

**2009 Annual Report for
Shands at the University of
Florida**
with statistical data from 2008

University of Florida
Shands Cancer Center

Message from the Shands at the University of Florida Hospital Cancer Committee Chairman

Robert DeW Marsh, MD - Chair
Shands at UF Cancer Committee,
UF College of Medicine associate professor
in the Department of Hematology/Oncology

The University of Florida Shands Cancer Center (UFSCC) is an interdisciplinary initiative at the UF Health Science Center's Gainesville and Jacksonville campuses, Shands at UF in Gainesville, and Shands Jacksonville. University of Florida clinicians and scientists perform original scientific research and enhance clinical strategies for the diagnosis, treatment and prevention of cancer.

The Shands at UF Cancer Committee is a group of dedicated physicians, nurses and support personnel committed to both the care and treatment of patients. This committee provides the many diverse groups involved in patient-centered cancer care the opportunity to interact, coordinate efforts and establish and maintain the highest quality of service. Meeting quarterly, the committee's goals continue to be that of auditing patient care, assuring the breadth and depth of educational programs, tumor conferences and other clinical activities, ensuring patient access to consultative services in all disciplines and providing oversight and quality control of data from the Oncology Data Center.

The success of the UFSCC and Shands at UF Cancer Program this past year was strengthened by many achievements, which include the following:

2009 Achievements

- Opened Shands Cancer Hospital at UF
- Dedicated a historical marker for Wilmot Gardens, adjacent to the Davis Cancer Pavilion. It is being restored as a space for healing.
- Received \$21 million Jerry and Judith Davis donation to UF Shands Cancer Center
- Received \$30,000 American Cancer Society Chris DiMarco Institutional Research Grant
- Received \$26 million NIH Clinical and Translational Science Award to speed transformation of scientific discoveries into medical advances for patients.
- Received \$850,000 Centers for Disease Control and Prevention grant to provide screening and care for colorectal cancer
- Received \$2 million National Institute for Dental and Craniofacial Research grant to improve research efforts at UF's College of Dentistry
- Received \$50,000 from the UF Medical Guild for the Shands Cancer Hospital Garden of Hope
- Received \$150,000 by Stop! Children's Cancer Inc for research studies focusing on leukemia, glioblastoma and neuroblastoma
- Renovated the Shands Children's Surgical Center, in the Ayers Medical Plaza, with funding by a \$238,000 Children's Miracle Network grant
- Recognized as a center of excellence for myelodysplastic syndrome cancers by the Myelodysplastic Syndrome Foundation, who acknowledges outstanding research efforts as well as superior clinical care for patients. With this designation, Shands at UF becomes one of 59 centers of excellence in the U.S. recognized by the foundation.
- Awarded prestigious 2009 Dennis W. Jahnigen Scholar Award with Evidence-based Geriatric Genitourinary Oncology study proposal to Dr. Philipp Dahm
- Awarded five-year accreditation to the College of Public Health and Health Professions as a school of public health by the Council on Education for Public Health, joining only 41 U.S. universities receiving this recognition
- Ranked in seven specialties in the 2009 edition of America's Best Hospitals, published by U.S. News & World Report
- Recognized by the National Research Corporation as one of its 2009/2010 Consumer Choice Award winners
- Awarded Shands at the University of Florida Medical/Surgical Oncology and Shands Rehab Hospital the Professional Research Consultants (PRC) prestigious Top Performer Award, compared internally and with more than 1,800 hospitals throughout the country, and given to facilities or units receiving the highest scores for Overall Quality of Care on the PRC survey.
- Awarded UF Shands Eastside Community Practice the Eastside Business of the Year by the East Gainesville Development Corporation
- Named Dr. Paul Okunieff as UFSCC director and chair of the College of Medicine's department of radiation oncology
- Appointed Dr. Steven Hochwald as a Florida Cancer Liaison state chair by the American College of Surgeons' Commission on Cancer, a consortium of professional organizations dedicated to improving survival and quality of life for cancer patients
- Launched effort to increase health care opportunities for the East Gainesville community through the UF Shands Eastside Community Practice Clinic (e.g. teamed with the department of urology to raise prostate cancer awareness by taking the message to community ministers and barbershops)
- Formed the North Central Florida Cancer Coalition (NCFCC), to confront the high incidence and mortality rates associated with cancer in North Central Florida
- Provided free oral cancer screening at Shands at the University of Florida, and information on oral, head and neck cancers, smoking cessation and Chantix
- Banned tobacco use at the UF Health Science Center and Shands HealthCare
- Teamed with the state Department of Health, Governor Crist, and other agencies, developing a website to help improve physical fitness in children (www.governorsfitnesschallenge.com)
- Combined Ayers Imaging Center's Mammography Services with Park Avenue Imaging Center
- Began weekly multidisciplinary GI Oncology clinic
- Began offering aquatic therapy at Magnolia Park facility
- Began production of Bioguard, developed at UF for fighting microbial agents of disease

