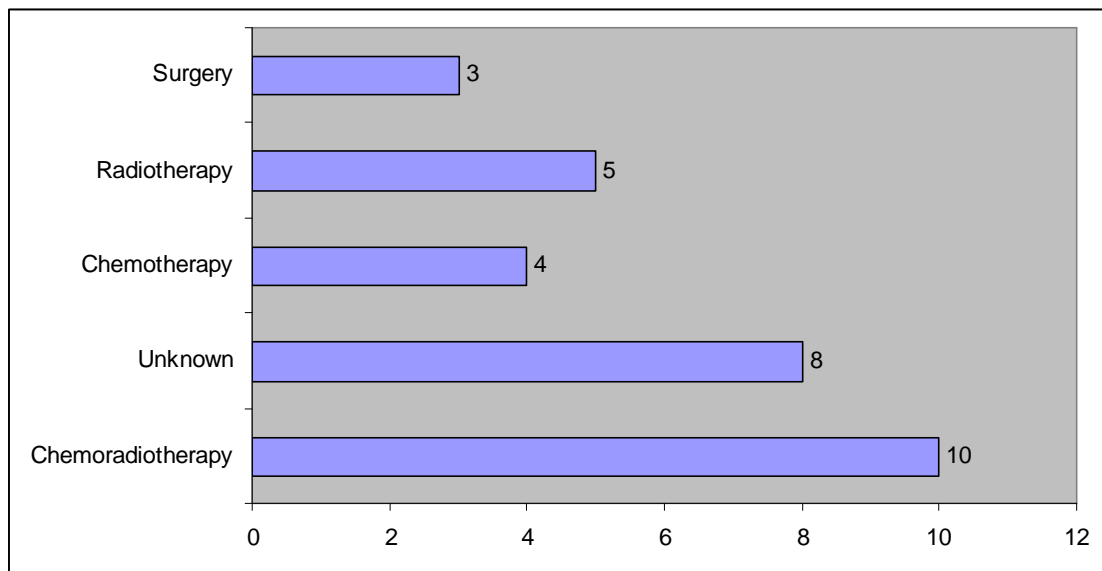
Fig 2. : Histopathological distribution – Head & neck cancers (n=30)



Radical treatment was offered to 70% of patients depicting that radical plans are offered to H&N cancer patients even in advanced stages. Chemoradiotherapy was the commonest treatment modality and was used in 33% of patients in 2007.

Intent of treatment	#
Radical	21
Palliative	4
Symptomatic	4

Fig 2. : Treatment type – Head & neck cancers (n=30)



