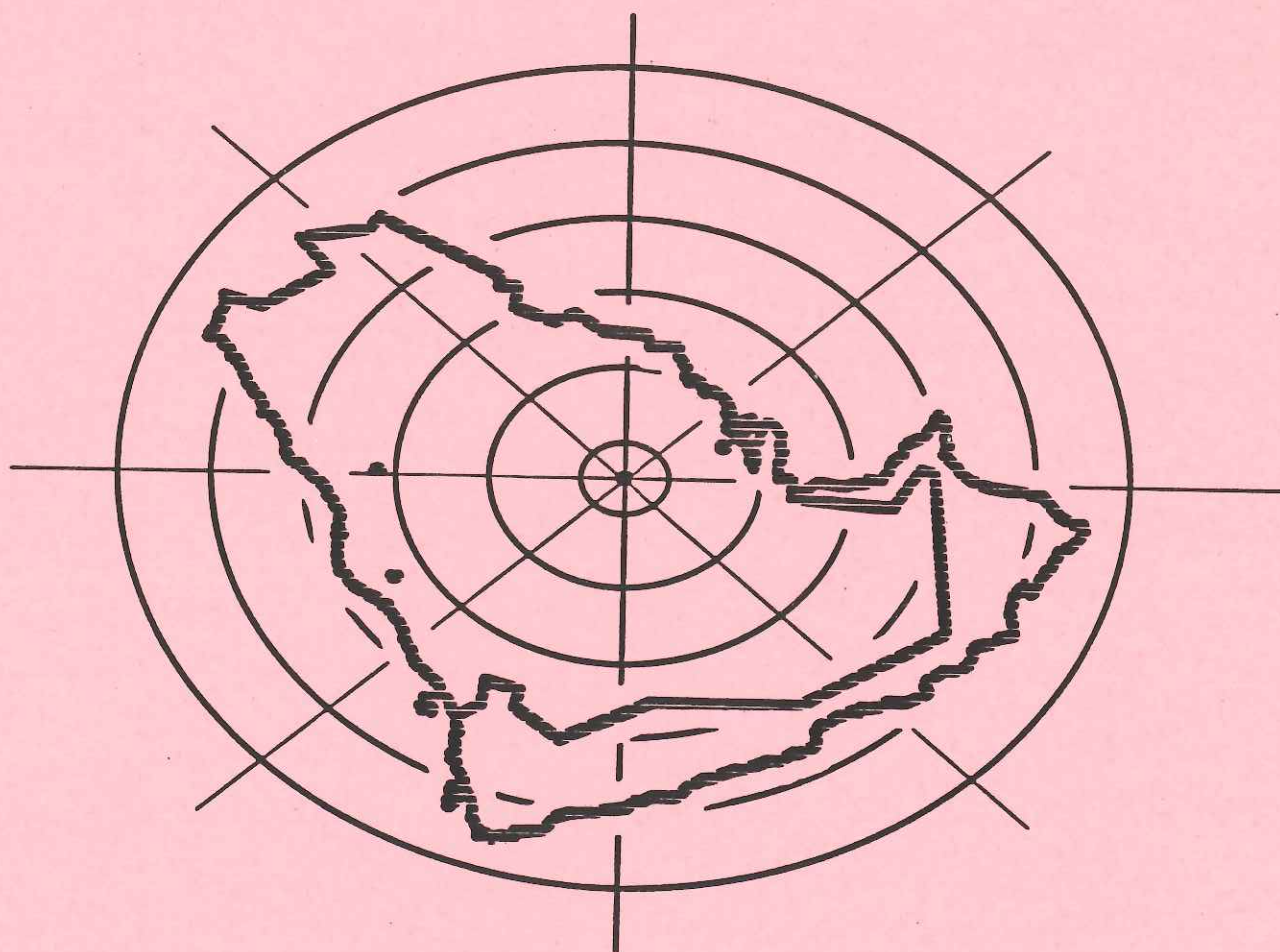


**1987**  
**ANNUAL REPORT**  
**OF THE**  
**TUMOR REGISTRY**



**KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTRE**  
**RIYADH, KINGDOM OF SAUDI ARABIA**

ACKNOWLEDGEMENTS:

The following Departments have assisted throughout the year and the Registry Staff acknowledges their invaluable support:

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Computer and Hospital Information Centre  
Medical Records Department  
Photographics Department

SPECIAL THANKS TO:

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Their support of the program has been instrumental in creating the environment of interdepartmental cooperation that has not only catalyzed more effective cancer data management, but has contributed to improved research and advanced our ultimate goal of better patient care. We acknowledge our debt of gratitude for their time, energy, and encouragement.

Prepared by the Staff of the Tumor Registry  
Sandra Willoughby, CTR and Julia Atwood, ART  
Department of Oncology  
King Faisal Specialist Hospital and Research Centre  
P.O. Box 3354 Riyadh 11211  
Kingdom of Saudi Arabia  
464-7272 ext. 2957, 2958

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1987 ANNUAL REPORT OF THE TUMOR REGISTRY

TABLE OF CONTENTS

I. Description of the Cancer Program at KFSH & RC. . . . . 1  
Figure 1 - Sample Cancer Registry Abstract. . . . . 2

II. KFSH&RC Tumor Registry 1975-1987. . . . . 5  
Figure 2 - Sex Distribution of 15,115 Cases. . . . . 8  
Figure 3 - Nationality of 15,115 Cases. . . . . 8  
Figure 4 - Geographical Distribution of 15,115 Cases. . . . . 9  
Figure 5 - Age Distribution of 15,115 Cases. . . . . 10  
Figure 6 - Distribution of 25 Most Common Sites. . . . . 11  
Table 1 - Primary Site/Sex/Age Table (Total Cases). . . . . 12  
Table 2 - Primary Site/Age Table for Males Only. . . . . 13  
Table 3 - Primary Site/Age Table for Females Only. . . . . 14  
Figure 7 - Number of Patients Accessioned by Year. . . . . 15  
Figure 8 - Number of Patients Accessioned (Males vs Females). . 16  
Figure 9 - Number of Patients Accessioned (Children vs Adults). 17

III. Description of the Patient Population 1987. . . . . 18  
Figure 10 - Sex Distribution of 2121 Cases. . . . . 19  
Figure 11 - Nationality Distribution of 2121 Cases . . . . . 19  
Figure 12 - Geographical Distribution of 2121 Cases . . . . . 20  
Figure 13 - Age Distribution of 2121 Cases . . . . . 21

IV. Primary Anatomic Site and Histology Summaries. . . . . 22  
Table 4 - Primary Site/Histology. . . . . 23  
Figure 14 - Distribution of 25 Most Common Sites : . . . . . 33  
Table 5 - Primary Site/Sex/Age Table (Total Cases). . . . . 34  
Table 6 - Primary Site/Age Table (Males Only). . . . . 35  
Table 7 - Primary Site/Age Table (Females Only). . . . . 36  
Stage of Disease at Diagnosis. . . . . 37  
Table 8 - Primary Site/Stage of Disease at Diagnosis. . . . . 38

TABLE OF CONTENTS - con't

	Figure 15 - Distribution by Stage of Disease . . . . .	39
	Figure 16 - First Course of Treatment. . . . .	40
V.	Administrative Report. . . . .	41
VI.	Appendix A Requests for Special Studies from Tumor Registry. .	42
	Appendix B Tumor Committee Membership. . . . .	44
	Appendix C Tumor Board Case Summary. . . . .	45
	Appendix D Tumor Conference Summary. . . . .	46
VII.	Glossary. . . . .	47
VIII.	References. . . . .	48

## I. KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTRE CANCER PROGRAM ACTIVITIES

### Tumor Registry

The KFSH & RC Tumor Registry is a data system designed for the collection, management, and analysis of data on patients with the diagnosis of a malignant disease (cancer). The basic source document is the patient's medical record from which pertinent information is abstracted for use in the Registry.

The primary responsibility of the Registrar is to assure that complete and accurate data are collected and maintained on all cancer patients diagnosed and/or treated within this institution. Records are reviewed for both inpatients (patients admitted to the Hospital) and outpatients (patients seen in a clinic, emergency room, Polyclinic, Family Health, or other hospital facility). The Cancer Registry Abstract is the primary document on which the details of each diagnosed cancer patient are recorded. Included are pertinent facts such as demographic information, medical history, diagnostic findings, stage of disease, cancer therapy, and follow-up data. Please refer to Figure 1 for a sample abstract.

Once the data are collected, the ability and need to utilize them is paramount. One of the major functions of the Tumor Registry is to prepare annual reports which summarize the Registry's cancer experience. In addition, the Registry provides a wide variety of reports at the request of physicians and researchers. The goal of the Tumor Registry of KFSH&RC is to provide the medical staff with data that will enable them to see the results of their diagnostic and therapeutic efforts, and to provide them with information with which to improve the care of the patient with cancer.

Additionally the Registry serves as a resource for continuing education of physicians and paramedical personnel at clinical conferences, medical society meetings, seminars, and discussion groups. The Tumor Registry can serve as the focus for the interdisciplinary approach to cancer management, including surgery, radiotherapy, chemotherapy, immunotherapy, and hormone therapy. The Registry can provide the hospital staff, both medical and administrative, with statistical and analytic summary reports evaluating the cancer problem in the institution. These reports assist administrators with solving their operational problems and assist physicians with the development of comprehensive cancer care.

The registry, under the medical supervision of the Tumor Committee maintains a complete data base of all cancer cases diagnosed and/or treated at KFSH & RC. This database now includes more than 15,000 cases diagnosed from June 1975 through December 31, 1987. Approximately 2,100 new cases are being added annually.

The data maintained by the registry are available for use by the medical staff for special studies, audits, and research. During 1987, the Registry participated in 33 special studies utilizing data from the computerized file. The use of registry data has steadily increased during the past year and its continued use is encouraged. Please refer to Appendix A for a listing of Special Studies requested in 1987.

FIGURE 1

TYPE	DATE	DESCRIPTION	CODE	RESULT
01 S.G	21 Jan 87	Rt mod rad mastectomy	85.43	
02 C.T	01 Feb 87	Tamoxifen	99.24	
03 R.T	16 Feb 87	Chest wall & reg lymph	6000	
04 C.T	01 Mar 87	Adria, Ctx, 5-FU	99.25	
05 S.G	22 Dec 87	FNA Supraclav. LN (+)	40.11	
06				
07				
08				
09				

OTHER DIAGNOSES:	Mother had breast cancer
SPECIAL STUDIES:	
COMMENTS:	ERA (+), PRA (+)

OTHER DX/SPECIAL STUDY	<table border="1"> <tr><td>V</td><td>1</td><td>6</td><td>.</td><td>3</td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>	V	1	6	.	3																																													
V	1	6	.	3																																															

DATE OF LAST FOLLOW-UP	01 March 1988
Patient Status	not free of disease
Date of 1st Recurrence	22 December 1987
Type of Recurrence	distant
Sites of Distant Metastases	bone, liver, supraclav. LNS
Date of Death	
Cause of Death	
KFSH Physician	Oncologist
	Radiation Oncologist
	Surgeon

DATE OF FU	01 MAR 88
Patient Status	01 DEC 87
Date 1st Recurrence	22 DEC 87
Type Dist. Sites	05480
Date of Death	
Cause of Death	
Physician codes	012345 678912 345678

### CANCER REGISTRY ABSTRACT

Abstract No. 870123	Seq. No. 00 cc 2 rs 1	HR # 214657
Patient's Full Name		
Address: Riyadh	Age 041	BP 1946
Sex F	Sa SA	
Telephone: 014661234		
Referral Clinic: Riyadh Central Hospital		
Comments:		

PRIMARY SITE: Breast, UOQ, Right	Other Primary Tumors: none
Laterality: right	Clinical: _____
Diagnostic Confirmation: Hist. X Cytol. _____	Radlog: _____
HISTOLOGY: Infiltrating Ductal Carcinoma	Grade III
KFSH Pathology Numbers: 871570	
Size of Primary Tumor: 3.5CM	No. nodes Exam. 14
	No. Pos. Nodes 2

STAGING: AIC Staging: Clinical/Diag	Surgical/Eval	Pathological X
T 2A N 1A M 0	AIC Stage II	
Summary Staging: In situ	Localized	Regional X
Site of Distant Mets		Unknown
Substantiation: 2/14 regional lymph nodes (+)		
Site Specific Stage:		

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### Tumor Committee

The multidisciplinary Tumor Committee, which meets monthly, is the policy-making body of the Cancer Program at KFSH & RC. During 1987, the Committee provided professional guidance to the Tumor Registry, initiated improved case-finding methods, and established guidelines concerning the use and distribution of registry data.

A. Development of Specific Guidelines Concerning Access to Tumor Registry Data by KFSH&RC Researchers

To assure that the rights and privileges of all KFSH&RC physicians and researchers are not violated, the Tumor Committee reconfirmed the specific procedure for access to registry data. The Request Form for Tumor Registry Data is completed and reviewed by the three individuals delegated to approve the request (Chairman of the Tumor Committee, Chairman of the Department of Oncology, and Director of the Research Centre).

Development of specific guidelines for content of Tumor Registry Annual Report and for distribution of the Annual Report was agreed upon by the membership during 1987.

B. Development and Implementation of Computerized Case-Finding System and Improved Out-Patient Case-Finding

Through the cooperation of the Computer and Hospital Information System staff and the Research Centre BS&SC staff, a computerized method of case-finding and updating of the Tumor Registry database for patients admitted to the Hospital was implemented. A tape containing pertinent data from CHIC database is compared to the Tumor Registry database. Listings/labels are printed for cases needing abstraction. Discharge date is compared to the Tumor Registry database and updated if it is a more recent date. This system greatly streamlines the case-finding/follow-up procedure and improves the accuracy of the database.

Improved case-finding from Out-Patient sources was accomplished by the daily screening of lists from the Head and Neck Clinic and from the Oncology Out-Patient Department.

C. Support of a National Cancer Registry in Saudi Arabia

The Tumor Committee formally recognized the need to establish a national cancer registry in the Kingdom of Saudi Arabia. Although limited resources available to the KFSH&RC Tumor Registry do not permit active pursuit of this program, the Committee members supported the idea that the first step to be taken is the establishment of a regional registry covering the central region of Saudi Arabia.

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### Tumor Board

This educational conference is held once weekly for the benefit of the attending staff, house staff, allied health professionals and visiting attending staff from other hospitals. Cases of various types of malignant disease are selected for presentation on the basis of complexity, unusual manifestations of the disease, or interest. A total of 63 cases were presented in 1987. Each presentation includes an outline of the medical history, physical findings, clinical course, radiographic studies, and pathological interpretations. Following each presentation, there is an informal discussion of the case and a review of pertinent medical literature. Those attending are encouraged to share personal experience in the management of similar cases. Please refer to Appendix C for a summary of cases presented.

### Tumor Conference

This didactic conference is held weekly and is attended by the Medical staff and allied health professionals. Speakers are drawn from the KFSH Medical and Research staff as well as from visiting guests. Please refer to Appendix D for listing of the topics presented at Tumor Conference in 1987.



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## II. THE KFSH&RC TUMOR REGISTRY DATABASE 1975 - 1987: 15,000+ CASES

The KFSH&RC opened in 1975 to provide specialized medical treatment to the people of Saudi Arabia and to promote the prevention of disease through research and education. It is a national referral hospital and the principal center for cancer therapy in Saudi Arabia. There are over 500 inpatient beds and 3,000 employees. Administratively, the Tumor Registry is part of the Oncology Department and under the direction of the Tumor Committee. The Registry was designed to meet the guidelines for an approved American College of Surgeons (ACoS) Cancer Program and the data set contains all ACoS required data items.

The Registry is large (accessioning over 2,000 cases per year) with approximately 15,000 cases on file to date. The database is computerized using a Digital Equipment Corporation PDP 11/70 Computer. Although the Tumor Registry is not population based, KFSH&RC is the primary referral institution for the Kingdom and therefore represents the majority of oncology patients. Until mid-1981, it was the only facility within the Kingdom able to provide radiation therapy.

A summary of trends of relative frequency of cancer types follows on page 6. The crude relative frequency is the proportion of a given cancer in relation to all cases in a clinical or pathological series. Although such frequencies are subject to many biases, historically many elevated frequencies have been confirmed when complete cancer registration was introduced.

Biases that may have an affect on the relative frequency of different neoplasms include:

- possible nonusage of medical services by some of the population so that the hospital population may not reflect the disease state of the community
- resistance to examination by part of the female population
- absence of postmortem examinations/death certificates

A total of 15,115 patients were registered during the period between 1975 and 1987 (8575 males and 6540 females). Overall male to female ratio was 1.3.

The largest male:female ratios in non-sex organs were found in cancer of the larynx (6.0), bladder (4.2), liver (4.1), lung (3.7), pancreas (2.9), Hodgkin's Disease (2.8), nasopharynx (2.8), stomach (2.4) and non-Hodgkin's lymphoma (2.3). Only thyroid disease exhibited a markedly low male:female ratio of 0.5.

The largest number of cancers was seen in the 5th and 6th decades in males and in the 4th and 5th in females. Please refer to Figure 2.