- Established an Infusion Center Integration Committee
- Established an American Cancer Society office in the Davis Cancer Center
- Presented kidney cancer and staging talk at Medicine Grand Rounds
- Improved Infusion Center medication reconciliation process
- Implemented electronic scheduling in the infusion center
- Improved system for obtaining previous chemotherapy orders and consents
- Improved ED wait time process for neutropenic patients
- Added two cancer-related topics to Shands HealthCasts, available free on Shands.org and iTunes, featuring University of Florida College of Medicine faculty and programs and services at Shands HealthCare (i.e. Pediatric Brain Tumors with Amy Smith, MD, and David Pincus, MD; Shands Cancer Hospital at UF Garden of Hope with Marilyn Tubbs)
- Launched Shands Stories on Shands.org, a collection of stories from the Shands HealthCare system detailing patients, University of Florida faculty and community physicians and Shands employees who make our healthcare system unique
- Co-hosted, with H. Lee Moffitt Cancer Center and Research Institute, the 'Regulatory Myeloid Suppressor Cells in Health and Disease' symposium
- Co-hosted Triple-Negative Breast Cancer Foundation's (TNBC) NuNu 5K Race/Walk
- Hosted the 39th Annual Radiation Oncology Outcomes Tracking Seminar
- Hosted Urology CME Seminar Series: Quality of Care Initiatives in Urology
- Reviewed site-specific cancer program practice profile reports (CP3R) for breast and colorectal cancers
- Reviewed extranodal nasal type NK/T-cell lymphoma outcomes
- Published and/or reported findings of numerous research studies, including:
 - Cancer Microenvironment and Therapeutic Implications, textbook co-edited by Christopher Cogle, MD, UF assistant professor of medicine
 - Journal of Magnetic Resonance Imaging: Loss of a key part of a normal node's structure, the fatty hilum, more accurately signals the spread of breast cancer
 - Cancer Research: Targeting cancer cells through protein binding to tumor endothelial marker 8 (TEM8)
 - Cancer Research: Tumors grown in mice using cells from inflamed but noncancerous human colon tissue sheds new light on colon cancer and how it might be prevented
 - Nature Genetics: Multicenter research team identified a genetic glitch possibly leading to development of neuroblastoma
 - Nature Genetics: Multicenter research team discovered two genetic variations linked to an increased risk for acute lymphoblastic leukemia (ALL)
- Participated in American Cancer Society's Relay for Life
- Participated in American Cancer Society's Making Strides Against Breast Cancer Walk
- Participated in Ironwood Golf Course prostate cancer event
- Participated in Cattle Baron's Ball at Town of Tioga Village Center
- Hosted Triple-Negative gala
- Hosted breast symposium at the Villages
- Hosted GI symposium at the Villages
- Hosted multi-purpose presentation at the Villages, raising awareness of Shands at UF's multi-disciplinary care, research, future cancer care, and personalized medicine
- Hosted GU physician outreach presentation
- Hosted on-going public education forums and initiatives:
- Women's Advantage - monthly seminars on women's health and lifestyle issues
- News&Notes - distributed to all Shands HealthCare employees
- Shands News - distributed to all Shands HealthCare and UF Health Science Center employees
- Health In A Heartbeat - two-minute health information segments on 72 national public radio stations in 21 states
- SUNNA Program targeting low income women
- Hospice Bereavement Support Group
- Heads-Up Brain Tumor Support Group
- American Cancer Society's Look Good - Feel Better monthly event
- Pet Therapy Program
- Arts In Medicine Program
- Improved patient satisfaction scores with services provided for:
 - Hematology Oncology clinic from 73% to 83% excellent rating
 - Radiation Oncology clinic from 79% to 92% excellent rating
 - Pediatric Infusion Center from 98% to 100% excellent rating
 - Infusion Center received 5-Start PRC patient satisfaction award for achieving > 90% excellent ratings for the year
 - Unit 11 Med/Surg received Top Performer PRC award for the highest rated unit in the nation
- Completed and distributed the Cancer Program annual report