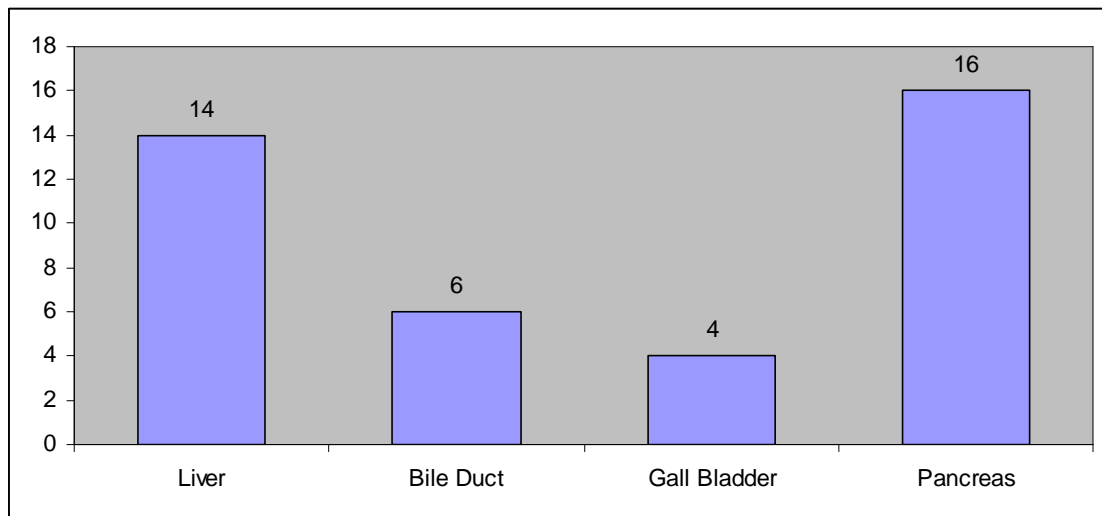
HEPATOBIILIARY SYSTEM

Cancers of hepatobiliary tract contribute to about 7% (40/622) of all cancer patients. These include cancers of liver, gallbladder, biliary tract, and pancreas. Pancreatic cancer is the commonest one among these (40%) followed by liver (35%), bile duct (15%), and gallbladder (10%). The relative site wise and sex wise distribution is shown below.

Table 2. : Hepatobiliary cancers – Sex wise distribution (n=40)

	MALE	FEMALE
Liver	10	4
Bile Duct	5	1
Gall Bladder	1	3
Pancreas	10	6

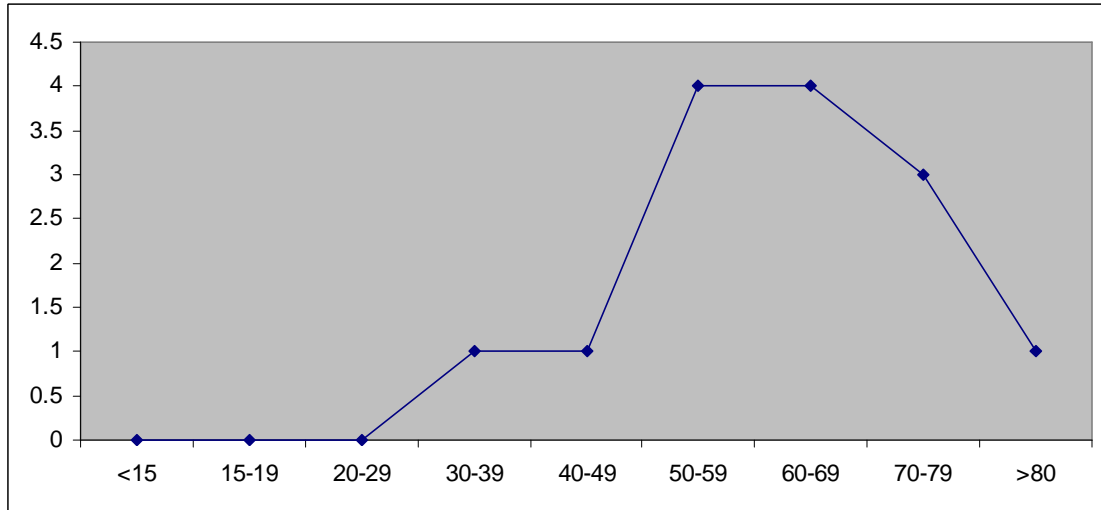
Fig 2. : Hepatobiliary cancers – Site wise distribution (n=40)



LIVER

The primary cancer of liver is 7th most common in male cancer patients registered at AOI. The M:F ratio was 2.5:1 and the median age at presentation was 60 years and the age distribution is shown in figure below.

Fig 2. : Liver cancer – Age wise distribution (n=14)



