

Chapter 1

LEADING SITES OF CANCER

Table 1.1(a) gives the total number of new cancers registered at the eight Hospital Based Cancer Registries (HBCRs) during the period of three years from 1st January 2012 to 31st December 2014: TMH - Mumbai, KMIO - Bangalore, CI (WIA) - Chennai and BRAIRCH - New Delhi HBCR's data correspond to the year 2012, RCC - TVM 2012-2013 whereas data from AMC - Dibrugarh, BCCI - Guwahati and PGIMER - Chandigarh are for the complete three years (2012 -2014). Accordingly, there were 1,17,358 new cancers (62,946 males and 54,412 females) registered at the eight HBCRs. In KMIO - Bangalore, CI (WIA) - Chennai, RCC - TVM and AMC - Dibrugarh more females than males were registered and in other four registries more males than females were registered. Table 1.1(b) gives, in addition to that given in Table 1.1(a), the number of new patients registered with a diagnosis of cancer made in other calendar years. Table 1.1(c) gives a summary of all new registrations.

Table 1.1(a): Number (#) and Proportion (%) according to Sex, Sex Ratio Percent - New Cases

(Calendar years of data shown in parentheses for each registry)

Registry	Males		Females		Sex Ratio%*	Total Cases
	#	%	#	%		
TMH (2012)	14519	56.8	11022	43.2	132	25541
KMIO (2012)	3897	44.9	4790	55.1	81	8687
CI (WIA) (2012)	4085	47.8	4469	52.2	91	8554
RCC - TVM (2012-2013)	11447	49.3	11759	50.7	97	23206
AMC (2012-2014)	1794	50.0	1793	50.0	100	3587
BCCI (2012-2014)	13124	58.2	9438	41.8	139	22562
PGIMER (2012-2014)	9650	56.2	7532	43.8	128	17182
BRAIRCH (2012)	4430	55.1	3609	44.9	123	8039
Total	62946	53.6	54412	46.4	116	117358

* Number of male patients per 100 female patients.

Table 1.1(b): Distribution of Cancer Cases according to Registration Year and Date of Diagnosis - Both Sexes

Registry	New registrations with date of diagnosis in same calendar year	Percentage of New registrations	New registrations with date of diagnosis in other calendar years	Percentage of Old registrations
TMH	25541	100.0	-	-
KMIO	8687	92.1	744	7.9
CI (WIA)	8554	83.3	1716	16.7
RCC - TVM	23206	88.0	3152	12.0
AMC	3587	100.0	-	-
BBCI	22562	90.7	2314	9.3
PGIMER	17182	87.0	2564	13.0
BRAIRCH	8039	99.5	37	0.5
Total	117358	91.7	10527	8.3

Table 1.1(c): Number (#) and Proportion (%) according to Sex, Sex Ratio Percent - All New Registrations

Registry	Males		Females		Sex Ratio%*	Total Cases
	#	%	#	%		
TMH	14519	56.8	11022	43.2	132	25541
KMIO	4233	44.9	5198	55.1	81	9431
CI (WIA)	4854	47.3	5416	52.7	90	10270
RCC - TVM	13061	49.6	13297	50.4	98	26358
AMC	1794	50.0	1793	50.0	100	3587
BBCI	14439	58.0	10437	42.0	138	24876
PGIMER	10847	54.9	8899	45.1	122	19746
BRAIRCH	4454	55.2	3622	44.8	123	8076
Total	68201	53.3	59684	46.7	114	127885

* Number of male patients per 100 female patients.

The number, relative proportion and rank of the ten leading sites (ICD-10) in males and females for the year 2012-2014 are given in Table 1.2 and represented in Figures 1.1(a) and 1.1(b).

Males (The proportion (%) of cases in a given site, relative to all sites of cancer, in that sex is given in parentheses):