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**TRENDS IN RELATIVE FREQUENCY OF CANCER IN KFSH&RC TUMOR REGISTRY DATABASE**

The relative frequencies of primary cancers seen at KFSH&RC are very different than the Western world. Common tumors of the West (lung, colon, and prostate) are much less frequent in Saudi Arabia, although breast cancer in Saudi women is the most common malignancy as it is in the Western countries.

Lymphomas - The most striking feature is the unusually high crude relative frequency of non-Hodgkin's lymphoma (NHL) which is the most common type of malignancy seen in males and second most common in females. Male:female ratio is 2.3. NHL is the second most common malignancy in children under the age of 15 years. Overall, 1319 cases were diagnosed with NHL, accounting for approximately 8.7% of all neoplasms.

Hodgkin's Disease represents an additional 2.6% of all cases in the KFSH&RC Registry (compared to only about 1.1% of all forms of cancer in the U.S.A.). The male:female ratio is 2.8.

Leukemias - All leukemias constitute the second most common neoplasm seen at KFSH&RC. They make up 8.1% of the cases (compared to about 5% of all neoplasms diagnosed in the U.S.A.). The leukemias make up the most common malignancy in children under the age of 15 years.

The male:female ratio is 2.1 for lymphoid leukemia and 1.3 for myeloid.

Breast - In the female, breast cancer was by far the commonest tumor (16.5% of all female malignancies). The mean age at diagnosis was a decade younger than seen in the Western world (average age of a Saudi female with breast cancer is 45 years).

Oral Cavity - High crude relative frequency rates were also found for cancer of the oral cavity. In Western countries, oral cancer accounts for no more than 4% of all cancers, whereas at KFSH&RC it represents 5.8% of the cases. The male:female ratio is 1.3.

Esophagus - The incidence of esophageal carcinoma is markedly more frequent in Saudi Arabia than in Western countries. In the U.S.A. it constitutes 1.5% of all cancers, compared to 4.9% at KFSH&RC. The male:female ratio is 1.7.

Lung - Frequency of lung cancer is much lower than in Western countries, most likely reflecting the much lower levels of smoking and industrial pollution. In U.S.A. primary lung cancer represents about 15% of all cancer cases (22% in males, and 8% in females).

At KFSH&RC, 4.3% of the diagnoses are lung cancer, although in males it is the second most common tumor (constituting 6% of male malignancies). The male:female ratio is 3.7.

Nasopharynx - The most dramatic crude relative frequency ratios are seen in nasopharyngeal carcinoma when international data are compared. Cancer of the nasopharynx constitutes less than 1% of the pathologically diagnosed cancers in most centers in Europe and America, but is 3.5% of the cases at KFSH&RC. The male:female ratio is 2.8.

=====  
Colo-Rectal - Markedly less common than in the West, for which dietary factors (particularly lower animal fat intake) may play a role, this disease represents only 3.1% of all tumors. In America it constitutes 15% of newly diagnosed cancer cases. The male:female ratio at KFSH&RC is 1.6.

Prostate - The observed rate of prostatic cancer in men is much lower than in the West, where it is one of the most common male cancers (constituting 19% of the malignancies). This is in contrast to the KFSH&RC experience, where prostatic cancer makes up only 1.8% of the male cancer. This is probably due to the population age difference. Prostate cancer is a disease chiefly of old men, and the population of Saudi Arabia is in general very young.

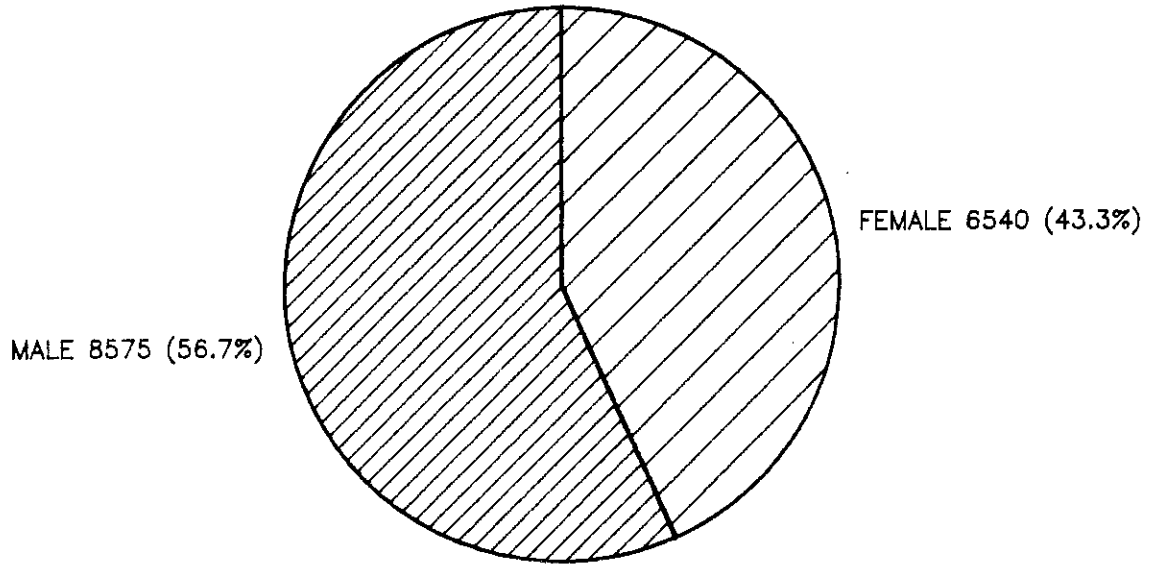
#### CHILDHOOD MALIGNANCIES IN SAUDI ARABIA

A total of 1947 children under age 15 were accessioned between 1975 and 1987 (13% of all cases). Boys numbered 1220, and girls 727 (boy:girl ratio was 1.7).

The five most common malignancies were:

- Leukemias (481 patients or 25% of all childhood malignancies)
- Lymphomas (307 cases or 16%)
- Brain/CNS (258 cases or 13%)
- Sarcomas (206 cases or 11%)
- Eye (148 cases or 8%)

**FIGURE 2**  
DISTRIBUTION BY SEX BASED ON 15115 CASES



**FIGURE 3**  
DISTRIBUTION BY NATIONALITY BASED ON 15115 CASES

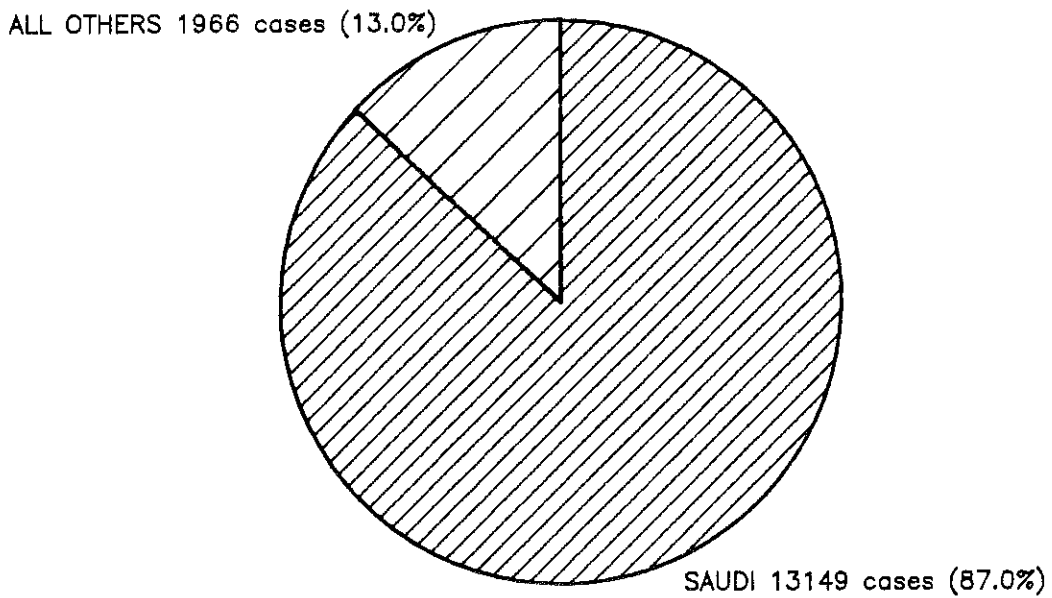
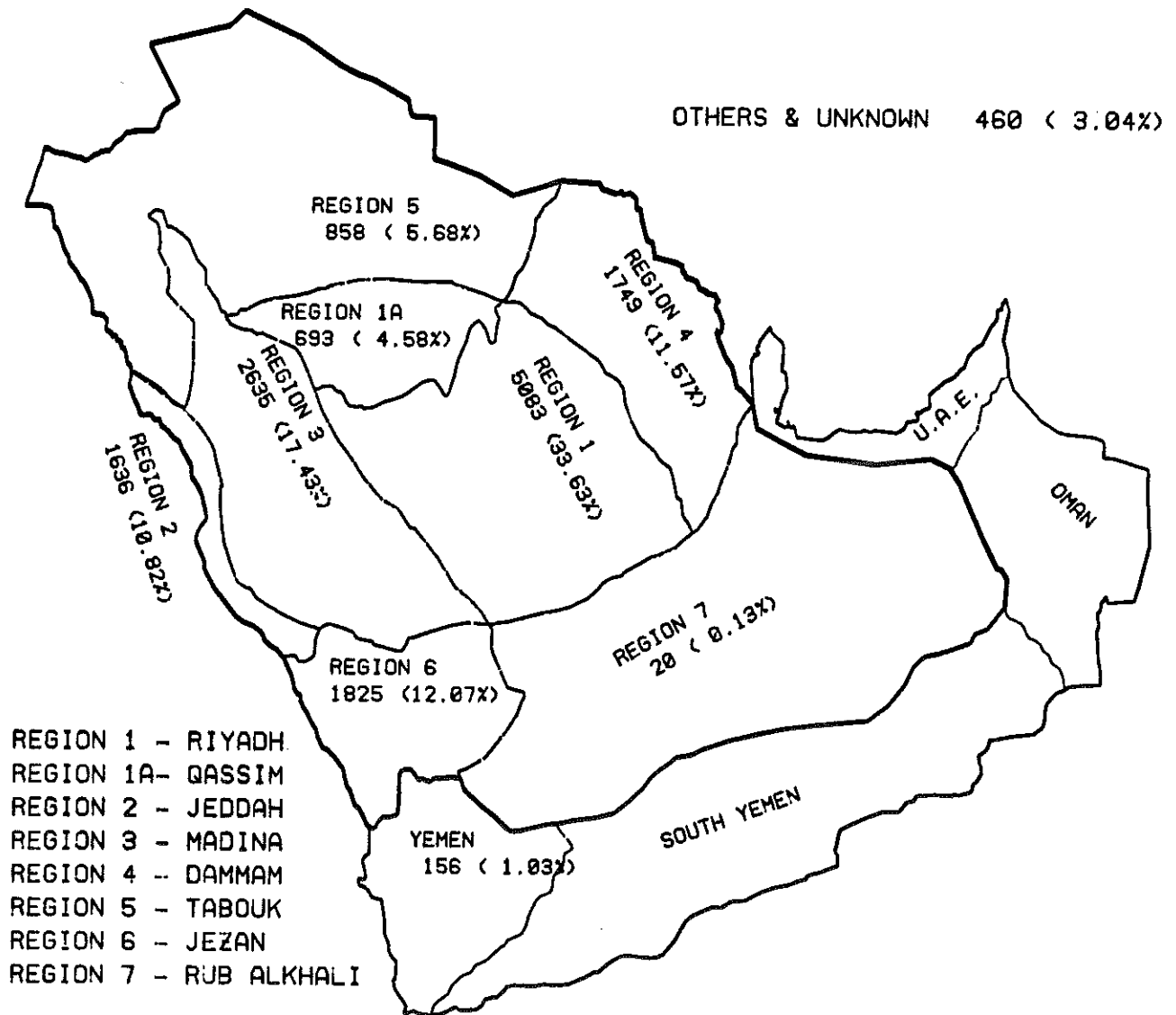
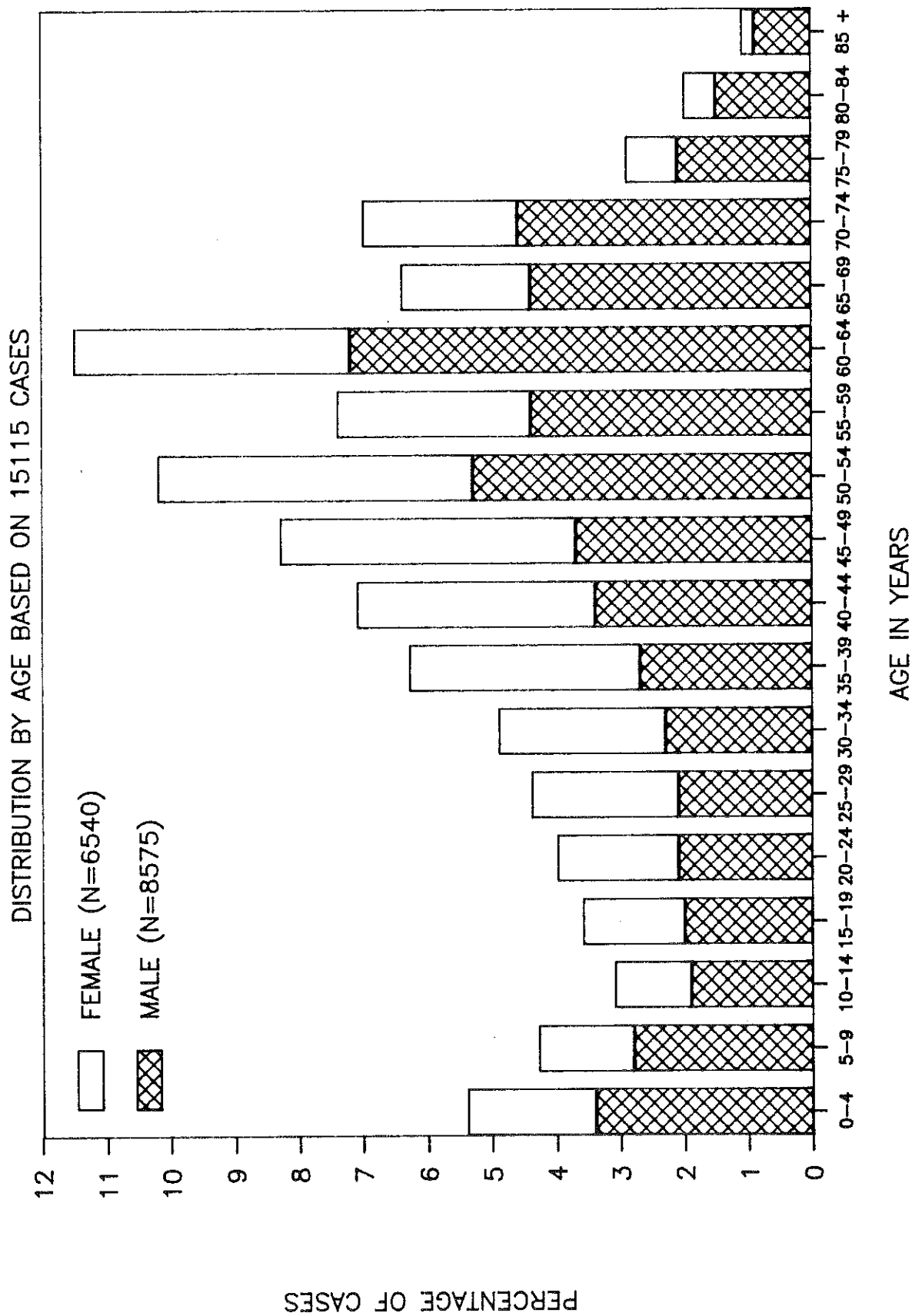