2010 Goals

Many cancer program goals continue from year to year. The following lists some of the new, as well as ongoing, goals for the coming year:

- Expand the care coordinators for tumor groups in addition to Breast, GI, and GU
- Improve Cancer Committee involvement in cancer prevention and screening initiatives
- Improve AJCC clinical TNM staging compliance rate
- Improve parking services for cancer patients, including the potential for valet parking
- Continue to improve patient access and entry into UF & Shands cancer services

The committee welcomes suggestions for improving the care given to patients with cancer.



Robert DeW Marsh, MD

Shands at the University of Florida Oncology Data Center

The Oncology Data Center is an essential part of the hospital cancer program, functioning within the guidelines of the American College of Surgeons-Commission on Cancer (ACOS-COC) approvals program. The Oncology Data Center collects data on all cancer cases diagnosed and/or treated at Shands at the University of Florida in Gainesville.

Since Shands at UF opened in 1958, the Oncology Data Center has accrued more than 81,000 new cancer cases, making it one of the largest registries in the state of Florida. More than 2,700 cases are added each year. The revised 1998 reference date reflects a caseload of greater than 25,000, with more than 10,000 being followed annually.

The Oncology Data Center is fully computerized and provides data pertinent to the diagnosis, treatment and survival of patients with malignant and selected pre-malignant tumors. This information is available to medical staff, residents and medical students for research analysis, and to administration for statistical data reflecting the cancer experience at Shands at UF. The data may be used to:

- Identify cases meeting certain criteria for physicians and other investigators
- Provide follow-up information on cancer patients for evaluation of patient care, treatment, survival and early detection of recurrent disease
- Calculate survival rates by site, stage of disease, sex and other variables
- Analyze referral patterns of cancer patients to identify needs for future healthcare facilities

Requests for data are welcomed and should be directed to:

Shands at UF Oncology Data Center
PO Box 100342 • Gainesville Florida 32610-0342
(352) 265-0740 - phone • (352) 265-0748 - fax
or, delivered to the Oncology Data Center in the Shands Medical Plaza, first floor, room 1528

Data requests which include the need for patient identifying data (PID) require appropriate IRB approval documentation.

In addition to maintaining the hospital's oncology database, the Oncology Data Center participates in several external oncology-related activities including:

- The National Cancer Database (NCDB) – A joint venture of the ACOS-COC and the American Cancer Society (ACS), this database collects and analyzes longitudinal data regarding cancer patient care at the hospital, regional, state and national levels. Each year the Oncology Data Center submits data electronically in a format compatible with the national database.
- The American Cancer Society Facility Information Profile System (FIPS) – The ACS has established a national call center Web site to provide cancer patients, their families and the public with information about cancer. Included is hospital-specific information about the availability and quality of cancer care in local communities. A link is provided to each hospital's Web site. Updates to hospitals' services, statistical data and contact information are made as needed.
- The Florida Cancer Data System (FCDS) – Under Florida law, all healthcare facilities are required to submit incidence data on all cases of cancer treated at their sites. For patients seen at Shands at UF, the Oncology Data Center electronically reports all accessioned cases of cancer to the state on a monthly basis.
- The Florida Association of Pediatric Tumor Programs, Inc. (FAPTP) – The major hematology/oncology centers in Florida participate in the Statewide Patient Information Reporting System (SPIRS) registry of FAPTP. SPIRS provides the only statewide cancer registry focused on pediatrics.

Shands at the University of Florida 2009 Hospital Cancer Committee

Robert Allan, MD..... UF College of Medicine associate professor
in the department of Pathology
Suzanne Bird, RD, LD/NFood and Nutrition Services
Shirley Bloodworth, RN, BSN, MN.....Patient Advocate
Byron P. Croker, MD, PhD UF College of Medicine associate
professor in the department of Pathology
Nancy Dickson, RN, OCN, CPON.....Nursing
Erin McQ. Dunbar, MD... UF College of Medicine associate professor
in the department of Neuro-Oncology
Julie Ecker Hematology/Oncology
C. Parker Gibbs, MD UF College of Medicine associate professor
in the department of Orthopaedics
Kati Harlan, RN, MSN, LRHM Quality Management
Steven Hochwald, MD... UF College of Medicine associate professor
in the department of Surgery, Cancer Liaison Physicians
Laurie Johnson Information Services
Judith Lightsey, MD..... UF College of Medicine associate professor
in the department of Radiation Oncology
Stephen Lucas, MD UF College of Medicine associate professor
in the department of Anesthesiology
Robert DeW. Marsh, MD UF College of Medicine associate
professor in the department of Hematology/Oncology,
Cancer Committee Chair
Kevin McDonald, PTRehabilitative Services

Pat Mergo, MD UF College of Medicine associate professor
in the department of Radiology
Gigi Moore-Higgs, ARNP, PhD(c), AOCN UFSCC Clinical Trials Office
Linda S. Morgan, MDUF College of Medicine professor
in the department of Obstetrics and Gynecology, Oncology
Data Center Medical Director
Eric Padron, MD.....Medicine Residency Program
Nina Powell, LCSW ..Patient and Family Resources/Patient Services
Maryam Rahman, MD Neurosurgery Residency Program
Steve Ritz..... Administration/Radiation Oncology
Pamella Rollins, RHIA.. Health Information and Record Management
Margaret Shaw.....American Cancer Society
Donald Shook Administration/Operations
Joseph V. Simone, MD Director of the UF/Shands Cancer Center
Gale Smith, LCSW....Patient and Family Resources/Patient Services
James L. Talbert, MD..... UF College of Medicine professor emeritus
in the department of Surgery
Anne M. Tallent, CTR..... Oncology Data Center
Glenn E. Turner, DDS.....UF College of Dentistry associate professor
in the department of Prosthodontics
Helen Welsh, BSN, RN.....Nursing
Laura Wiggins, PharmD.....Pharmacy Services
Fong Wong, DDSUF College of Dentistry associate professor
in the department of Prosthodontics
Nichole Yucht.....Shands HealthCare Marketing and Public Relations

Narrative Summary of 2008 Data

The Shands at the University of Florida Oncology Data Center has analyzed data for all patients with reportable disease first seen at UF Shands Cancer Center between January 1, 2008 and December 31, 2008. During that time, 2,787 new cases were diagnosed and/or treated here as either inpatients, outpatients, or both. Of these cases, 2,295 were analytic (82%) meaning they received all or part of their first course of treatment at our facility. The remaining 492 cases (18%) were non-analytic, meaning patients were diagnosed and received their entire initial course of therapy elsewhere. The total new cases volume increased by 6% from 2007, and 10% for analytic cases. Increases were noted in many overall and analytic site groups, among them male genital (25% - overall, 29% - analytic) and urinary system (38% - overall, 29% - analytic). This is credited to the formation of the Genitourinary Oncology Center.