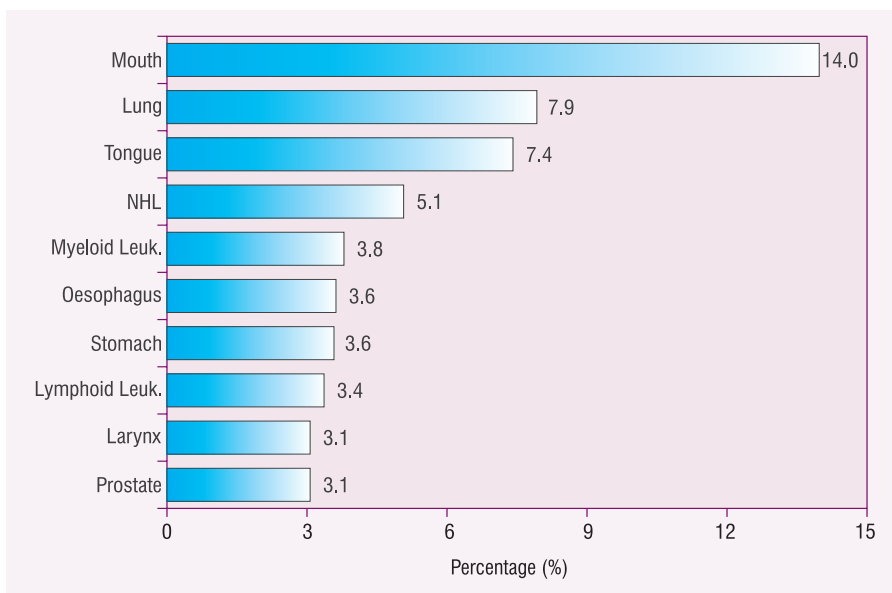
In *TMH - Mumbai*, mouth (14.0%) was the leading site of cancer, followed by lung (7.9%), tongue (7.4%), Non-Hodgkin’s Lymphoma (NHL) (5.1%) and myeloid leukaemia (3.8%).

In *KMIO - Bangalore*, oesophagus (7.6%), lung (7.6%), hypopharynx (7.4%), tongue (7.1%) and stomach (7.0%) were the five leading sites in that order.