FIGURE 4  
 DISTRIBUTION OF 15115 CASES BY GEOGRAPHIC REGION  
 REFERRED TO K F S H 1975 THRU 1987



**FIGURE 5**



PERCENTAGE OF CASES

**FIGURE 6**  
FREQUENCY OF 25 MOST COMMON MALIGNANCIES  
1975 - 1987 (TOTAL CASES 15115)

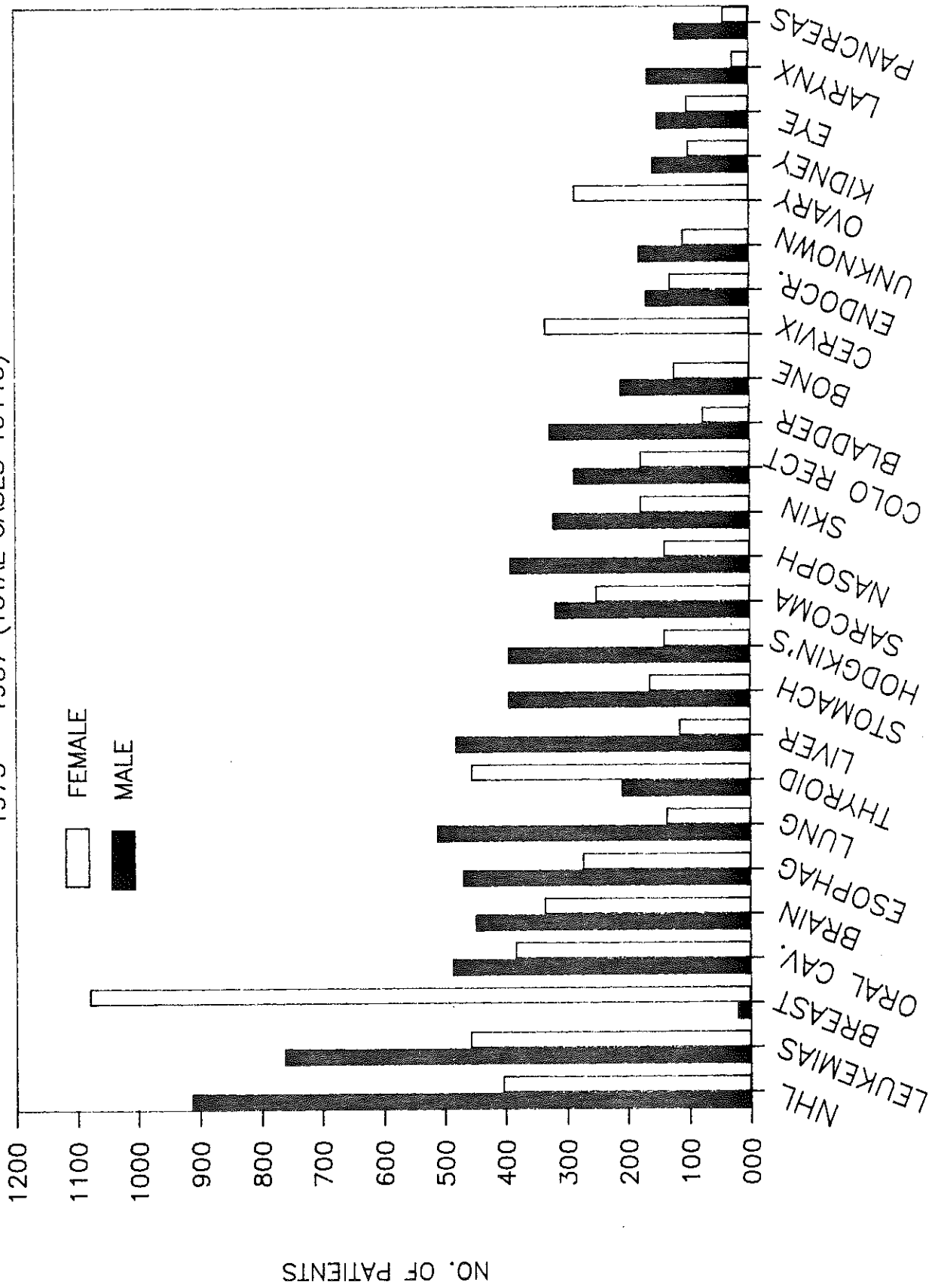


TABLE -1-  
 TOTAL CASES REFERRED TO KFSH BY AGE AND SITE \*  
 1975 - 1987  
 FOR ALL NATIONALITIES

ICD-O	DESCRIPTION	1975 - 1987																TOT-AL		
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79		80-84	85+
140-145,146,148-9	Oral Cavity	0	4	4	5	16	26	33	40	53	68	118	83	146	90	105	36	28	18	873
147	Nasopharynx	0	2	16	24	38	20	23	52	51	71	71	44	56	27	25	4	4	7	535
150	Esophagus	0	0	0	1	0	4	12	16	33	45	101	93	151	88	94	44	36	18	736
151	Stomach	0	0	1	0	2	5	16	25	28	48	59	34	110	73	93	36	24	8	562
153,154	Colon, Rectum	0	0	1	6	12	17	30	33	36	46	66	47	80	22	43	17	6	7	469
155	Liver	5	1	0	2	6	10	8	18	45	50	91	78	113	69	62	23	9	11	601
157	Pancreas	1	0	0	0	0	1	2	9	12	15	28	19	28	20	14	8	6	3	166
152,156,158-9	Other GI	5	1	1	2	3	7	5	9	19	18	25	14	26	15	16	8	1	1	176
161	Larynx	0	0	1	0	1	2	4	6	8	13	26	26	44	21	17	16	4	6	195
162-163	Lung	0	0	0	1	3	4	12	21	47	53	88	79	131	90	71	32	13	8	653
169(973)	Multiple Myeloma	0	0	0	0	1	1	4	7	13	15	23	13	19	15	15	7	3	2	138
169(982)	Lymphoid Leukemia	156	130	76	49	30	21	16	10	13	12	15	15	17	11	12	3	7	2	595
169(986)	Myeloid Leukemia	28	38	38	47	41	54	49	47	45	44	42	33	27	15	16	4	5	0	573
169(980-1,983-5,987-94)	Other Leukemias	7	2	6	5	1	4	5	2	4	0	2	2	4	2	6	1	0	1	54
170	Bone, Cartilage Sarcoma	5	30	63	76	50	35	25	12	10	9	6	3	3	4	5	0	2	0	338
171	Soft Tissue Sarcoma	114	51	41	42	46	29	27	39	20	35	36	22	24	22	15	1	4	5	573
172	Skin Melanoma	0	1	1	0	1	1	6	3	6	7	9	13	16	9	9	3	7	0	92
173	Other Skin Cancer	3	1	3	7	13	11	19	26	40	39	55	36	87	38	53	22	27	23	503
174-175	Breast	0	0	0	1	8	56	98	162	161	188	159	95	88	32	40	8	5	2	1103
179,181-2,184	Uterus, Genital	1	0	0	22	21	25	17	12	25	23	24	11	22	10	12	3	7	3	238
180	Cervix	0	0	0	0	1	11	32	51	32	53	44	28	37	18	17	8	3	1	335
183	Ovary	3	2	8	16	23	17	14	18	19	34	44	16	33	18	14	6	1	1	287
185	Prostate	0	0	0	0	0	0	0	1	1	1	7	12	24	23	36	20	23	9	157
186,187	Testis, Genital	6	0	1	3	9	22	22	18	13	15	9	5	5	2	4	1	0	0	135
188	Bladder	3	1	1	1	1	2	15	25	33	29	49	33	67	41	46	35	16	10	408
189	Kidney, Urinary	63	26	5	5	4	4	9	9	12	15	18	26	26	17	13	5	3	1	261
190	Eye	125	21	2	3	3	2	5	2	9	4	17	6	26	6	14	1	8	2	256
191-192	CNS	71	117	70	56	45	51	46	54	47	51	46	47	39	20	16	10	1	1	788
193	Thyroid	0	2	10	22	44	49	55	61	66	70	69	42	68	32	43	22	7	5	667
194	Other Endocrine	53	20	17	18	30	26	24	27	24	20	19	11	8	2	3	0	0	0	302
196(959-64,969-72,974-5)	Non Hodgkin's Lymphoma	139	126	42	43	78	72	56	83	80	94	98	76	127	65	84	26	19	11	1319
196(965,966)	Hodgkin's Disease	17	76	58	79	57	51	46	35	27	26	22	14	13	7	5	1	5	0	539
199	Primary Unknown	0	1	0	3	2	4	10	13	25	24	36	32	54	34	26	19	8	2	293
All Others	*****	9	5	9	10	8	16	3	12	16	16	22	10	17	11	17	5	5	3	194
TOTALS		814	658	475	549	598	660	748	958	1073	1251	1544	1118	1736	969	1061	435	297	171	15115

\* Includes Benign Cases (Reportable by Agreement of Cancer Committee)



TABLE -2-

MALE CASES REFERRED TO KFSH BY AGE AND SITE  
1975 - 1987  
FOR ALL NATIONALITIES

ICD-O	DESCRIPTION	AGE																	TOTAL	
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84		85+
140-145,146,148-9	Oral Cavity	0	2	2	3	10	9	15	17	18	27	49	52	86	63	69	29	21	16	488
147	Nasopharynx	0	2	9	15	23	14	18	41	38	50	53	35	48	21	16	3	2	5	393
150	Esophagus	0	0	0	1	0	4	5	5	10	23	54	61	99	64	59	31	29	16	461
151	Stomach	0	0	0	0	0	3	12	13	17	22	41	27	72	59	73	27	22	8	396
153,154	Colon, Rectum	0	0	0	4	6	14	16	18	20	25	41	27	47	15	35	10	5	6	289
155	Liver	4	1	0	0	4	5	7	9	34	35	73	65	92	63	49	23	8	11	483
157	Pancreas	0	0	0	0	0	1	0	7	10	14	18	14	17	16	11	8	5	2	123
152,156,158-9	Other GI	0	0	0	0	2	2	4	5	4	10	7	12	9	13	5	6	5	1	86
161	Larynx	0	0	0	0	1	1	1	1	4	6	9	24	23	38	21	15	14	4	167
162-163	Lung	0	0	0	1	2	1	10	15	36	41	66	61	110	74	57	25	9	6	514
169(973)	Multiple Myeloma	0	0	0	0	1	1	1	2	4	9	10	16	6	15	12	13	5	3	99
169(982)	Lymphoid Leukemia	104	90	45	30	19	16	10	7	9	7	13	11	15	9	9	2	6	1	403
169(986)	Myeloid Leukemia	14	25	21	31	20	22	26	29	28	25	25	20	18	8	8	2	3	0	325
169(980-1,983-5,987-94)	Other Leukemias	5	1	6	4	0	0	2	1	2	0	1	2	4	1	4	1	0	1	35
170	Bone, Cartilage Sarcoma	3	16	33	50	31	23	21	5	6	6	5	2	2	4	4	0	1	0	212
171	Soft Tissue Sarcoma	61	31	25	24	25	15	14	16	10	13	17	16	21	14	12	1	3	2	320
172	Skin Melanoma	0	1	1	0	1	1	2	2	4	4	9	9	8	5	5	2	6	0	60
173	Other Skin Cancer	0	1	1	0	1	1	2	2	8	12	26	37	25	59	24	36	14	16	323
174-175	Breast	0	0	0	2	2	8	6	12	12	26	26	37	25	59	24	36	14	16	22
179,181-2,184	Uterus, Genital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	Cervix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183	Ovary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
185	Prostate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
186,187	Testis, Genital	6	0	1	3	9	22	22	18	13	15	9	5	2	4	1	0	0	0	135
188	Bladder	2	1	1	0	1	2	13	20	23	24	39	28	52	32	38	30	15	8	329
189	Kidney, Urinary	37	14	2	4	1	3	2	3	7	8	10	17	21	15	11	1	2	1	159
190	Eye	73	16	0	1	1	1	3	1	6	2	8	5	16	5	6	1	5	2	152
191-192	CNS	48	60	46	34	31	31	24	25	21	25	20	30	22	15	11	7	0	0	450
193	Thyroid	0	1	5	3	11	6	13	16	23	24	18	13	28	13	17	13	3	3	210
194	Other Endocrine	29	9	10	10	14	14	13	15	17	13	10	7	7	1	1	0	0	0	170
196(959-64,969-72,974-5)	Non Hodgkin's Lymphoma	100	95	29	23	50	48	41	53	60	63	66	43	86	52	60	19	16	10	914
196(965,966)	Hodgkin's Disease	15	61	42	49	39	41	37	26	23	19	16	9	7	5	2	1	4	0	396
199	Primary Unknown	0	0	0	1	2	1	7	9	18	9	23	18	39	21	15	13	5	1	182
All Others	*****	4	3	6	5	5	8	3	10	11	8	11	6	10	9	14	4	2	3	122
TOTALS		505	429	286	300	317	317	356	406	517	558	795	659	1087	672	699	312	221	139	8575

\* Includes Benign Cases (Reportable by Agreement of Cancer Committee)