Top Sites

Increases were seen in numerous sites. Primary sites with the highest new cases volume overall were testis (45%), bladder (39%), kidney/renal (34%), bone (30%), multiple myeloma (25%), and

prostate (22%). Analytic cases with the highest new cases volume were testis (50%), bladder (29%), prostate (26%), and kidney/renal (26%), again, attributed to the establishment of the Genitourinary Oncology Center.

Service Area

Holding to our customary patterns, individuals from virtually every county in the State of Florida continued to seek care at the UF Shands Cancer Center. Individuals residing in counties of the North Central Florida and North East Florida areas comprised 49% (1,366) of the total new cases in 2008. This is an 8% increase from 2007. Figures from the top individual counties reflect the following: Alachua - 534 (19%), Marion - 307 (11%), Out-of-State - 176 (6%), Citrus - 134 (5%), and Lake - 132 (5%), with a combined 1,283 (54%).

Gender/Race/Ethnicity/Age

Cases for females totaled 1,204, or 43%. Cases for males totaled 1,583, or 57%. The female group increased by 3%, and the males increased by 9% from 2007 figures.

New Cancer Cases

KEY:

**These estimates are offered as a rough guide. They are calculated according to the distribution of estimated new cancer cases by state for the year 2009. These figures were obtained from the 2009 Cancer Facts & Figures, published by the American Cancer Society.*

Excludes basal and squamous cell skin cancers and in-situ carcinomas (except urinary bladder).

***Shands at UF's figures were obtained from the total number of accessioned cases at Shands at UF during 2008.*

United States, Florida, and Shands at the University of Florida

PRIMARY SITE	UNITED STATES*	FLORIDA*	SHANDS AT UF**
BREAST (FEMALE)	192,370 13.0%	12,650 12.4%	149 5.3%
LUNG/BRONCHUS	219,440 14.8%	17,790 17.4%	217 7.8%
PROSTATE	192,280 13.0%	12,380 12.1%	258 9.3%
COLORECTAL	146,970 9.9%	10,420 10.2%	143 5.1%
BLADDER	70,980 4.8%	5,490 5.4%	96 3.4%
NON-HODGKIN LYMPHOMA	65,980 4.5%	4,640 4.5%	116 4.2%
CORPUS UTERI	42,160 2.8%	2,590 2.5%	46 1.7%
MELANOMA	68,720 4.6%	4,920 4.8%	121 4.3%
LEUKEMIA	44,790 3.0%	3,180 3.1%	83 3.0%
CERVIX	11,270 0.8%	800 0.8%	18 0.6%
ALL OTHERS	424,390 28.7%	27,350 26.8%	1540 55.3%
TOTAL CASES	1,479,350 100%	102,210 100%	2787 100%

Top Sites: Reportable, Analytic Cases (AJCC/TNM Staging)