In *CI (WIA) - Chennai*, lung (10.0%) and mouth (9.7%) were the leading sites. These two sites were followed by stomach (9.3%), tongue (7.7%) and oesophagus (4.7%).

Fig. 1.1(a): Ten Leading Sites of Cancer - Males

TMH - Mumbai



KMIO - Bangalore

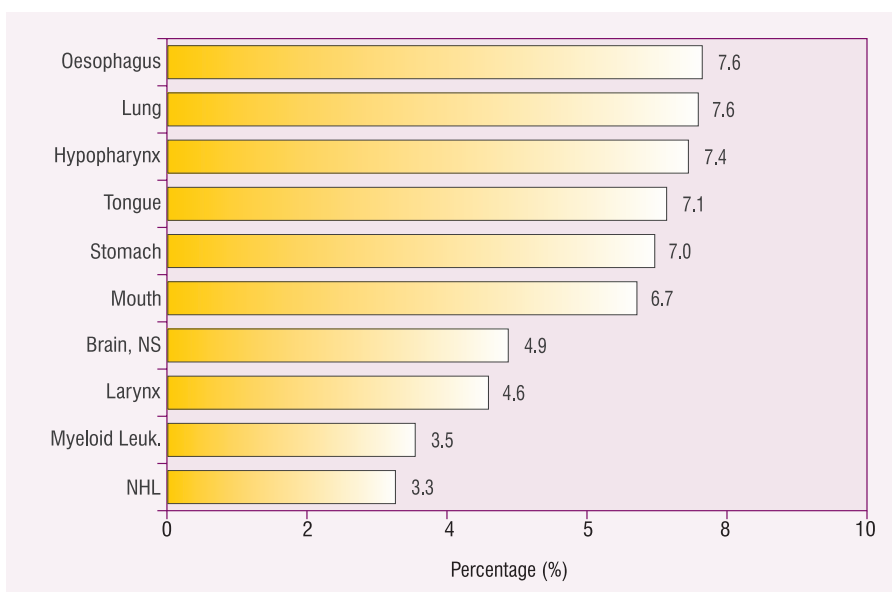
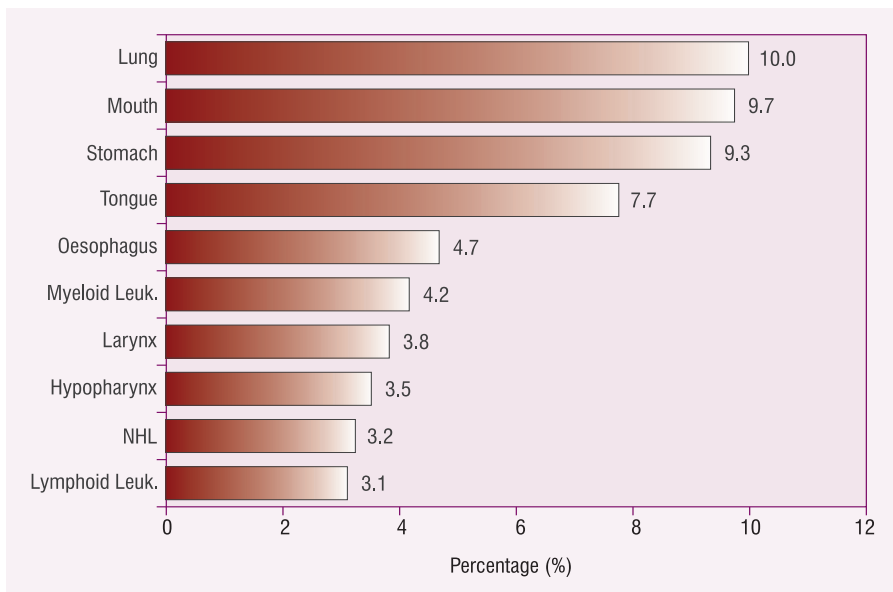
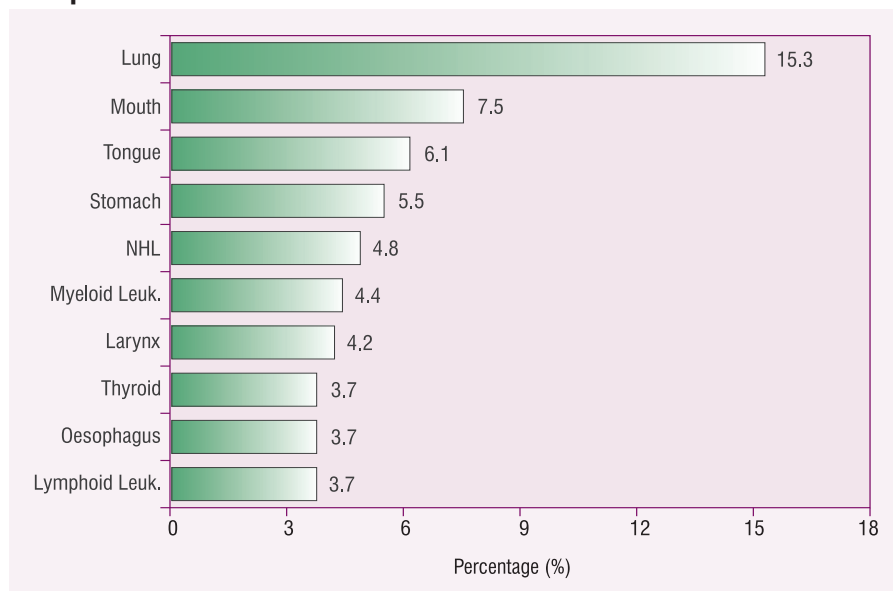