Date Of Report : 25-APR-88

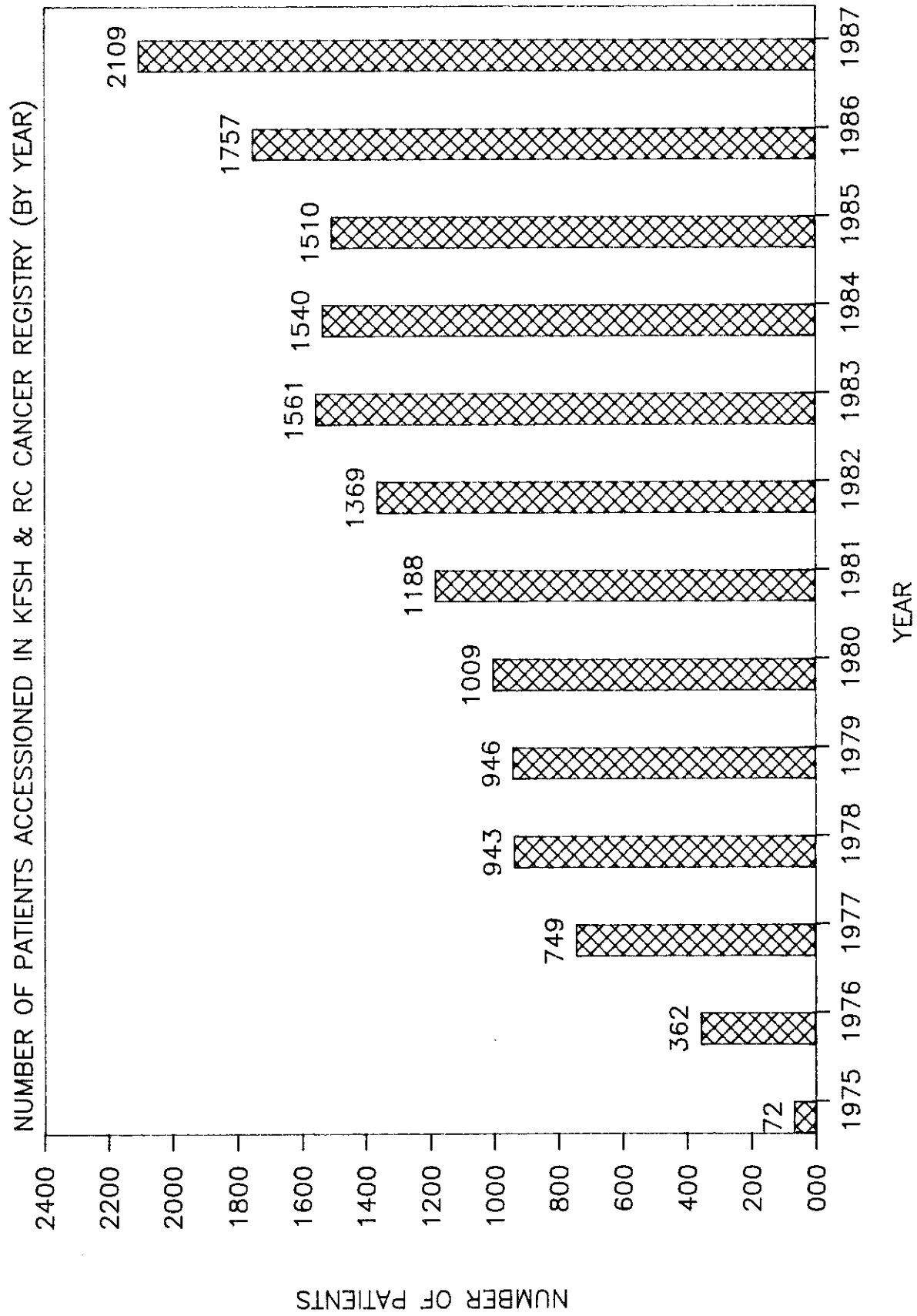
TABLE -3-

FEMALE CASES REFERRED TO KPSH BY AGE AND SITE \*  
1975 - 1987  
FOR ALL NATIONALITIES

ICD-O	DESCRIPTION	1975 - 1987																	TOTAL	
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84		85+
140-145,146,148-9	Oral Cavity	0	2	2	2	6	17	18	23	35	41	69	31	60	27	36	7	7	2	385
147	Nasopharynx	0	0	7	9	15	6	5	11	13	21	18	9	8	6	9	1	2	2	142
150	Esophagus	0	0	0	0	0	7	11	23	22	47	32	52	24	35	13	7	2	2	275
151	Stomach	0	0	1	0	2	2	4	12	11	26	18	7	38	14	20	9	2	0	166
153,154	Colon, Rectum	0	0	1	2	6	3	14	15	16	21	25	20	33	7	8	7	1	1	180
155	Liver	1	0	0	2	2	5	1	9	11	15	18	13	21	6	13	0	1	0	118
157	Pancreas	1	0	0	0	0	2	2	2	2	1	10	5	11	4	3	0	1	1	43
152,156,158-9	Other GI	5	1	1	0	1	3	0	5	9	11	13	5	13	10	10	3	0	0	90
161	Larynx	0	0	1	0	1	3	2	2	4	2	3	6	0	2	2	0	0	0	28
162-163	Lung	0	0	0	0	1	3	2	6	11	12	22	18	21	16	14	7	4	2	139
169(973)	Multiple Myeloma	0	0	0	0	0	2	3	4	5	7	7	4	3	2	2	0	0	0	39
169(982)	Lymphoid Leukemia	52	40	31	19	11	5	6	3	4	5	2	4	2	2	3	1	1	1	192
169(986)	Myeloid Leukemia	14	13	17	16	21	32	23	18	17	19	17	13	9	7	8	2	2	0	248
169(980-1,983-5,987-94)	Other Leukemias	2	1	0	1	1	4	3	1	2	0	1	0	0	1	2	0	0	0	19
170	Bone, Cartilage Sarcoma	2	14	30	26	19	12	4	7	4	3	1	1	1	1	0	1	0	1	126
171	Soft Tissue Sarcoma	53	20	16	18	21	14	13	23	10	22	19	6	3	8	3	0	1	3	253
172	Skin Melanoma	0	0	0	0	0	0	4	1	2	3	0	4	8	4	4	1	1	0	32
173	Other Skin Cancer	3	1	1	5	5	7	14	14	13	18	11	28	14	17	8	11	5	1	180
174-175	Breast	0	0	0	1	8	56	98	162	160	185	155	94	82	31	37	8	3	1	1081
179,181-2,184	Uterus, Genital	1	0	0	22	21	25	17	12	25	23	24	11	22	10	12	3	7	3	238
180	Cervix	0	0	0	0	1	11	32	51	32	53	44	28	37	18	17	8	3	1	336
183	Ovary	3	2	8	16	23	17	14	18	19	34	44	16	33	18	14	6	1	1	287
185	Prostate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
186,187	Testis, Genital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
188	Bladder	1	0	0	1	0	0	2	5	10	5	10	5	15	9	8	5	1	2	79
189	Kidney, Urinary	26	12	3	1	3	1	7	6	5	7	8	9	5	2	2	4	1	0	102
190	Eye	52	5	2	2	2	1	2	1	3	2	9	1	10	1	8	0	3	0	104
191-192	CNS	23	57	24	22	14	20	22	29	26	26	26	17	17	5	5	3	1	1	338
193	Thyroid	0	1	5	19	33	43	42	45	43	46	51	29	40	19	26	9	4	2	457
194	Other Endocrine	24	11	7	8	16	12	11	12	7	9	4	1	1	2	0	0	0	0	132
196(959-64,969-72,974-5)	Non Hodgkin's Lymphoma	39	31	13	20	28	24	15	30	20	31	32	33	41	13	24	7	3	1	405
196(965,966)	Hodgkin's Disease	2	15	16	30	18	10	9	4	7	6	5	6	2	3	0	1	0	0	143
199	Primary Unknown	0	1	0	2	0	3	3	4	7	15	13	14	15	13	11	6	3	1	111
All Others	*****	5	2	3	5	3	8	0	2	5	8	11	4	7	2	3	1	3	0	72
TOTALS		309	229	189	249	281	343	392	552	556	693	749	459	649	297	362	123	76	32	6540
TOTALS ARE		15115	8575	6540																

\* Includes Benign Cases (Reportable by Agreement of Cancer Committee)

FIGURE 7



# FIGURE 8

SUMMARY OF PATIENTS ACCESSED BY SEX

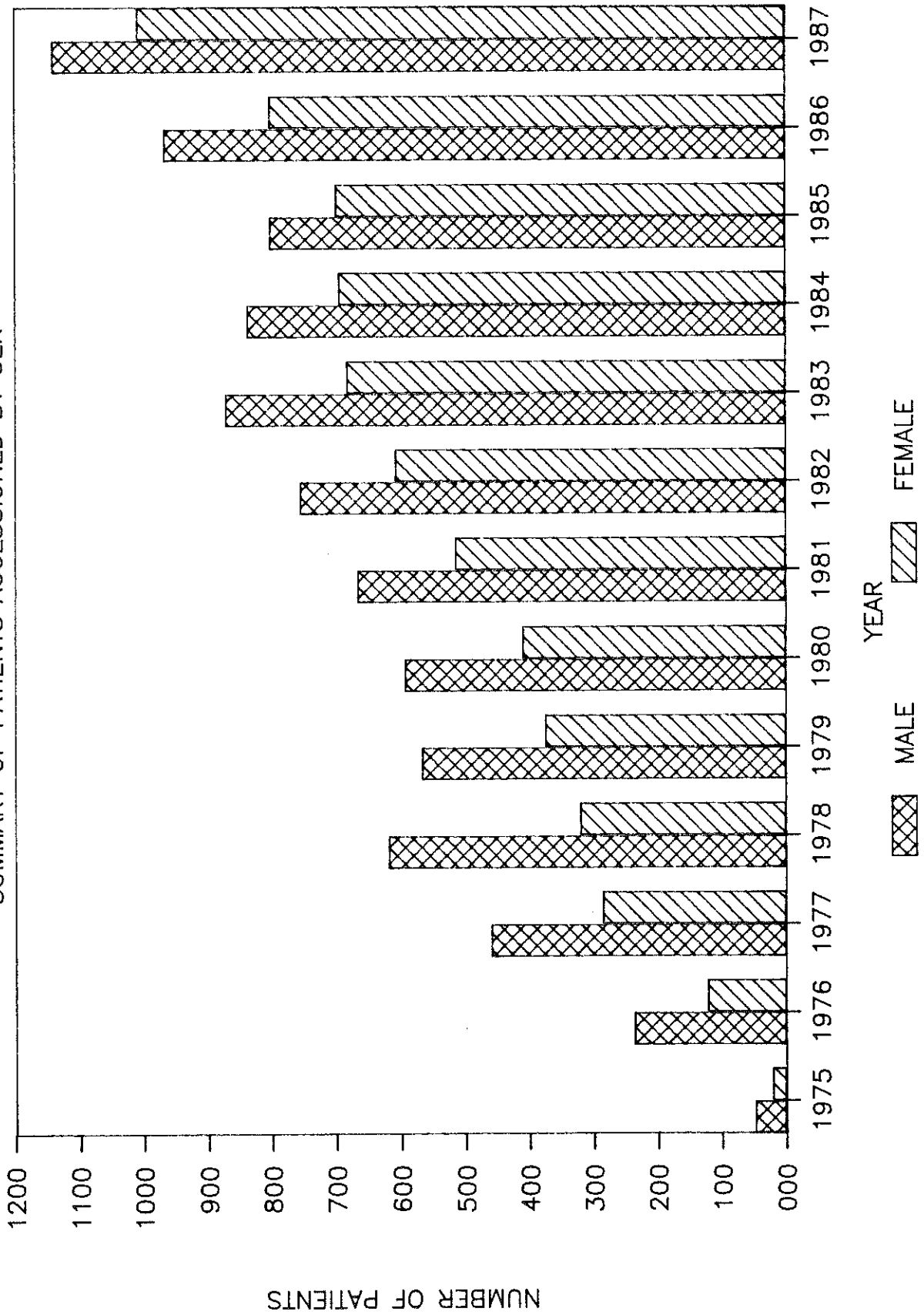
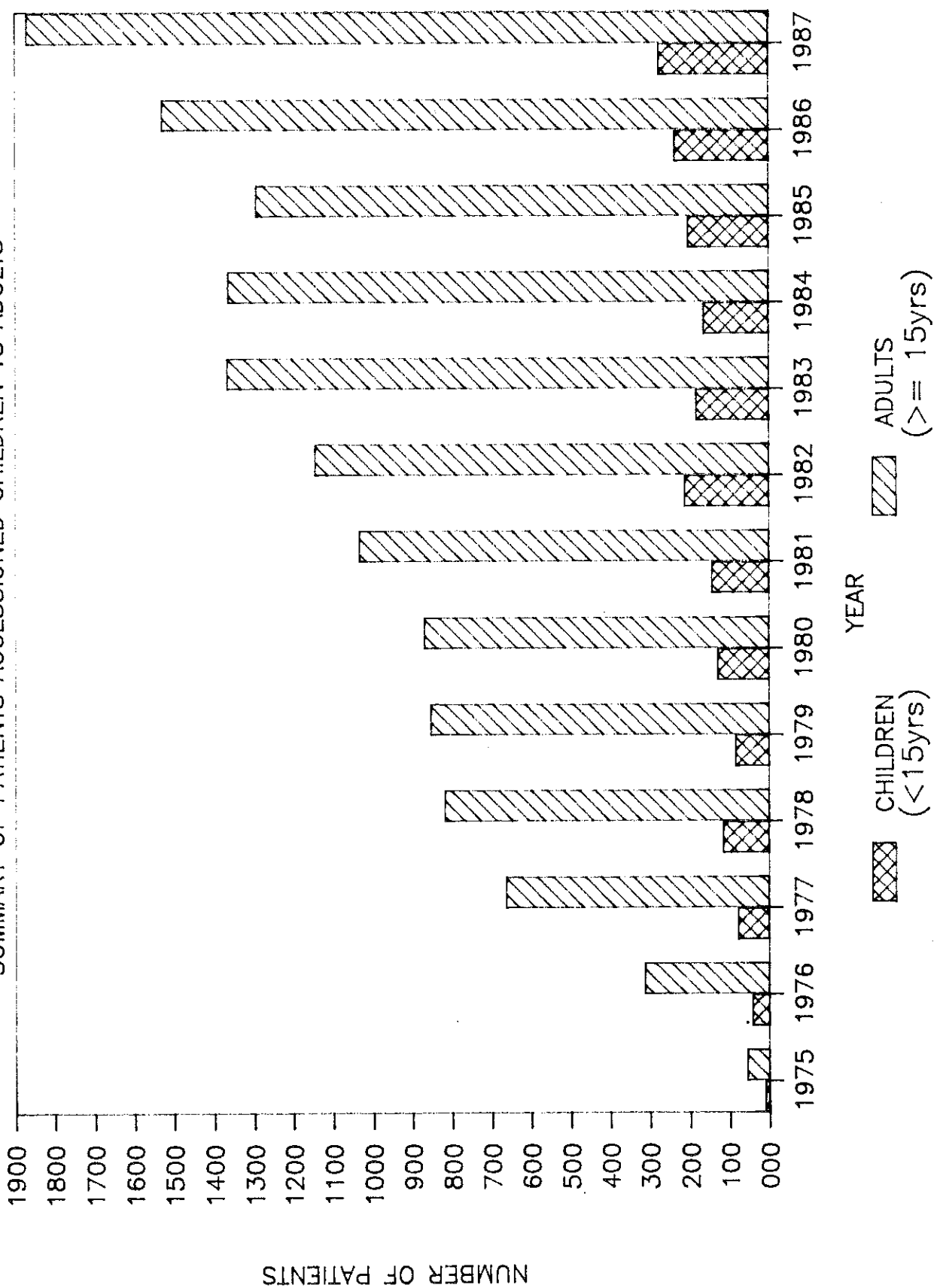


FIGURE 9

SUMMARY OF PATIENTS ACCESSIONED CHILDREN VS ADULTS



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### III. DESCRIPTION OF THE PATIENT POPULATION - 1987

The total number of cancer patients accrued in the King Faisal Specialist Hospital and Research Centre Tumor Registry rose significantly in 1987. There were a total of 2121 new cases accessioned, representing a twenty percent increase over the past years. Of these 1719, or 81% were analytic cases (defined as cases which were first diagnosed and/or received all or part of their first course of treatment at KFSH & RC).

Males predominated with a total of 1121 cases (52.9%); females numbered 1000 (47.1%). Please refer to Figure 10 for a graphic illustration of the sex distribution of the cases.

Nationality of the patients treated in 1987 was 82.1% (1741 cases) Saudi Arabian and 17.9% (380 cases) Non-Saudi (Figure 11).

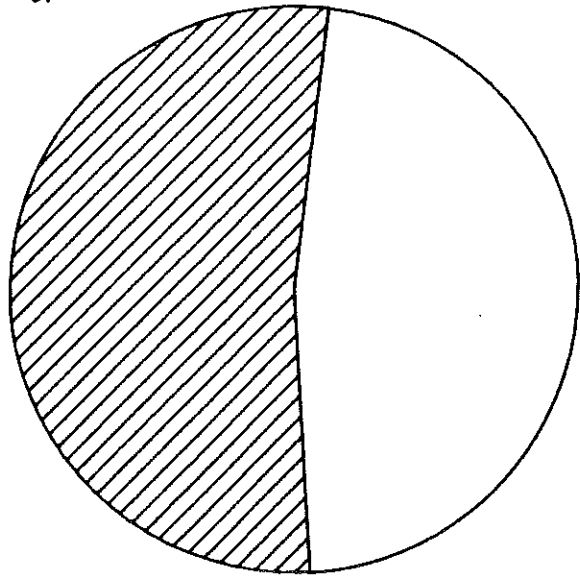
Geographically, the referral pattern is mainly from the Central Region with 33.4% (708 patients) coming from Region 1. Patients from Regions 3, 4, and 6 represent 16.2%, 14.5%, and 12.5% respectively. Please refer to Figure 12 for a summary of the geographical distribution of 1987 cases.

Age distribution of the 1987 cases is illustrated in Figure 13. The mean age is 44; the mode 60; and the median age 47. Patients under the age of 15 made up 13% (274 cases) and adults 87% (1847 cases).

**FIGURE 10**

1987 DISTRIBUTION BY SEX BASED ON 2121 CASES

MALE 1121 cases (52.9%)

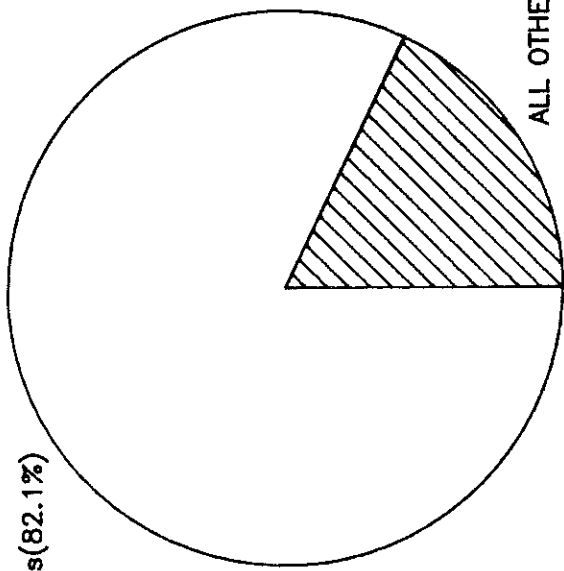


FEMALE 1000 cases (47.1%)

**FIGURE 11**

1987 DISTRIBUTION BY NATIONALITY BASED ON 2121 CASES

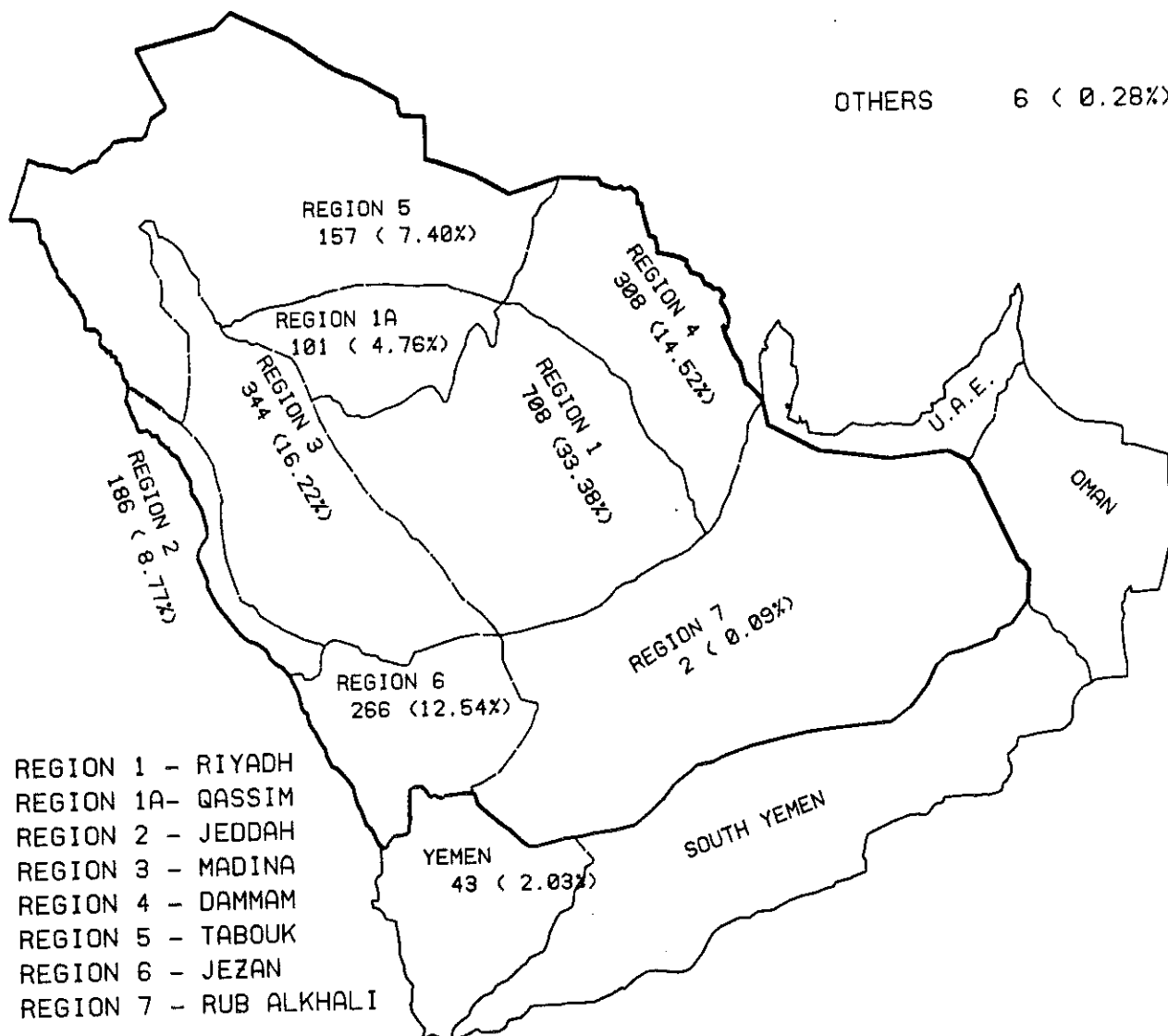
SAUDI 1741 cases(82.1%)