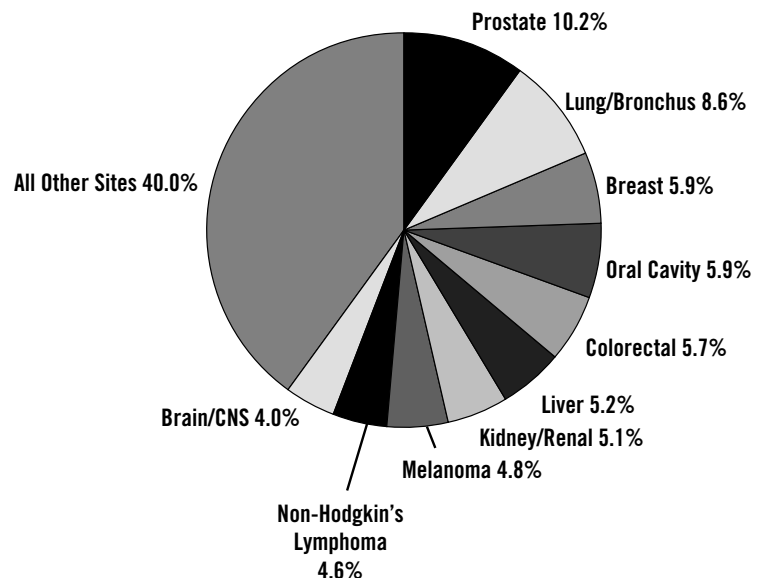
	TOTAL	0	I	II	III	IV	UNKNOWN	N/A
BRAIN/CNS	205	0	0	0	0	0	0	205
PROSTATE	202	0	1	151	29	19	2	0
LUNG/BRONCHUS	178	0	20	9	43	77	25	4
ORAL CAVITY	145	5	19	23	16	59	17	6
BREAST	133	30	49	28	12	8	6	0
TOTALS	863	35	89	211	100	163	50	215

Geographic Distribution by County

ALACHUA	534	HERNANDO	17	PASCO	12
BAKER	7	HIGHLANDS	4	PINELLAS	13
BAY	25	HILLSBOROUGH	18	POLK	19
BRADFORD	36	INDIAN RIVER	25	PUTNAM	72
BREVARD	99	JACKSON	12	ST. JOHNS	51
BROWARD	6	JEFFERSON	5	ST. LUCIE	32
CALHOUN	4	LAFAYETTE	5	SANTA ROSA	9
CHARLOTTE	8	LAKE	132	SARASOTA	16
CITRUS	134	LEE	18	SEMINOLE	25
CLAY	72	LEON	76	SUMTER	73
COLLIER	11	LEVY	86	SUWANNEE	55
COLUMBIA	102	LIBERTY	2	TAYLOR	5
DADE	2	MADISON	8	UNION	18
DIXIE	20	MANATEE	4	VOLUSIA	107
DUVAL	57	MARION	307	WAKULLA	13
ESCAMBIA	18	MARTIN	8	WALTON	9
FLAGLER	15	MONROE	1	WASHINGTON	6
FRANKLIN	6	NASSAU	7	OUT OF STATE	176
GADSDEN	8	OKALOOSA	24	OVERALL TOTALS	2787
GILCHRIST	36	OKEECHOBEE	9		
GULF	3	ORANGE	48		
HAMILTON	15	OSCEOLA	8		
HARDEE	1	PALM BEACH	32		

Ten Most Frequent Malignant Sites

SITE	COUNT
Prostate	258
Lung/Bronchus	217
Breast	149
Oral cavity	148
Colorectal	143
Liver	131
Kidney/Renal	129
Melanoma	121
Non-Hodgkin's Lymphoma	116
Brain/CNS	102
All other sites	1,010
Total	2,524