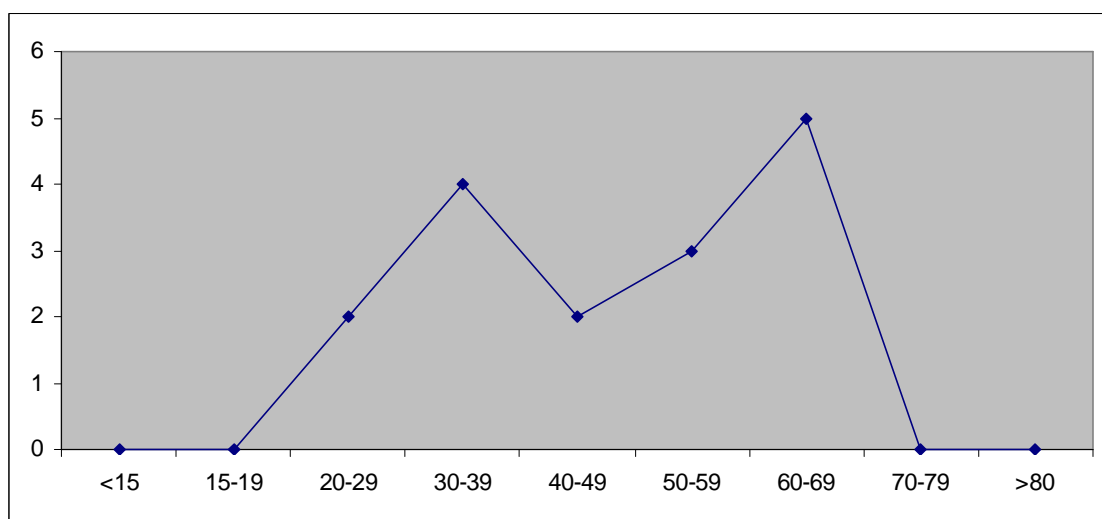
Histopathologically, 12 patients had primary hepatocellular carcinoma, 1 patient had cholangiocarcinoma, and 1 patient was diagnosed radiologically. Due to advanced age and stage at presentation, none of the patient was found suitable for any radical resection.

PANCREAS

This is the commonest type of hepatobiliary cancers registered at AOI although population-based cancer registry shows the incidence of pancreatic cancer being less than liver cancer. This can be due to higher mortality ratio of liver cancer as compared to pancreas cancer.

The M:F ratio is 1.6:1 and the median age at presentation was 57 years. The distribution is shown below.

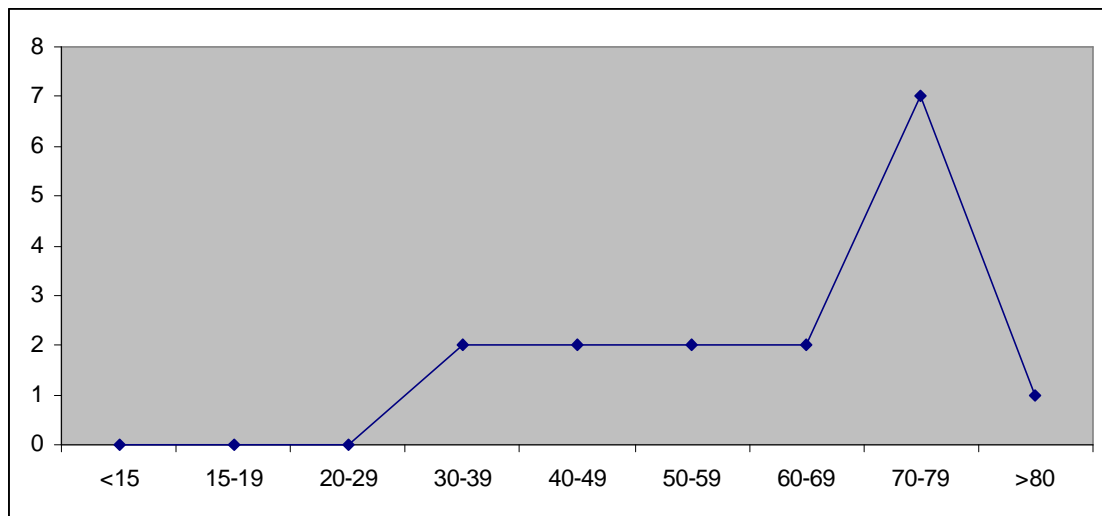
Fig 2. : Age wise distribution – cancer pancreas (n=16)



CANCER STOMACH

A total of 22 patients with stomach malignancy of stomach were registered in 2007. Out of these, 6 patients had lymphoma of stomach and these six patients have been excluded from this discussion. Stomach cancer is the 10th commonest cancer in males and 9th commonest cancer in females with 2.6% (16/622) of all patients. There were 9 male and 7 female patients registered in 2007.