ALL OTHERS 380 cases (17.9%)

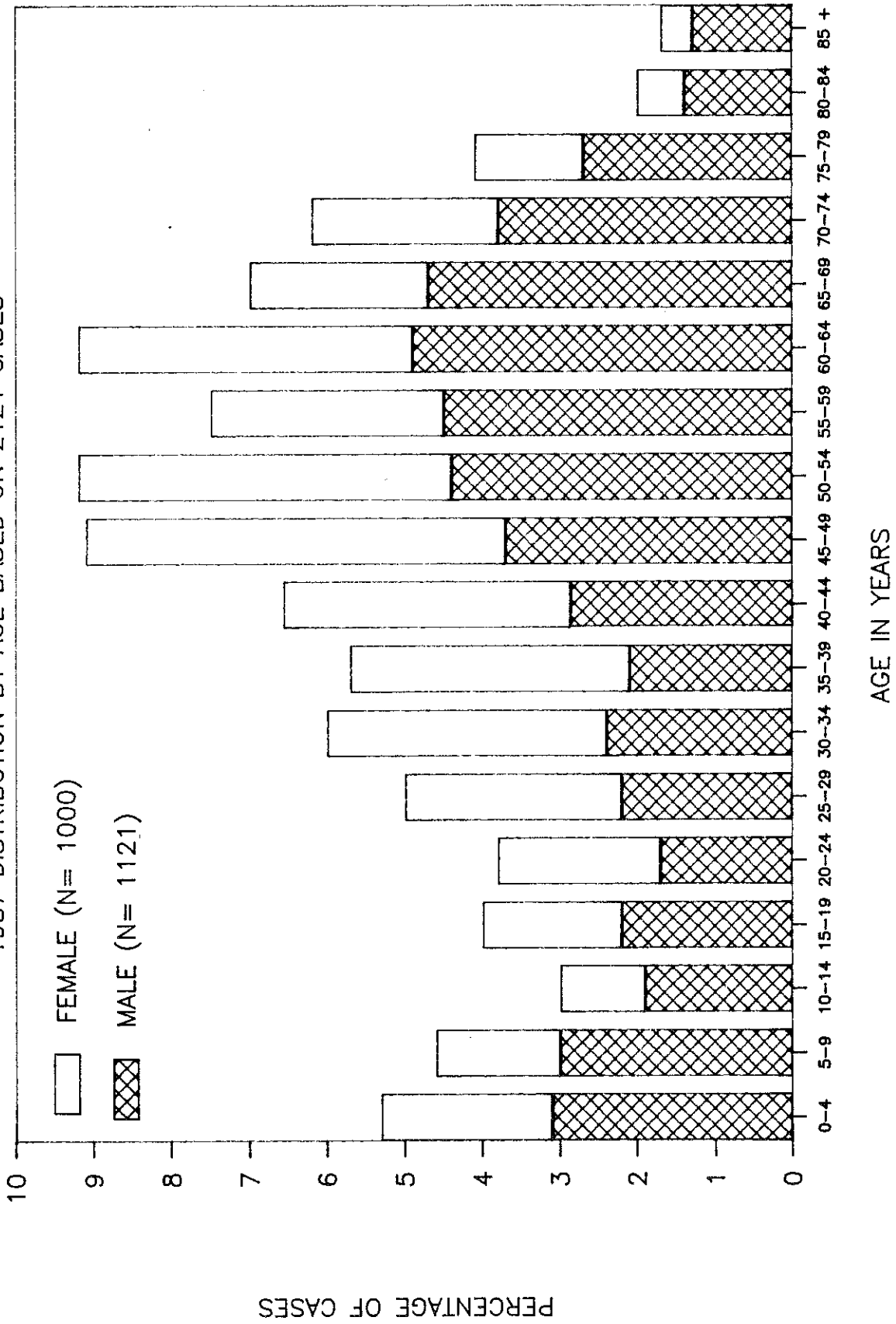
- 1) S.A 1741 cases (82.1%)
- 2) Yemen 194 cases (9.2%)
- 3) Leb,Syr,Pal,Jord 66 cases (3.1%)
- 4) Egyptian 41 cases (1.9%)
- 5) African 36 cases (1.7%)
- 6) All Others 43 cases (2.0%)

FIGURE 12  
 DISTRIBUTION OF 2121 CASES BY GEOGRAPHIC REGION  
 REFERRED TO K F S H IN 1987





**FIGURE 13**  
1987 DISTRIBUTION BY AGE BASED ON 2121 CASES



PERCENTAGE OF CASES

AGE IN YEARS

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### III. PRIMARY ANATOMIC SITE AND HISTOLOGY SUMMARIES

Leukemias led the list of malignancies diagnosed in 1987 (representing 8.3%), followed by breast cancer (8.2%), non-Hodgkin's lymphoma (7.9%), and brain/CNS tumors (6.6%).

The solid tumors represented 70.8% (1502 cases), the lymphatic malignancies 10.6% (224 cases), the hematological malignancies 9.9% (211 cases), benign tumors 5.6% (119 cases) and the neoplasms of uncertain behavior totaled 3.1% (65 cases). For detailed statistics by primary site and histology please refer to Table 4, the Primary Site Table. Figure 14 illustrates the most common sites accessioned in 1987.

Ninety-eight percent of the cases were pathologically confirmed; 1.6% were confirmed radiologically and less than 1% were diagnosed on the basis of clinical examination.

Pathologically, the solid tumors were predominately squamous cell carcinoma (361 cases, 17%) and adenocarcinomas (352 cases, 16.6%). Other major histologies were the sarcomas (155 cases, 7.3%) and duct cell carcinoma (140 cases, 6.6%).

The lymphomas make up a large proportion of cases. Non-Hodgkin's lymphoma of extra-nodal sites totaled thirty-eight cases. The anatomic locations represented were as follows: stomach (9 cases), tonsil (8 cases), nasopharynx (8 cases), and thyroid (5 cases). Other sites were the small intestine, nasal cavity and maxillary sinus.

In 1987, there were 24 patients with second primary malignancies, and one case with a third primary malignancy.

TABLE 4  
KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTRE  
PRIMARY SITE TABLE  
1987

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
<b>ALL SITES</b>	<b>ALL HISTOLOGIES</b>	<b>2121</b>	<b>1121</b>	<b>1000</b>
<b>LIP (140)</b>		<b>7</b>	<b>4</b>	<b>3</b>
	Squamous Cell			
<b>TONGUE (141)</b>		<b>29</b>	<b>19</b>	<b>10</b>
	Squamous Cell	28	18	10
	Mucoepidermoid Carcinoma	1	1	0
<b>MAJOR SALIVARY GLANDS (142)</b>		<b>7</b>	<b>4</b>	<b>3</b>
	Mucoepidermoid Carcinoma	4	3	1
	Pleomorphic Adenoma	1	0	1
	Squamous Cell Carcinoma	1	1	0
	Ca, NOS	1	0	1
<b>GUM (143)</b>		<b>17</b>	<b>8</b>	<b>9</b>
	Squamous Cell			
<b>FLOOR OF MOUTH (144)</b>		<b>6</b>	<b>3</b>	<b>3</b>
	Squamous Cell	4	2	2
	Carcinoma, NOS	1	0	1
	Adenocarcinoma	1	1	0
<b>BUCCAL MUCOSA (145.0)</b>		<b>4</b>	<b>3</b>	<b>1</b>
	Squamous Cell			
<b>PALATE (145.5)</b>		<b>4</b>	<b>2</b>	<b>2</b>
	Squamous Cell	2	0	2
	Pleomorphic Adenoma	1	1	0
	Adenoid Cystic Carcinoma	1	1	0
<b>RETROMOLAR TRIGONE (145.6)</b>		<b>1</b>	<b>0</b>	<b>1</b>
	Squamous Cell			
<b>OTHER PARTS OF THE MOUTH (145)</b>		<b>5</b>	<b>1</b>	<b>4</b>
	Carcinoma, NOS	2	1	1
	Squamous Cell	1	0	1
	Adenoid Cystic Ca	1	0	1
	Malignant Lymphoma	1	0	1

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
<b>TONSIL (146)</b>		<b>12</b>	<b>8</b>	<b>4</b>
	Malignant Lymphoma	8	5	3
	Squamous Cell	3	2	1
	Mixed Salivary Tumor	1	1	0
<b>NASOPHARYNX (147)</b>		<b>87</b>	<b>65</b>	<b>22</b>
	Squamous Cell	62	46	16
	Carcinoma, NOS	10	9	1
	Malignant Lymphoma	8	5	3
	Undifferentiated Carcinoma	6	4	2
	Lymphoepithelial Carcinoma	1	1	0
<b>HYPOPHARYNX (148)</b>		<b>16</b>	<b>6</b>	<b>10</b>
	Squamous Cell	15	5	10
	Carcinoma, NOS	1	1	0
<b>OTHER SITES, PHARYNX/HYPOPHARYNX (149)</b>		<b>2</b>	<b>2</b>	<b>0</b>
	Squamous Cell			
<b>ESOPHAGUS (150)</b>		<b>78</b>	<b>50</b>	<b>28</b>
	Squamous Cell	68	41	27
	Adenocarcinoma	8	7	1
	Carcinoma, NOS	2	2	0
<b>STOMACH (151)</b>		<b>68</b>	<b>44</b>	<b>24</b>
	Adenocarcinoma	47	34	13
	Malignant Lymphoma	9	5	4
	Mucin-Producing Adenocarcinoma	6	2	4
	Signet Ring Adenocarcinoma	3	1	2
	Carcinoma, NOS	1	1	0
	Leiomyosarcoma	1	1	0
	Carcinoid	1	0	1
<b>SMALL INTESTINE (152)</b>		<b>6</b>	<b>4</b>	<b>2</b>
	Malignant Lymphoma	3	2	1
	Adenocarcinoma	1	0	1
	Malignant Carcinoid	1	1	0
	Gastrinoma	1	1	0
<b>COLON (153)</b>		<b>42</b>	<b>24</b>	<b>18</b>
	Adenocarcinoma	26	15	11
	Mucin-Producing Adenocarcinoma	5	3	2
	Carcinoid Tumor	3	2	1
	Signet Ring Adenocarcinoma	2	0	2
	Familial Polyposis Coli	2	1	1
	Carcinoma, NOS	1	1	0
	Carcinoma, in situ	1	0	1
	Tubular Adenoma	1	1	0
	Malignant Lymphoma	1	1	0
<b>RECTOSIGMOID JUNCTION (154.0)</b>		<b>6</b>	<b>3</b>	<b>3</b>
	Adenocarcinoma	4	3	1
	Carcinoma, NOS	2	0	2

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
<b>RECTUM/ANUS (154)</b>		<b>29</b>	<b>19</b>	<b>10</b>
	Adenocarcinoma	21	15	6
	Squamous Cell	4	3	1
	Mucin-Producing Adenocarcinoma	1	0	1
	Tubulopap. Adenoma	1	1	0
	Cloacogenic Carcinoma	1	0	1
	Carcinoid Tumor	1	0	1
<b>LIVER (155.0)</b>		<b>73</b>	<b>59</b>	<b>14</b>
	Hepatocellular Carcinoma	70	58	12
	Adenocarcinoma, NOS	1	0	1
	Malignant Spindle Cell Ca	1	1	0
	Hepatoblastoma	1	0	1
<b>GALLBLADDER/BILE DUCTS (156)</b>		<b>22</b>	<b>9</b>	<b>13</b>
	Adenocarcinoma	18	9	9
	Carcinoma, NOS	1	0	1
	Malignant Tumor	1	0	1
	Cholangiocarcinoma	1	0	1
	Squamous Cell	1	0	1
<b>PANCREAS (157)</b>		<b>18</b>	<b>10</b>	<b>8</b>
	Adenocarcinoma	13	6	7
	Carcinoma, NOS	5	4	1
<b>RETROPERITONEUM (158)</b>		<b>3</b>	<b>3</b>	<b>0</b>
	Round Cell Carcinoma	1	1	0
	Paraganglioma	1	1	0
	Large Cell Pleomorphic Tumor	1	1	0
<b>OTHER GI (159)</b>		<b>5</b>	<b>5</b>	<b>0</b>
	Adenocarcinoma			
<b>NASAL CAVITIES (160)</b>		<b>18</b>	<b>10</b>	<b>8</b>
	Squamous Cell	9	7	2
	Malignant Lymphoma	3	2	1
	Carcinoma, NOS	2	1	1
	Undiff. Large Cell Carcinoma	1	0	1
	Glioma	1	0	1
	Olfactory Neuroblastoma	1	0	1
	Esthesioneuroblastoma	1	0	1
<b>LARYNX (161)</b>		<b>24</b>	<b>20</b>	<b>4</b>
	Squamous Cell	23	19	4
	Cancer, NOS	1	1	0

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
<b>BRONCHUS/LUNG (162)</b>		<b>86</b>	<b>63</b>	<b>23</b>
	Squamous Cell	30	26	4
	Adenocarcinoma	28	15	13
	Oat Cell (Small Cell)	11	9	2
	Large Cell Carcinoma	8	6	2
	Carcinoma, NOS	4	3	1
	Fibrosarcoma	1	1	0
	Tumorlet	1	1	0
	Neuroendocrine Tumor (benign)	1	1	0
	Pleomorphic Malignant Neoplasm	1	1	0
	Carcinoid	1	0	1
<b>THYMUS (164.0)</b>		<b>4</b>	<b>3</b>	<b>1</b>
	Thymoma			
<b>HEART (164.1)</b>		<b>1</b>	<b>1</b>	<b>0</b>
	Tumor (benign)	1	1	0
<b>MEDIASTINUM (164.9)</b>		<b>3</b>	<b>3</b>	<b>0</b>
	Germ Cell			
<b>MULTIPLE MYELOMA (169)</b>		<b>27</b>	<b>22</b>	<b>5</b>
	Plasma Cell Myeloma	21	18	3
	Plasmacytoma	6	4	2
<b>BONE MARROW (169)</b>		<b>196</b>	<b>117</b>	<b>79</b>
	Acute Lymphoid Leukemia	69	42	27
	Acute Myeloid Leukemia	47	25	22
	Chronic Myeloid Leukemia	30	16	14
	Chronic Lymphoid Leukemia	17	12	5
	Aplastic Anemia	9	4	5
	Polycythemia Rubra Vera	8	7	1
	Acute Promyelocytic Leukemia	4	2	2
	Myeloproliferative Disease	4	4	0
	Acute Monoblastic Leukemia	4	2	2
	Other Leukemias	3	2	1
	Hairy Cell Leukemia	1	1	0
<b>BONE &amp; CARTILAGE (170)</b>		<b>42</b>	<b>33</b>	<b>9</b>
	Ewing's Sarcoma	14	11	3
	Osteosarcoma	14	10	4
	Giant Cell Tumor	6	5	1
	Chondrosarcoma	6	5	1
	Ameloblastoma	1	1	0
	Aneurysmal Bone Cyst	1	1	0