2008 Primary Site Table

Primary Site	Total	Percent (%)	Class		Sex	
			A	N/A	M	F
ALL SITES	2787	100	2295	492	1583	1204
ORAL CAVITY	154	5.5%	145	9	99	55
LIP	2	0.1%	2	0	0	2
TONGUE	53	1.9%	50	3	39	14
OROPHARYNX	4	0.1%	4	0	3	1
HYPOPHARYNX	3	0.1%	3	0	1	2
OTHER	92	3.3%	86	6	56	36
DIGESTIVE SYSTEM	530	19.0%	455	75	336	194
ESOPHAGUS	43	1.5%	36	7	35	8
STOMACH	32	1.1%	29	3	19	13
COLON	86	3.1%	53	33	55	31
RECTUM	57	2.0%	49	8	32	25
ANUS/ANAL CANAL	10	0.4%	8	2	0	10
LIVER	131	4.7%	118	13	109	22
PANCREAS	100	3.6%	95	5	48	52
OTHER	71	2.5%	67	4	38	33
RESPIRATORY SYSTEM	273	9.8%	225	48	156	117
NASAL/SINUS	9	0.3%	8	1	5	4
LARYNX	41	1.5%	35	6	36	15
LUNG/BRONCHUS	217	7.8%	178	39	120	97
OTHER	6	0.2%	4	2	5	1
BLOOD & BONE MARROW	146	5.2%	96	50	85	61
LEUKEMIA	83	3.0%	65	18	48	35
MULTIPLE MYELOMA	53	1.9%	26	27	30	23
OTHER	10	0.4%	5	5	7	3
BONE	54	1.9%	45	9	35	19
CONNECT/SOFT TISSUE	76	2.7%	65	11	41	35
SKIN	142	5.1%	127	15	94	48
MELANOMA	121	4.3%	108	13	75	46
OTHER	21	0.8%	19	2	19	2
BREAST	149	5.3%	133	16	0	149
FEMALE GENITAL	133	4.8%	120	13	0	133
CERVIX UTERI	18	0.6%	18	0	0	18
CORPUS UTERI	46	1.7%	45	1	0	46
OVARY	40	1.4%	29	11	0	40
VULVA	22	0.8%	22	0	0	22
OTHER	7	0.3%	6	1	0	7
MALE GENITAL	286	10.3%	226	60	286	0
PROSTATE	258	9.3%	202	56	258	0
TESTIS	20	0.7%	18	2	20	0
OTHER	8	0.3%	6	2	8	0
URINARY SYSTEM	232	8.3%	182	50	154	78
BLADDER	96	3.4%	73	23	72	24
KIDNEY/RENAL	129	4.6%	103	26	78	51
OTHER	7	0.3%	6	1	4	3
BRAIN & CNS	253	9.1%	205	48	119	134
BRAIN (BENIGN)	20	0.7%	13	7	13	7
BRAIN (MALIGNANT)	97	3.5%	82	15	59	38
OTHER	136	4.9%	110	26	47	89
ENDOCRINE	154	5.5%	122	32	60	94
THYROID	70	2.5%	54	16	19	51
OTHER	84	3.0%	68	16	41	43
LYMPHATIC SYSTEM	131	4.7%	84	47	80	51
HODGKIN'S DISEASE	15	0.5%	7	8	6	9
NON-HODGKIN'S	116	4.2%	77	39	74	42
UNKNOWN PRIMARY	50	1.8%	44	6	25	25
OTHER/ILL-DEFINED	24	0.9%	21	3	13	11

Number of cases excluded: 0 This report includes carcinoma in-situ cervix cases, squamous and basal cell skin cases, and intraepithelial neoplasia cases.

KEY:

Analytic = Cases diagnosed and/or receiving all or part of the initial course of therapy at the UF Shands Cancer Center

Non-Analytic = Cases diagnosed and/or receiving all of the first course of therapy elsewhere; cases initially diagnosed at autopsy

Patient Care Evaluation Study

Association of Tumor Biology and Neoadjuvant Therapy with Actual Five Year Survival in Esophageal Carcinoma

Tad Kim, MD, Stephen R Grobmyer, MD, Kfir Ben-David, MD, Stephen B Vogel, MD, Steven N Hochwald, MD

Synopsis

From 1984 to 2004, of 266 consecutive patients with invasive esophageal cancer who underwent curative intent esophageal resection, we identified 50 actual 5 year survivors and subsequently compared characteristics of the 5 year survivor group to those of the non 5 year survivors.

Abstract

Background:

Esophageal cancer in the United States carries a poor prognosis with overall 5 year survival rate of less than 10%.

Methods:

Single institution retrospective review of esophageal resections from 1984 to 2004. We identified 50 actual 5 year (long-term) survivors of 266 patients (19%) with invasive esophageal cancer and, using logistic regression, compared characteristics between the long-term and short-term (<5 year) survivors.