Fig 2. : Age wise distribution – stomach cancer (n=16)



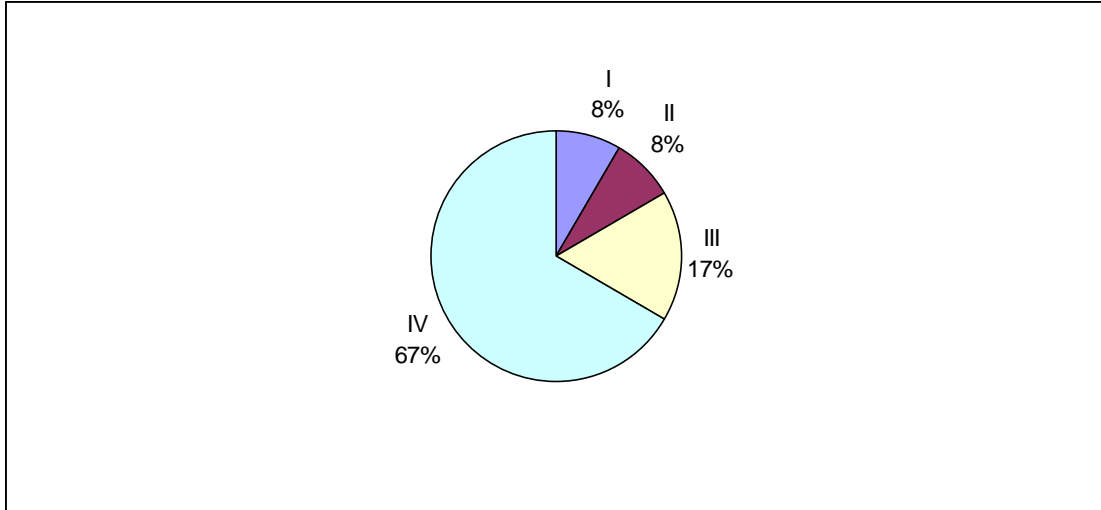
Histopathologically, there were 2 leiomyosarcomas and all remaining 14 cases were adenocarcinomas.

Majority of these were metastatic at presentation as shown in table and figure below. Radical treatment approach was possible only for one-fourth of patients and the most commonly used treatment plan was chemotherapy (80%).

Table 2. : Stage wise distribution – stomach cancers

Stage	#
I	1
II	1
III	2
IV	8
Unknown	4
Total	16

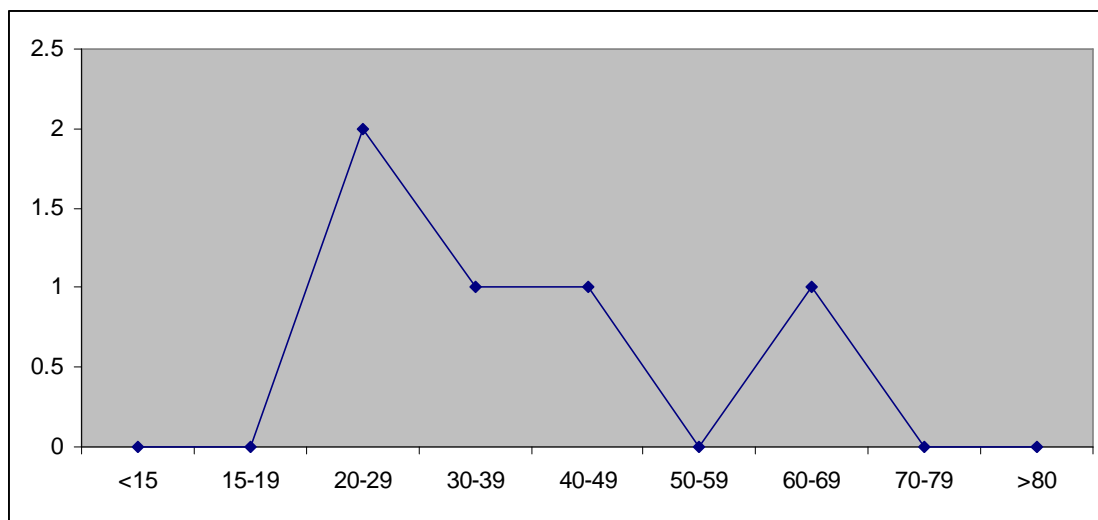
Fig 2. : Stage wise distribution – stomach cancer (n=16)