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
<b>CONNECTIVE &amp; SOFT TISSUE (171)</b>		<b>106</b>	<b>58</b>	<b>48</b>
	Hemangioma/Angiofibroma	23	9	14
	Rhabdomyosarcoma	14	11	3
	Fibrosarcoma	8	5	3
	Schwannoma, benign	8	5	3
	Fibrous Histiocytoma	7	5	2
	Neuroblastoma	7	5	2
	Leiomyosarcoma	5	1	4
	Synovial Sarcoma	5	3	2
	Liposarcoma	4	2	2
	Spindle Cell Sarcoma	4	1	3
	Fibromatosis	4	2	2
	Angiosarcoma	4	3	1
	Ganglioneuroblastoma	3	1	2
	Neurofibromatosis	2	0	2
	Sarcoma, NOS	1	1	0
	Desmoid Tumor	1	0	1
	Malignant Schwannoma	1	0	1
	Neurofibrosarcoma	1	1	0
	Malig. Endodermal Sinus Tumor	1	1	0
	Spindle Cell Tumor	1	1	0
	Epithelioid Leiomyoma	1	0	1
	Kaposi's Sarcoma	1	1	0
<b>SKIN (MELANOMA) (172)</b>		<b>11</b>	<b>6</b>	<b>5</b>
	Malignant Melanoma			
<b>SKIN (NON-MELANOMA) (173)</b>		<b>45</b>	<b>29</b>	<b>16</b>
	Squamous Cell	18	14	4
	Basal Cell	17	9	8
	Kaposi's Sarcoma	4	3	1
	Sebaceous Cell Carcinoma	3	1	2
	Dermatofibrosarcoma protuberans	1	1	0
	Carcinoma, NOS	1	0	1
	Apocrine Adenocarcinoma	1	1	0
<b>BREAST, FEMALE (174)</b>		<b>171</b>	<b>0</b>	<b>171</b>
	Infiltrating Duct Cell	134	0	134
	Carcinoma, NOS	11	0	11
	Adenocarcinoma, NOS	7	0	7
	Intraductal Carcinoma	5	0	5
	Lobular Carcinoma	3	0	3
	Infiltrating Duct w/Paget's Disease	2	0	2
	Medullary Carcinoma	2	0	2
	Signet Ring Cell Carcinoma	2	0	2
	Carcinoma, Secretory Type	1	0	1
	Inflammatory Carcinoma	1	0	1
	Adenoid Cystic Carcinoma	1	0	1
	Cystosarcoma Phyllodes	1	0	1
	Mucinous Carcinoma	1	0	1

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
<b>BREAST, MALE (175)</b>		<b>2</b>	<b>2</b>	<b>0</b>
	Infiltrating Duct Cell			
<b>CERVIX UTERI (180)</b>		<b>51</b>	<b>0</b>	<b>51</b>
	Squamous Cell	41	0	41
	Carcinoma in situ	4	0	4
	Carcinoma, NOS	3	0	3
	Adenosquamous	2	0	2
	Mucinous Carcinoma	1	0	1
<b>PLACENTA (181)</b>		<b>25</b>	<b>0</b>	<b>25</b>
	Choriocarcinoma	17	0	17
	Hydatidiform Mole	6	0	6
	Invasive Hydatidiform Mole	2	0	2
<b>CORPUS UTERI (182)</b>		<b>12</b>	<b>0</b>	<b>12</b>
	Adenocarcinoma	8	0	8
	Carcinoma, NOS	2	0	2
	Mixed Mullerian Tumor	1	0	1
	Adenosquamous	1	0	1
<b>OVARY (183)</b>		<b>46</b>	<b>0</b>	<b>46</b>
	Papillary Carcinoma (Adenocarcinoma)	12	0	12
	Adenocarcinoma, NOS	8	0	8
	Papillary Cystadenocarcinoma	7	0	7
	Serous Cystadenoma	4	0	4
	Mucinous Cystadenocarcinoma	3	0	3
	Endodermal Sinus Tumor	2	0	2
	Carcinoma, NOS	2	0	2
	Mucinous Cystadenoma	1	0	1
	Dysgerminoma	1	0	1
	Malignant Teratoma, immature	1	0	1
	Granulosa Cell Tumor	1	0	1
	Pseudomyxoma peritonei	1	0	1
	Gonadoblastoma	1	0	1
	Mixed Germ Cell Tumor	1	0	1
	Choriocarcinoma	1	0	1
<b>FEMALE GENITAL ORGANS (184)</b>		<b>3</b>	<b>0</b>	<b>3</b>
	Squamous Cell	2	0	2
	Clear Cell Adenocarcinoma	1	0	1
<b>PROSTATE (185)</b>		<b>22</b>	<b>22</b>	<b>0</b>
	Adenocarcinoma	20	20	0
	Carcinoma, NOS	2	2	0
<b>TESTIS (186)</b>		<b>18</b>	<b>18</b>	<b>0</b>
	Seminoma	14	14	0
	Mixed Tumor	1	1	0
	Teratocarcinoma	1	1	0
	Embryonal Cell Carcinoma	1	1	0
	Yolk Sac Tumor	1	1	0



SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
<b>BLADDER (188)</b>		<b>78</b>	<b>56</b>	<b>22</b>
	Transitional Cell	60	45	15
	Squamous Cell	10	5	5
	Rhabdomyosarcoma, Embryonal	5	4	1
	Carcinoma, NOS	1	1	0
	Adenocarcinoma	1	1	0
	Tumor (no tissue)	1	0	1
<b>KIDNEY (189)</b>		<b>32</b>	<b>15</b>	<b>17</b>
	Renal Cell Carcinoma (Hypernephroma)	18	8	10
	Wilms' Tumor	9	5	4
	Papillary Transitional Cell	3	1	2
	Carcinoma, NOS	2	1	1
<b>EYE (190)</b>		<b>31</b>	<b>18</b>	<b>13</b>
	Retinoblastoma	19	10	9
	Squamous Cell Carcinoma	6	3	3
	Malignant Melanoma	5	4	1
	Adenoid Cystic Carcinoma	1	1	0
<b>BRAIN (191)</b>		<b>91</b>	<b>49</b>	<b>42</b>
	Astrocytoma	39	21	18
	Glioblastoma multiforme	18	11	7
	Medulloblastoma	15	9	6
	Neoplasm, NOS	5	2	3
	Glioma	4	1	3
	Ependymoma	3	2	1
	Oligodendroglioma	3	2	1
	Hemangioblastoma	1	0	1
	Papilloma	1	1	0
	Schwannoma	1	0	1
	Paranglioma	1	0	1
<b>OTHER NERVOUS SYSTEM (192)</b>		<b>47</b>	<b>18</b>	<b>29</b>
	Meningioma	35	9	26
	Ependymoma	4	4	0
	Schwannoma	3	3	0
	Glioma	2	0	2
	Chordoma	2	2	0
	Tumor, NOS	1	0	1
<b>THYROID (193)</b>		<b>129</b>	<b>31</b>	<b>98</b>
	Papillary Carcinoma	89	18	71
	Follicular Adenocarcinoma	13	3	10
	Medullary Carcinoma	8	6	2
	Anaplastic Carcinoma	6	1	5
	Papillary & Follicular	4	1	3
	Malignant Lymphoma	5	0	5
	Adenoma, NOS	3	2	1
	Follicular Adenoma	1	0	1
<b>ADRENAL GLAND (194.0)</b>		<b>5</b>	<b>3</b>	<b>2</b>
	Neuroblastoma	4	3	1
	Pheochromocytoma	1	0	1

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
<b>PITUITARY/OTHER ENDOCRINE (194)</b>		<b>25</b>	<b>12</b>	<b>13</b>
	Adenoma	12	5	7
	Craniopharyngioma	5	4	1
	Paraganglioma	3	0	3
	Pineoblastoma	2	0	2
	Tumor, benign	1	1	0
	Yolk Sac Tumor	1	1	0
	Pineocytoma	1	1	0
<b>LYMPH NODES, NON-HODGKINS' LYMPHOMA (196)</b>		<b>130</b>	<b>94</b>	<b>36</b>
<b>Excluding the Extra-Nodal Lymphomas</b>				
	Diffuse Histiocytic Lymphoma	38	27	11
	Other Lymphomas, NOS	27	17	10
	Diffuse Undifferentiated Lymphoma	14	10	4
	Diffuse Lymphocytic Lymphoma	12	9	3
	Burkitt's Lymphoma	10	9	1
	Mixed, Lymphocytic-Histiocytic	8	5	3
	Histiocytosis X	6	5	1
	Mycosis Fungoides	4	2	2
	T-Cell Lymphoma	4	4	0
	Lymphoma, Immunoblastic	3	3	0
	Malignant Histiocytosis X	2	2	0
	Waldenstrom's Macroglobulinemia	2	1	1
<b>LYMPH NODES, HODGKIN'S DISEASE (196)</b>		<b>62</b>	<b>44</b>	<b>18</b>
	Nodular-Sclerosis	37	25	12
	Mixed Cellularity	12	9	3
	Lymphocytic Predominance	8	6	2
	Hodgkin's Disease (NOS)	4	3	1
	Lymphocytic Depletion	1	1	0
<b>PRIMARY UNKNOWN (199)</b>		<b>31</b>	<b>19</b>	<b>12</b>
	Adenocarcinoma	18	9	9
	Carcinoma, NOS	4	2	2
	Squamous Cell Carcinoma	3	2	1
	Papillary Carcinoma	2	2	0
	Mucinous Adenocarcinoma	2	2	0
	Carcinoma (no tissue)	2	2	0

## LISTING OF 1987 CASES WITH MULTIPLE PRIMARIES

PRIMARY SITE 1987	HISTOLOGY	OTHER PRIMARIES (PREVIOUS OR CONCURRENT)	TOTAL NO.	MALES	FEMALES
<b>ALL MULTIPLE PRIMARIES</b>			<b>25</b>	<b>8</b>	<b>17</b>
<b>BREAST</b>			<b>6</b>	<b>1</b>	<b>5</b>
Duct Cell		EWING'S SARCOMA	1	0	1
Duct Cell		CONTRA. BREAST	1	0	1
Intraductal		CONTRA. BREAST	1	0	1
Duct Cell		SCC EAR	1	1	0
Duct Cell*		CONTRA. BREAST & BCC SKIN CHEEK	1	0	1
<b>BRAIN/CNS</b>			<b>4</b>	<b>1</b>	<b>3</b>
Astrocytoma		NEUROFIBROMATOSIS	1	0	1
Optic Glioma		NEUROFIBROMATOSIS	1	0	1
Schwannoma		CEREBRAL MENINGIOMA	1	1	0
Giant Cell Glioblastoma		FAMILIAL POLYPOSIS	1	0	1
<b>THYROID</b>			<b>3</b>	<b>1</b>	<b>2</b>
Papillary Carcinoma		ENDOMETRIUM	1	0	1
Immunoblastic Sarcoma		PAP. CA OF THYROID	1	0	1
Papillary Carcinoma		POLYCYTHEMIA	1	1	0
<b>LUNG</b>			<b>2</b>	<b>1</b>	<b>1</b>
Squamous Cell Carcinoma		SCC CERVIX	1	0	1
Squamous Cell Carcinoma		SCC CONJUNCTIVA	1	1	0
<b>PANCREAS</b>			<b>2</b>	<b>0</b>	<b>2</b>
Adenocarcinoma		CA TONGUE	1	0	1
Adenocarcinoma		CA NASOPHARYNX	1	0	1
<b>BONE MARROW</b>			<b>1</b>	<b>1</b>	<b>0</b>
Plasmacytoma		SCC GINGIVA			
<b>THYMUS</b>			<b>1</b>	<b>1</b>	<b>0</b>
Thymoma		RENAL CELL KIDNEY			
<b>VAGINA</b>			<b>1</b>	<b>0</b>	<b>1</b>
Squamous Cell Carcinoma		POLYCYTHEMIA			
<b>OVARY</b>			<b>1</b>	<b>0</b>	<b>1</b>
Adenocarcinoma		CA OF UTERUS			
<b>LIVER</b>			<b>1</b>	<b>0</b>	<b>1</b>
Hepatocellular Ca		CA BREAST			

COMMON BILE DUCT Adenocarcinoma	HEMANGIOMA LIVER	1	0	1
URINARY BLADDER Transitional Cell Carcinoma	ADENOCARCINOMA PROSTATE	1	1	0
ESOPHAGUS, MID 1/3 Squamous Cell Ca	ESOPHAGUS, LOWER 1/3	1	1	0

\* This patient presented with three primary tumors.