Results:

For the entire series, mean age was 65 ±10 years, 196 (74%) were male, and 162 (61%) received neoadjuvant therapy with 61 (38%) achieving pathologic complete response. The long-term survivor group was significantly more likely to have pathologic complete response (69% vs 41%, p<0.001), lower pathologic T stage, i.e. pT0, pTis, or pT1 (83% vs 45%, p<0.001), pathologic NO stage (97% vs 68%, p<0.001), favorable tumor differentiation, i.e. well or well to moderate (50% vs 8%, p<0.001), and absence of angiolymphatic (93% vs 69%, p<0.01) or perineural invasion (100% vs 85%, p=0.04). Having both favorable tumor differentiation and pNO stage carried the highest odds of long-term survival (OR 1.61, 95% CI 1.40-1.85). Interestingly, invasive yet less aggressive tumor, defined as favorable tumor differentiation and absence of perineural or angiolymphatic invasion, carried higher odds of long-term survival (OR 1.54, 95% CI 1.34-1.77) than pathologic complete response (OR 1.35, 95% CI 1.17-1.57).

Conclusion:

Pathologic complete response to neoadjuvant therapy and lower T and N stage were associated with >5 year survival. Less aggressive tumor types may be more strongly associated with long-term survival than even pathologic complete response.

Table I. Demographic and Clinicopathologic Characteristics

Variable	Total (%)
Number	266
Age, mean years (±SD)	65 ±10
Male	194 (74%)
Location of cancer	
GE junction	93 (35%)
Distal esophagus	114 (43%)
Mid esophagus	31 (12%)
Proximal esophagus	24 (9%)
Neoadjuvant treatment	162 (61%)
Path complete response	61/162 (38%)
Cancer type	
Squamous cell CA	67 (25%)
Adeno CA	194 (74%)
Adenosquamous CA	1 (0.4%)
Small cell CA	1 (0.4%)
Type of operation	
Transhiatal	188 (71%)
Ivor-Lewis	54 (20%)
Distal esophagectomy	4 (1.5%)
Total gastrectomy	1 (0.3%)
Other	14 (5%)

Table II. Preoperative Endoscopic Ultrasound Data

	Total	5-year	Non 5-year	p
Number	82	12	70	
T stage				0.41
T1	17 (20%)	3 (25%)	14 (20%)	
T2	31 (37%)	7 (58%)	24 (34%)	
T3	32 (39%)	2 (17%)	30 (42%)	
T4	2 (2%)	0	2 (3%)	
N stage				0.57
N0	48 (59%)	6 (50%)	42 (60%)	
N1	34 (41%)	6 (50%)	28 (40%)	
Preop EUS TN Stage				0.81
I (T1N0)	16 (19%)	3 (25%)	13 (18%)	
II (T2-3, N0 or T1-2, N1)	44 (53%)	7 (58%)	37 (52%)	
III (T3N1 or T4, any N)	22 (27%)	2 (17%)	20 (28%)	

Table III. Comparison of 5 Year Survivors to Non-5 Year Survivors

Variable	Total	5yr group	Non-5yr group	p
Number	266	50 (19%)	216 (81%)	
Survival years	1.4 (0.5-3.6)	7.8 (5.7-10.5)	1.0 (0.3-2.0)	<0.01
Neoadjuvant treatment	162 (61%)	29 (58%)	133 (62%)	0.64
Path complete response	61/162 (38%)	20/29 (69%)	41/133 (31%)	<0.01
Pathologic T0 or T1	131 (52%)	40/48 (83%)	91/204 (45%)	<0.01
Pathologic N0 stage	160/220 (73%)	35/36 (97%)	125/184 (68%)	<0.01
Favorable tumor grade	19/153 (12%)	8/16 (50%)	11/137 (8%)	<0.01
Positive margins	36/210 (17%)	2/35 (6%)	34/175 (19%)	0.05
Angiolymphatic invasion	53/195 (27%)	2/29 (7%)	51/166 (31%)	<0.01
Perineural invasion	22/177 (12%)	0/26 (0%)	22/151 (15%)	0.04