CANCER THYROID

A total of 5 patients with thyroid malignancy were registered in 2007. There were 2 male and 3 female patients with M:F ratio of 1:1.5. The median age at presentation was 37 years and the age distribution is shown in figure below.

Fig 2. : Age wise distribution – thyroid cancer (n=5)



Histopathologically, there were 3 papillary carcinoma and 1 medullary carcinoma of thyroid.

About half of patients presented with limited and operable disease. This stage distribution is shown in table below.

Table 2. : Stage wise distribution – thyroid cancers

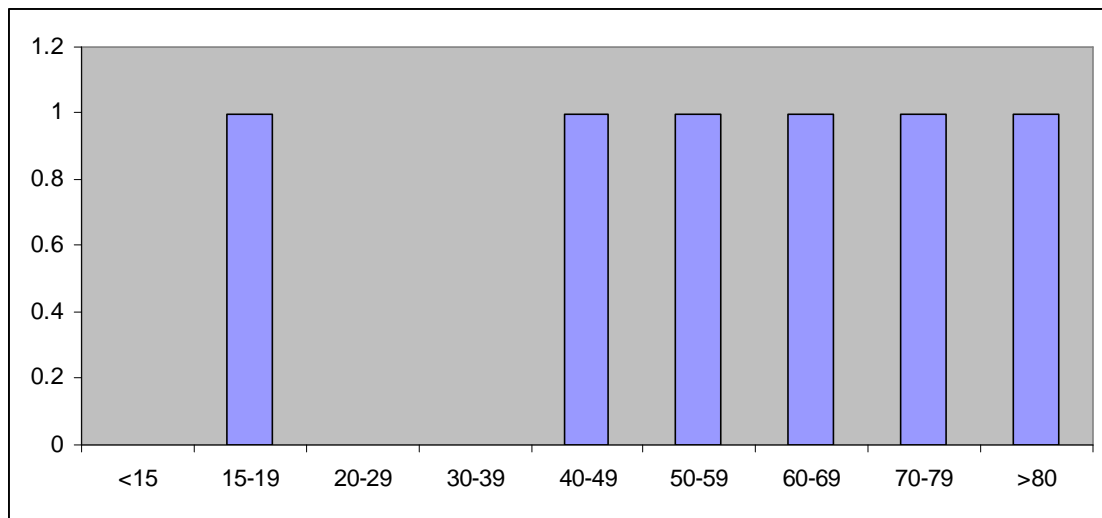
Stage	#
I	1
II	1
III	0
IV	2
Unknown	1
Total	5

Radical treatment approach was possible for 4 patients out of 5. One patients with stage IV disease expired on same day of registration and 1 patient transferred for radio-iodine ablation was lost to followup.

BRAIN CANCER

A total of 6 patients with brain cancer were registered in 2007. There were 4 male and 2 female patients with M:F ratio of 2:1. The median age at presentation was 63 years and the age distribution is shown in figure below.

Fig 2. : Age wise distribution – brain cancer (n=6)



Histopathologically, half of the patients had the aggressive type, i.e., glioblastoma and the distribution is shown in table below.

Table 2. : Histopathological distribution – brain cancers

Histopathology	#
Astrocytoma	2
GBM	3
Others	1
Total	6

Radical treatment approach was possible only for 1 patient out of 6. At our institute, 2 patients received radical radiotherapy and 1 patient received chemotherapy for salvage.

Chapter 3

Appendix

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