**FIGURE 14**  
 FREQUENCY OF 25 MOST COMMON MALIGNANCIES  
 OF 1987 (TOTAL CASES 2121)

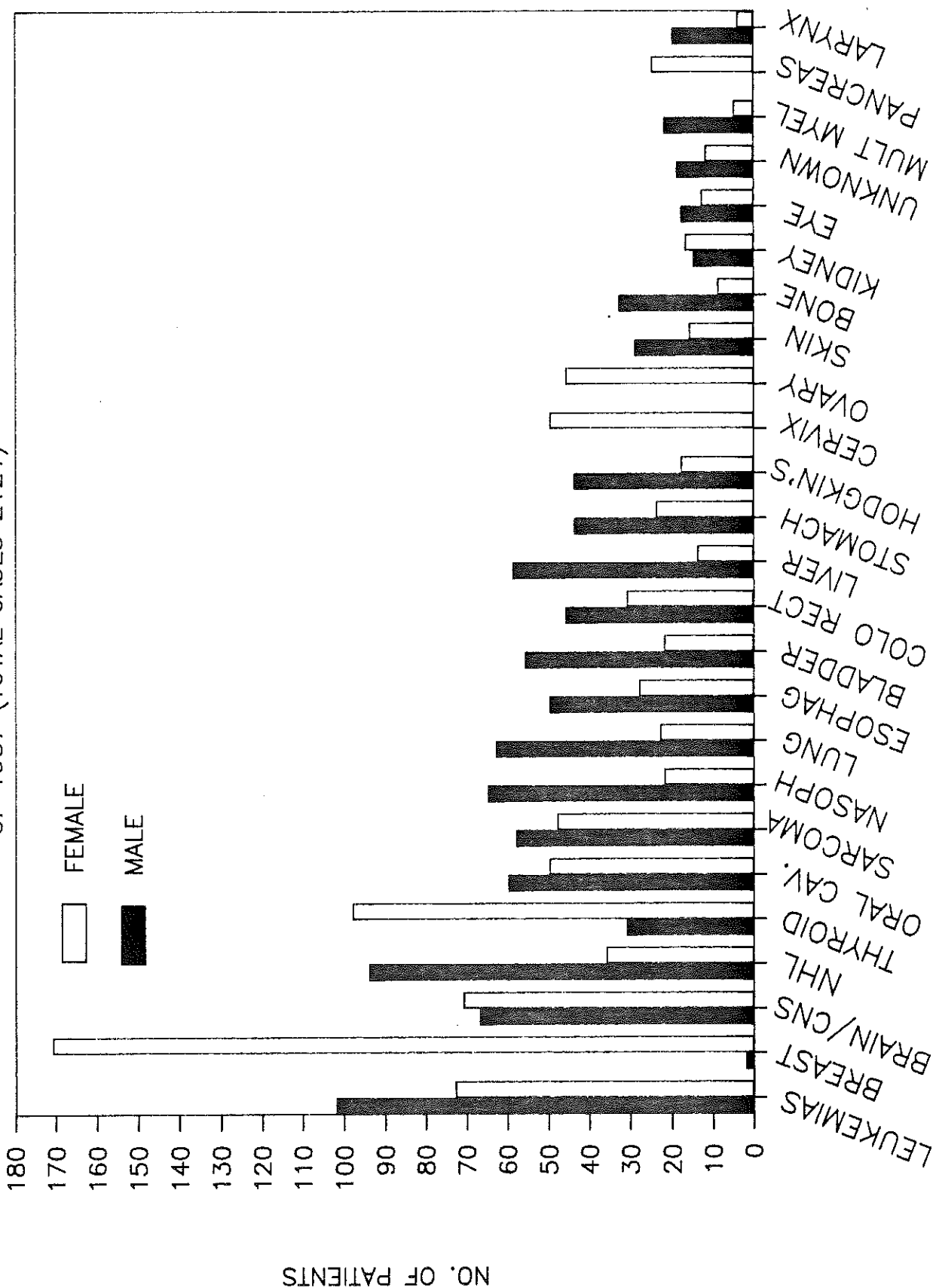


TABLE -5-

PRIMARY CANCER CASES IN TOTAL REFERRED TO KFSH BY AGE AND SITE  
FOR THE YEAR 1987  
FOR ALL NATIONALITIES

ICD-O	DESCRIPTION	AGE GROUPS																	TOTAL	
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84		85+
140-145,146,148-9	Oral Cavity	0	2	0	0	3	4	3	2	4	3	19	12	16	12	14	5	4	110	
147	Nasopharynx	0	0	2	6	5	3	3	6	11	14	14	7	6	3	3	0	2	87	
150	Esophagus	0	0	0	0	0	0	0	0	3	7	8	13	10	13	7	6	5	78	
151	Stomach	0	0	1	0	0	1	2	2	5	10	10	7	9	6	8	5	0	68	
153,154	Colon, Rectum	1	0	0	2	1	5	6	7	2	12	10	10	12	1	5	3	0	77	
155	Liver	1	0	0	0	0	0	2	3	2	8	14	11	12	8	5	4	1	73	
157	Pancreas	0	0	0	0	0	0	1	0	1	0	1	4	5	1	2	2	0	18	
152,156,158-9	Other GI	0	0	0	0	0	0	1	0	0	3	5	3	5	7	6	0	1	36	
161	Larynx	0	0	0	0	0	0	1	0	0	4	2	2	6	1	1	3	1	24	
162-163	Lung	0	0	0	0	0	0	0	4	3	2	8	10	8	17	7	9	0	86	
169(973)	Multiple Myeloma	18	17	9	6	5	5	2	2	1	1	4	5	6	1	2	1	0	27	
169(982)	Lymphoid Leukemia	5	7	5	7	8	6	3	7	4	6	1	10	4	3	4	1	0	87	
169(986)	Myeloid Leukemia	1	1	0	0	0	1	1	0	1	0	0	0	1	1	0	0	0	81	
169(980-1,983-5,987-94)	Other Leukemias	0	4	7	9	2	6	7	3	1	2	1	0	0	0	0	0	0	7	
170	Bone, Cartilage Sarcoma	23	10	4	8	9	3	6	12	1	7	6	7	3	4	2	1	0	106	
171	Soft Tissue Sarcoma	0	0	1	0	0	0	1	0	1	0	2	0	3	1	0	2	0	11	
172	Skin Melanoma	0	0	1	0	0	0	1	3	1	3	0	3	5	6	2	7	3	45	
173	Other Skin Cancer	0	0	1	0	0	1	14	18	26	28	31	17	9	12	6	2	1	173	
174-175	Breast	0	0	0	0	0	6	5	4	4	2	5	3	1	2	4	1	2	41	
179,181-2,184	Uterus, Genital	0	0	0	0	0	0	0	0	3	4	5	4	7	8	3	5	2	50	
180	Cervix	0	0	0	0	0	0	0	0	0	0	3	6	8	2	7	2	3	46	
183	Ovary	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	5	4	22	
185	Prostate	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	
186,187	Testis, Genital	3	1	1	0	0	0	4	3	3	5	0	0	0	0	1	0	0	78	
188	Bladder	5	4	0	1	0	0	0	0	5	3	9	8	5	8	11	8	10	32	
189	Kidney, Urinary	15	3	0	1	1	0	1	1	1	0	4	2	4	3	3	1	2	31	
190	Eye	14	15	13	15	8	9	8	9	8	7	10	11	8	3	10	3	1	138	
191-192	CNS	0	0	1	5	7	8	18	9	12	15	15	9	9	6	9	4	1	129	
193	Thyroid	6	2	2	4	5	2	4	0	1	2	1	0	0	0	1	0	0	30	
194	Other Endocrine	14	20	2	1	7	8	10	6	10	7	7	5	8	8	11	2	2	130	
196(959-64,969-72,974-5)	Non Hodgkin's Lymphoma	1	11	10	9	4	8	5	3	1	2	2	1	0	2	0	0	3	62	
196(965,966)	Hodgkin's Disease	0	0	0	0	0	1	0	2	2	1	1	4	6	8	2	3	0	31	
199	Primary Unknown	3	1	2	2	3	6	0	3	3	2	5	3	1	4	6	3	0	47	
All Others	*****	112	98	64	84	81	107	127	121	140	193	195	160	196	148	132	86	42	2121	
TOTALS																				

PRIMARY CANCER CASES IN MALE REFERRED TO KFSPH BY AGE AND SITE  
FOR THE YEAR 1987  
FOR ALL NATIONALITIES

ICD-O	DESCRIPTION	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	TOTAL
140-145,146,148-9	Oral Cavity	0	2	1	0	2	1	2	0	3	2	7	6	9	8	7	4	3	3	60
147	Nasopharynx	0	0	2	4	3	2	3	4	8	11	8	7	5	3	2	0	1	2	65
150	Esophagus	0	0	0	0	0	0	0	1	4	3	9	4	10	6	5	4	4	4	50
151	Stomach	0	0	0	0	0	0	1	0	3	3	9	3	7	6	4	0	2	2	44
153,154	Colon, Rectum	0	0	0	1	1	5	3	0	5	7	8	7	0	5	1	0	0	0	46
155	Liver	0	0	0	0	0	0	2	2	1	5	11	9	10	8	4	1	2	2	59
157	Pancreas	0	0	0	0	0	0	0	0	1	0	0	3	0	1	2	2	0	1	10
152,156,158-9	Other GI	0	0	0	0	1	0	1	0	3	3	1	3	3	2	0	2	1	1	21
161	Larynx	0	0	0	0	0	1	0	0	0	3	2	2	5	1	1	1	1	3	20
162-163	Lung	0	0	0	0	0	0	4	1	2	6	7	5	14	13	4	6	0	1	63
169(973)	Multiple Myeloma	0	0	0	0	0	1	0	0	3	4	6	1	0	4	0	2	1	0	22
169(982)	Lymphoid Leukemia	10	9	6	3	3	4	4	2	1	1	1	3	1	3	2	1	0	0	55
169(986)	Myeloid Leukemia	4	3	3	5	5	3	1	4	1	3	0	6	2	2	1	0	0	0	43
169(980-1,983-5,987-94)	Other Leukemias	1	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	4
170	Bone, Cartilage Sarcoma	0	3	5	7	0	6	7	2	1	1	1	0	0	1	0	0	0	0	33
171	Soft Tissue Sarcoma	14	4	2	7	6	0	3	5	1	2	2	5	2	2	2	1	0	0	58
172	Skin Melanoma	0	0	1	0	0	0	0	0	1	0	2	0	0	1	0	1	0	0	6
173	Other Skin Cancer	0	0	1	0	0	0	1	1	2	0	2	4	4	1	6	1	3	3	29
174-175	Breast	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
179,181-2,184	Uterus, Genital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	Cervix	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183	Ovary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
185	Prostate	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	5	4	2	22
186,187	Testis, Genital	2	0	0	0	0	4	3	3	5	0	0	0	0	0	1	0	0	0	18
188	Bladder	2	1	1	0	0	0	4	1	6	6	4	6	6	5	6	8	5	1	56
189	Kidney, Urinary	3	2	0	1	0	0	1	0	2	0	1	2	2	1	0	0	1	0	15
190	Eye	7	3	0	1	0	0	0	0	1	1	0	1	1	0	2	0	1	0	18
191-192	CNS	8	7	9	8	5	4	1	2	4	5	3	2	3	3	3	1	2	0	67
193	Thyroid	0	0	0	0	2	0	3	3	3	6	0	3	4	3	2	2	0	0	31
194	Other Endocrine	3	2	1	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	15
196(959-64,969-72,974-5)	Non Hodgkin's Lymphoma	9	17	2	1	3	7	8	1	9	3	6	4	4	6	8	2	2	2	94
196(965,966)	Hodgkin's Disease	1	9	6	5	2	6	3	2	1	2	2	1	0	1	0	0	3	0	44
199	Primary Unknown	0	0	0	0	0	0	0	2	1	0	1	0	5	6	1	2	0	1	19
*****		1	0	1	1	2	3	0	2	3	0	4	2	1	4	5	3	0	0	32
All Others		65	63	41	46	37	48	51	44	62	79	93	95	104	99	80	58	29	27	1121
TOTALS																				

Date Of Report : 25-APR-88

TABLE -7-

PRIMARY CANCER CASES IN FEMALE REFERRED TO KFSH BY AGE AND SITE  
FOR THE YEAR 1987  
FOR ALL NATIONALITIES

ICD-O	DESCRIPTION	AGE																	TOTAL	
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84		85+
140-145,146,148-9	Oral Cavity	0	0	1	0	1	3	1	2	1	1	12	6	7	4	7	1	2	1	50
147	Nasopharynx	0	0	0	2	2	1	0	2	3	3	6	0	1	0	1	0	1	0	22
150	Esophagus	0	0	0	0	0	0	0	0	2	3	5	4	6	3	1	1	2	1	28
151	Stomach	0	0	1	0	0	1	1	2	2	7	1	4	2	0	2	1	0	0	24
153,154	Colon, Rectum	1	0	0	1	0	0	3	4	2	7	3	2	5	1	0	2	0	0	31
155	Liver	1	0	0	0	0	0	0	1	1	3	3	2	2	0	1	0	0	14	
157	Pancreas	0	0	0	0	0	0	1	0	0	0	1	1	5	0	0	0	0	8	
152,156,158-9	Other GI	0	0	0	0	0	0	0	0	0	2	2	2	4	0	0	0	0	15	
161	Larynx	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	4	
162-163	Lung	0	0	0	0	0	0	0	0	2	3	3	3	3	4	3	3	0	23	
169(973)	Multiple Myeloma	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	5	
169(982)	Lymphoid Leukemia	8	8	3	3	2	1	1	0	1	0	0	1	1	1	0	0	0	32	
169(986)	Myeloid Leukemia	1	4	2	2	3	3	2	3	3	3	1	4	2	1	3	1	0	38	
169(980-1,983-5,987-94)	Other Leukemias	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	3	
170	Bone, Cartilage Sarcoma	0	1	2	2	2	0	1	0	1	0	0	0	0	0	0	0	0	9	
171	Soft Tissue Sarcoma	9	6	2	1	3	3	3	7	0	5	4	2	1	2	0	0	0	48	
172	Skin Melanoma	0	0	0	0	0	0	1	0	0	0	0	0	3	0	0	1	0	5	
173	Other Skin Cancer	0	0	0	0	0	0	0	0	1	0	1	1	2	1	1	2	3	16	
174-175	Breast	0	0	0	0	1	14	18	26	28	31	17	9	11	6	6	2	1	171	
179,181-2,184	Uterus, Genital	0	0	0	6	5	4	4	2	5	3	1	2	4	1	2	0	2	41	
180	Cervix	0	0	0	0	0	3	4	5	4	7	8	3	5	2	5	4	0	50	
183	Ovary	0	0	1	2	5	2	4	0	3	6	8	2	7	2	3	0	1	46	
185	Prostate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
186,187	Testis, Genital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
188	Bladder	1	0	0	0	0	0	0	0	1	2	3	2	1	2	6	2	2	22	
189	Kidney, Urinary	2	2	0	0	0	1	1	0	0	2	2	3	1	1	0	2	0	17	
190	Eye	8	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	1	13	
191-192	CNS	6	8	4	7	3	5	7	5	6	6	5	1	7	0	0	0	1	71	
193	Thyroid	0	0	1	5	5	8	15	6	9	9	15	6	5	3	7	2	1	98	
194	Other Endocrine	3	0	1	2	3	1	3	0	0	1	0	0	0	1	0	0	0	15	
196(959-64,969-72,974-5)	Non Hodgkin's Lymphoma	5	3	0	0	4	1	2	5	1	4	1	4	2	3	0	0	0	36	
196(965,966)	Hodgkin's Disease	0	2	4	4	2	2	2	1	0	0	0	0	1	0	0	0	0	18	
199	Primary Unknown	0	0	0	0	0	1	0	0	1	1	0	4	1	2	1	0	0	12	
ALL Others	*****	2	1	1	1	1	3	0	1	0	2	1	1	0	1	0	0	0	15	
TOTALS	TOTALS ARE	47	35	23	38	44	59	76	77	78	114	102	65	92	49	52	28	13	1000	



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**STAGE OF DISEASE AT DIAGNOSIS**

Stage in any malignant process may be defined as the particular step, phase, or extent in a tumor's development which predicts the ultimate outcome for the patient and his disease. The microscopic appearance, extent, and biological behavior of a tumor as well as host factors play a part in prognosis and are therefore important in staging.

The SEER (Surveillance, Epidemiology, and End Results) Summary Staging Guide was utilized for all stageable cases. This system summarizes the disease categories into three general staging groups (i.e. localized, regional, and distant). Stage categories are based on a combination of clinical observations and operative-pathological evaluation. The priority order is pathological, operative, clinical.

**Summary Staging Definitions:**

**IN SITU:** Intraepithelial, noninvasive, noninfiltrating

**LOCALIZED:** Within organ

- a. Invasive cancer confined to the organ of origin
- b. Intraluminal extension where specified

**REGIONAL:** Beyond the organ of origin

- a. By direct extension to adjacent organs/tissues
- b. To regional lymph nodes
- c. Both (a) and (b)

**DISTANT:** Direct extension or metastasis

- a. Direct continuity to organs other than above
- b. Discontinuous metastasis
- c. To distant lymph nodes

In addition to the SEER Summary Stage, if a physician utilizes the AJCC (TNM) Staging System or a site-specific staging system (for example FIGO, Dukes, etc.) this is also recorded in the patient record.

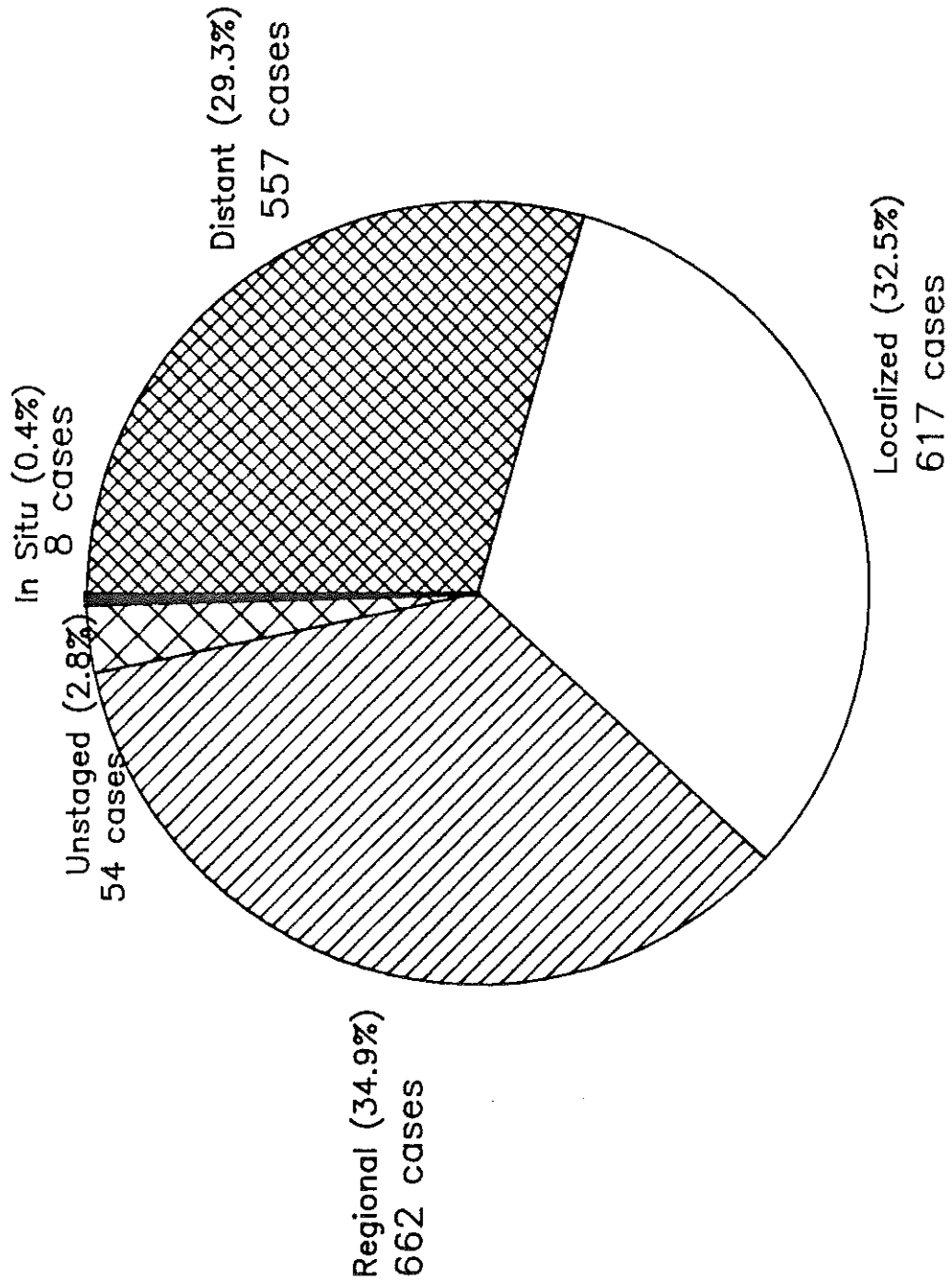
TABLE -8-

STAGE AT DIAGNOSIS BY PRIMARY SITE CODE  
SEER SUMMARY STAGE

ICD-O	DESCRIPTION	IN-SITU LOCAL		DIRX	REGIONAL		NOS	DIST	UNSTG	TOTAL
					LN	BOTH				
140-145,146,148-9	Oral Cavity	0	29	19	18	25	0	15	4	110
147	Nasopharynx	0	5	6	36	7	0	31	2	87
150	Esophagus	0	30	13	8	5	0	20	2	78
151	Stomach	0	10	10	9	14	0	24	1	68
153,154	Colon, Rectum	1	24	7	8	11	0	23	3	77
155	Liver	0	34	13	2	2	0	20	2	73
157	Pancreas	0	1	8	1	5	0	3	0	18
152,156,158-9	Other GI	0	7	7	3	3	0	13	3	36
161	Larynx	0	10	5	3	2	0	2	2	24
162-163	Lung	0	17	9	4	4	0	51	1	86
169(973)	Multiple Myeloma	0	0	0	0	0	0	27	0	27
169(982)	Lymphoid Leukemia	0	0	0	0	0	0	87	0	87
169(986)	Myeloid Leukemia	0	0	0	0	0	0	81	0	81
169(980-1,983-5,987-94)	Other Leukemias	0	0	0	0	0	0	7	0	7
170	Bone, Cartilage Sarcoma	0	21	9	1	0	0	11	0	42
171	Soft Tissue Sarcoma	0	58	20	2	3	0	19	4	106
172	Skin Melanoma	0	4	0	1	0	0	5	1	11
173	Other Skin Cancer	0	26	1	0	1	0	13	4	45
174-175	Breast	3	29	10	67	30	0	26	8	173
179,181-2,184	Uterus, Genital	1	16	7	3	0	0	12	2	41
180	Cervix	3	9	25	1	1	0	9	2	50
183	Ovary	0	12	5	0	0	0	29	0	46
185	Prostate	0	10	1	1	0	0	9	1	22
186,187	Testis, Genital	0	6	2	1	0	0	9	0	18
188	Bladder	0	33	21	1	3	0	18	2	78
189	Kidney, Urinary	0	14	5	0	1	0	12	0	32
190	Eye	0	9	11	1	1	0	10	0	31
191-192	CNS	0	97	34	1	1	0	4	1	138
193	Thyroid	0	60	14	26	9	0	18	2	129
194	Other Endocrine	0	20	6	0	0	0	3	1	30
196(959-64,969-72,974-5)	Non Hodgkin's Lymphoma	0	9	8	22	10	0	81	0	130
196(965,966)	Hodgkin's Disease	0	7	2	17	0	0	35	1	62
199	Primary Unknown	0	0	0	0	0	0	26	5	31
All Others	*****	0	10	8	1	1	0	27	0	47
TOTALS		8	617	286	238	138	0	780	54	2121

# FIGURE 15

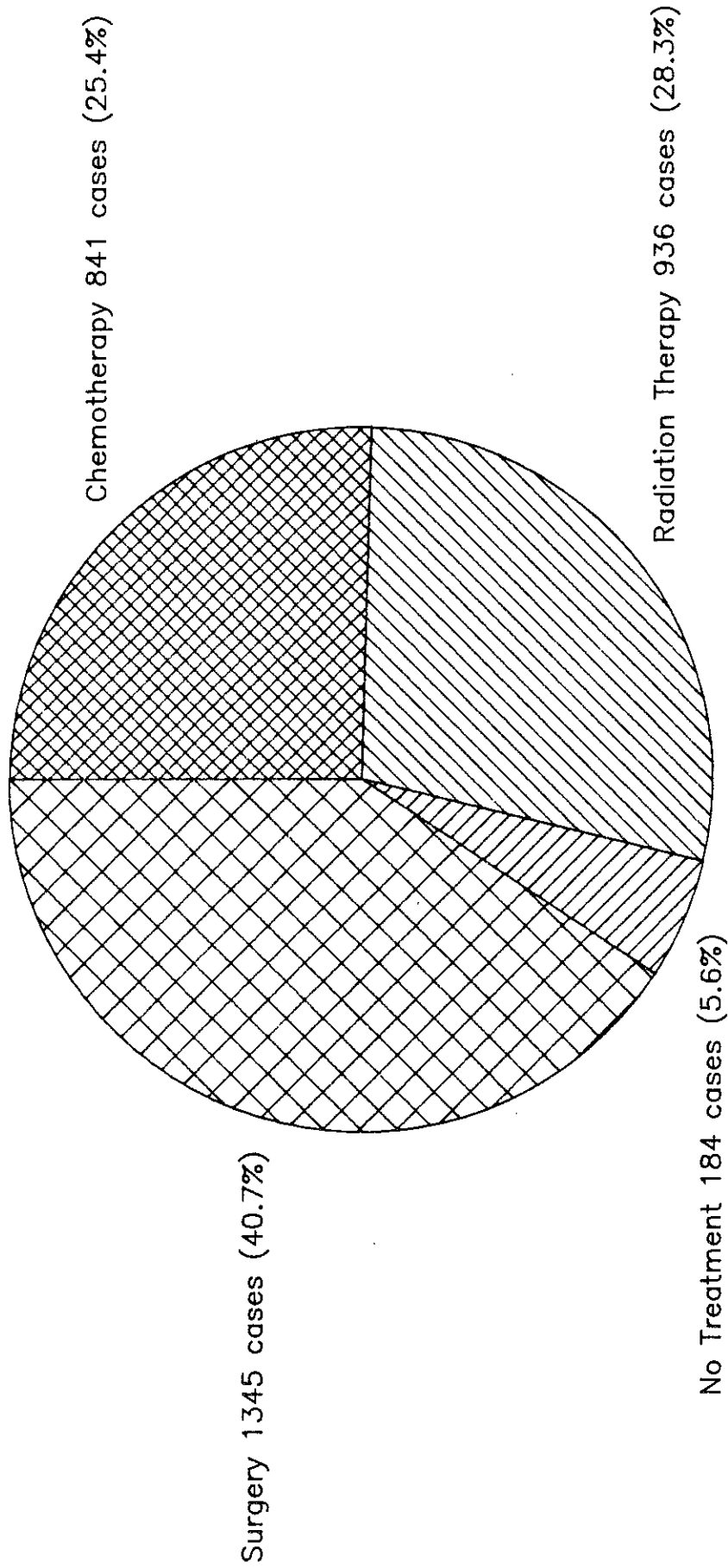
1987 DISTRIBUTION BY STAGE AT DIAGNOSIS BASED ON 1898 CASES



\* Excludes Leukemias and Multiple Myeloma Cases (223 Patients)

# FIGURE 16

FIRST COURSE OF TREATMENT\*— 2121 PATIENTS (Singly or in Combination)



\* Initial tumor-directed treatment initiated within four months after diagnosis.

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## V. ADMINISTRATIVE REPORT

Total hospital patient discharges have shown a steady increase over the past four years. In 1984 total discharges were 9678, 1985 equaled 10503, in 1986 hospital discharges were 12336, and 1987 the number rose to 13752.

Total cancer patient discharges also showed an increase: 1984 equaled 1267 discharges (13.1%), 1985 1436 discharges (13.7%), 1986 1796 (14.6%), and 1987 2131 (15.5%). Patient discharges with a diagnosis of cancer make up the largest single grouping of patients of any disease category.

Not only are the neoplastic diseases the most frequent diagnosis but the average length of stay (ALOS) for these patients is considerable. In 1986, the ALOS for patients with leukemia was 40.15 days. Other malignant diseases had an ALOS of: Esophagus - 23.44; Bladder - 22.76; Uterus/Cervix - 17.87; Lymphoma - 16.84; and Lung - 15.02 days. Whereas in 1987, the average length of stay for all patients combined was 10.7 days.

## APPENDIX A

## 1987 SPECIAL STUDY REQUESTS FROM TUMOR REGISTRY DATA

January	
Number of Cases of ALL, AML, CLL, CML, HD, NHL	Dr. S. El-Akkad
Patients with Cancer of the Tongue	Dr. L. Andreasson
Lymphomas, Malignant Histiocytosis, CLL	Dr. M. Amer
Patients with Retinoblastoma	Dr. B. Clubb
Patients Referred since Nov. 1985 with AML	Mr. R. Faskin
February	
Adult ALL Patients	Mr. R. Faskin
March	
Patients with CLL	Dr. D. Spence
April	
Patients with Lymphoma of the Thyroid	Drs. Amer & Woodhouse
Patients with CML	Dr. A. Padmos
Patients with Cancer of the Breast	Dr. D. Booser
May	
Histiocytosis X in Children Under 15 yrs	Dr. I. Al-Mulhim
Cancer of the Uterine Cervix	Dr. M. El-Senoussi
AML Patients over 12 yrs (1986-present)	Dr. D. Spence
Testicular Carcinoma Abstracts	Dr. N. Bissada
June	
Thyroid Cancer Patients	Drs. Hearn & Woodhouse
Ovarian Cancer 1982 to Present	Dr. D. Booser
1986 Annual Report Statistics	Ms. S. Willoughby
July	
Patients Referred from KKESH Dx with Cancer	Dr. F. Jabbar
Esophageal Cancer (1984 - 1986)	Dr. H. Watts
Retinoblastoma - 1982 to 1986	Dr. R. Sabbah
August	
Rhabdomyosarcoma Patients	Dr. B. Clubb
Multiple Myeloma Cases	Dr. H. CLink
Leukemia Patients (All Years)	Ms. L. Timillar
September	
Tumors of the Orbit	Dr. B. Clubb
Patients with Cervical Cancer	Dr. M. El-Senoussi
October	
Tumors of the Jaw	Dr. A. Ali
Osteosarcomas & Giant Cell Tumors of Bone	Dr. R. Rooney

## APPENDIX A - con't

## 1987 SPECIAL STUDY REQUESTS FROM TUMOR REGISTRY DATA

## November

Medulloblastoma Cases from 1976 to 1986  
NHL and HD Patients by Age at Dx  
Gynecological Cancers (All Years)  
NHL Patients Under Age 15 (1984-1986)

Dr. M. El-Senoussi  
Dr. S. El-Akkad  
Dr. E. Mahboubi  
Dr. R. Sabbah

## December

Summary Reports/Malignant Lymphoma Listings  
Osteogenic Sarcoma 1975 - Present

Dr. M. Amer  
Dr. R. Rooney

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**APPENDIX B****1987 TUMOR COMMITTEE MEMBERS**

S. El Akkad, M.D., Radiation Oncology  
    A. Ali, M.D., Pathology  
    J. Atwood, A.R.T., Tumor Registry  
Y. Bakri, M.D., Obstetrics & Gynecology  
    A. Bedikian, M.D., Medical Oncology \*  
M. Hannan, Ph.D., B&MR Research Centre  
    M. Al Jalahma, Social Services  
E. Mahboubi, M.D., B&MR Research Centre  
P. Pederson, MD., Obstetrics & Gynecology  
R. Phillips, Ph.D., BS&SC Research Centre  
    R. Rooney, M.D., Surgery  
    J.O. Sieck, M.D., Medicine  
S. Skillicorn, M.D., Quality Assurance  
S. Willoughby, C.T.R., Tumor Registry

\* Tumor Committee Chairman



## APPENDIX C

SUMMARY OF CASES PRESENTED  
KFSH TUMOR BOARD - 1987

SITE	NO.
<b>SARCOMA</b>	<b>15</b>
Rhabdomyosarcoma	5
Fibrosarcoma	2
Liposarcoma	1
Clear Cell Sarcoma	1
Fibrous Histiocytoma	1
All Other Sarcomas	5
<b>NON-HODGKIN'S LYMPHOMA</b>	<b>6</b>
<b>HODGKIN'S DISEASE</b>	<b>8</b>
<b>GYNECOLOGICAL</b>	<b>5</b>
Cervix	3
Ovary	1
Placenta (Choriocarcinoma)	1
<b>GENITO/URINARY SYSTEM</b>	<b>6</b>
Kidney	4
Wilms' Tumor	1
Bladder	1
<b>HEMATOPOIETIC &amp; RETICULOENDO. SYSTEM</b>	<b>1</b>
Acute Lymphoid Leukemia	
<b>BONE</b>	<b>8</b>
Ewing's Sarcoma	4
Osteosarcoma	2
Chondrosarcoma	2
<b>BREAST</b>	<b>3</b>
<b>ENDOCRINE GLANDS</b>	<b>2</b>
<b>SKIN</b>	<b>2</b>
<b>LIVER</b>	<b>1</b>
<b>NASAL CAVITIES</b>	<b>1</b>
<b>EYE</b>	<b>1</b>
<b>TRACHEA</b>	<b>1</b>
<b>ORAL CAVITY</b>	<b>1</b>
<b>CONNECTIVE TISSUE</b>	<b>1</b>
<b>NERVOUS SYSTEM</b>	<b>1</b>

\*Tumor Board Moderator: Dr. B. Clubb

## APPENDIX D

## 1987 SUMMARY OF TUMOR CONFERENCE TOPICS

04 January	Case Presentation B-Cell Lymphoma/ Leukemia	Dr. R. Aur
	Case Presentation Hyponatremia & Convulsion in Arrhenoblastoma Pat.	Dr. M. Amer
25 January	Clear Cell Sarcoma of Kidneys	Dr. K. Sackey
01 February	Retinoblastoma	Dr. B. Clubb
15 February	Anaplastic Thyroid Carcinoma	Dr. S. Ingemansson
22 February	Oral Pathology	Dr. J. Jordan (Visiting Prof)
22 March	Esophageal Cancer	Dr. T. Amin
29 March	Small Cell Lung Cancer	Dr. H. Schultz
	Auto Transplantation in AML	Dr. D. Spence
05 April	Infection in Immunocompromised Pat	Dr. D. Durack (Visiting Prof)
19 April	Prophylactic Oophorectomy Ca Ovary	Dr. H. Grundsell
	Laser Therapy for Cervical Dysp.	Dr. Y. Bakri
26 April	Clinical Trials in Fast Neutron Tx	Dr. G. Laramore
07 June	Chemo. Tx and Patient Understand.	Ms. Y. Robinson
21 June	Cytotoxic Drug Resistance in AML	Dr. R. Seshadri
28 June	Gene Transfection ID Oncogenes	Dr. B. Stringer
05 July	Autologous & Allogeneic Grafting in NHL, EBMT Experience	Dr. P. Ernst
16 August	Autologous BMT in Acute Leukemia	Dr. P. Ernst
23 August	HLA and Disease Association	Dr. Sheth
30 August	Case Presentation Bilat. Renal Lymphoma or Acute Leukemia	Drs. Abutalib & Sackey
06 September	Case Presentation Pulmonary Infiltr. of ?Etiology in HD Patient	Dr. A. Bedikian
13 September	Case Presentation Breast Ca Dx	Dr. M. Akhtar
27 September	Case Presentation Dysgenetic Gonad.	Dr. Y. Bakri
04 October	Comb. Chemo for ALL Children	Dr. R. Aur
18 October	Bilat. Wilms' Tumor/Nephroblast.	Drs. Sackey & Akhtar
25 October	ALL in Jeddah Children	Dr. M. Radford
01 November	Hepatocellular Carcinoma	Dr. J. Sieck
15 November	Consequences of HIV Infect. in Hemophiliacs	Dr. H. Harfi
22 November	Osteointegration	Dr. Lekholm (Visiting Prof)
29 November	Parathyroid & Hyperplasia Cal. Met	Dr. N. Woodhouse
06 December	Radiation Tx in Hodgkin's Dis.	Dr. S. El-Akkad

Tumor Conference Moderators: Dr. H. Clink & Dr. A. Padmos

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**VI. GLOSSARY OF TERMS**

**Accessioned:** Patients are entered into the Tumor Registry by the year in which they were first seen at KFSH&RC for each primary cancer.

**Age of Patient:** Recorded in completed years at the time of diagnosis for analytic cases. For nonanalytic cases, it is reported at age first entered into the Tumor Registry.

**Analytic Cases:** Cases which were first diagnosed and/or received all or part of their first course of treatment at KFSH&RC.

**Nonanalytic Cases:** Cases diagnosed elsewhere and receiving all of their first course of treatment elsewhere.

**Stage of Disease:** Determined at the time of the first course of treatment.

**In Situ:** Tumor meets all microscopic criteria for malignancy except invasion.

**Local:** Tumor is confined to organ of origin.

**Regional:** Tumor has spread by direct extension to immediately adjacent organs and appears to have spread no further.

**Distant:** Tumor has spread beyond immediately adjacent organs or tissues by direct extension and/or has either developed secondary or metastatic tumors, metastasized to distant lymph nodes or has been determined to be systemic in origin.

**Unknown:** Tumor is said to be unknown when the stage cannot be determined by the medical record or a medical authority.

**American Joint Committee on Cancer - TNM Staging:** A classification scheme based on the premise that cancers of similar histology or site of origin share similar patterns of growth and extension:

T+N+M = Stage

(T) tumor size

(N) node involvement

(M) distant metastases

**First Course of Treatment:** The initial tumor-directed treatment or series of treatments, usually initiated within four months after diagnosis.

**Crude Relative Frequency:** The proportion of a given cancer in relation to all cases in a clinical or pathological series.

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## VII. REFERENCES

1. "Reporting of Cancer Survival and End Results," **Manual for Staging of Cancer** , second edition, American Joint Committee on Cancer, Philadelphia, Lippincott, 1983.
2. **Summary Staging Guide** , SEER Program, U.S. Department of Health Services, National Institutes of Health, Publication No. (NHI)77-1448, Washington, 1977.
3. **Cancer Patient Survival: SEER Program, 1973-1979** , JNCI, Vol. 70, No. 4, April 1983.
4. **Third National Cancer Survey** , NCI Monograph No. 41. DHEW Publication, 1975.
5. **Cancer Incidence in Five Continents** , Vol. IV, Lyon, France: IARC Scientific Publication No. 42, 1982.
6. **Clinical Oncology, A Multidisciplinary Approach** , 6th Edition, American Cancer Society, 1983.
7. "Pattern of Cancer in Saudi Arabs Referred to King Faisal Specialist Hospital," El-Akkad, et al, **Cancer** , 58:1172-1178. 1 Sept 1986.