Fig. 1.1 (a): Ten Leading Sites of Cancer - Males (contd...)

CI (WIA) - Chennai



RCC - Thiruvananthapuram



AMC - Dibrugarh

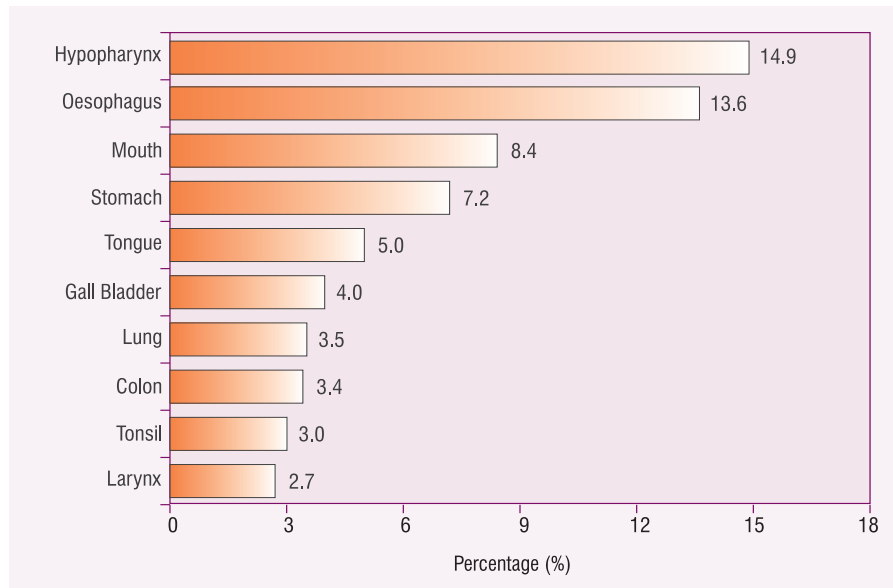
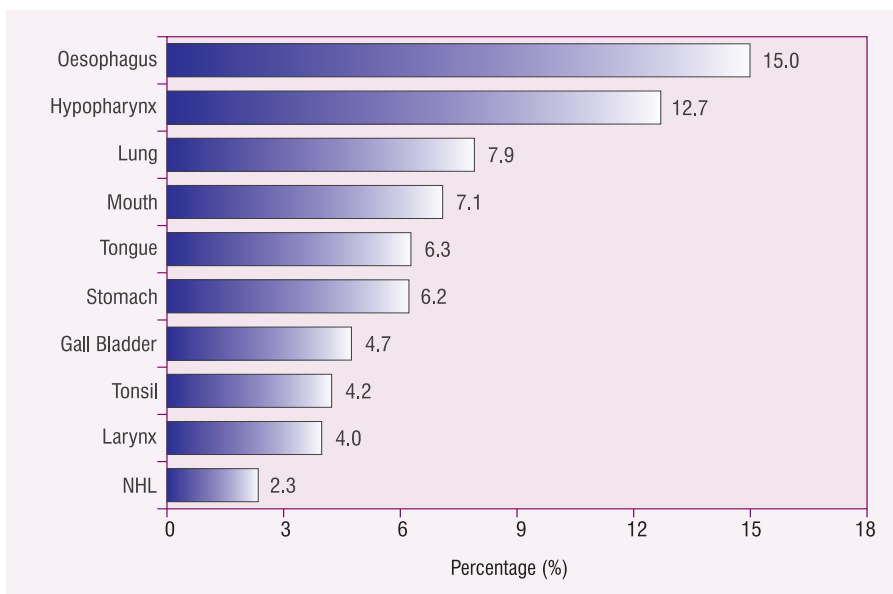
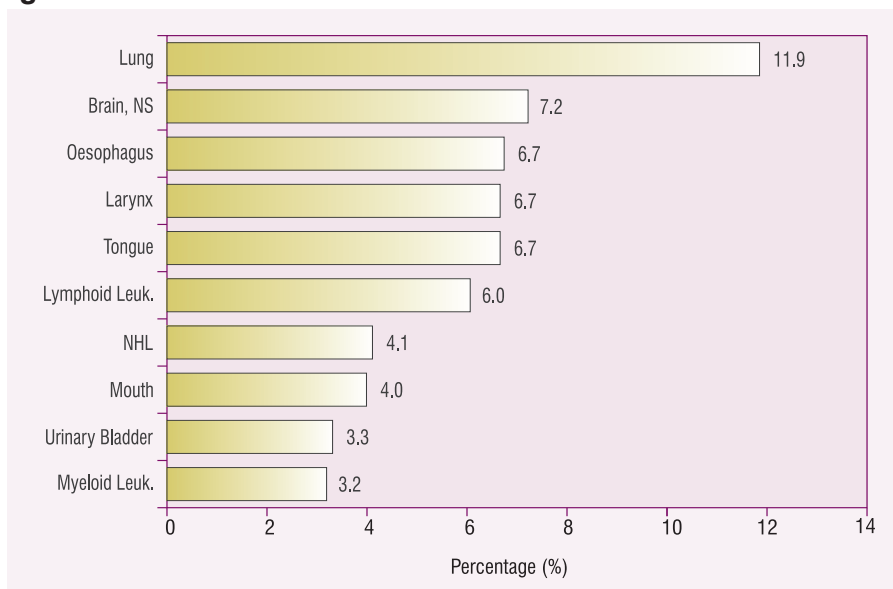


Fig. 1.1(a): Ten Leading Sites of Cancer - Males (contd...)

BBCI - Guwahati



PGIMER - Chandigarh



BRAIRCH - New Delhi

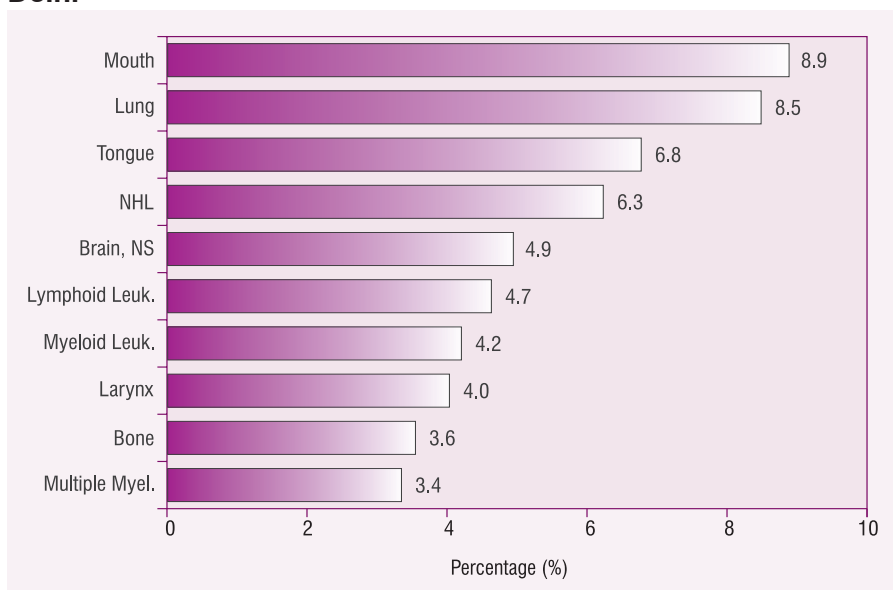
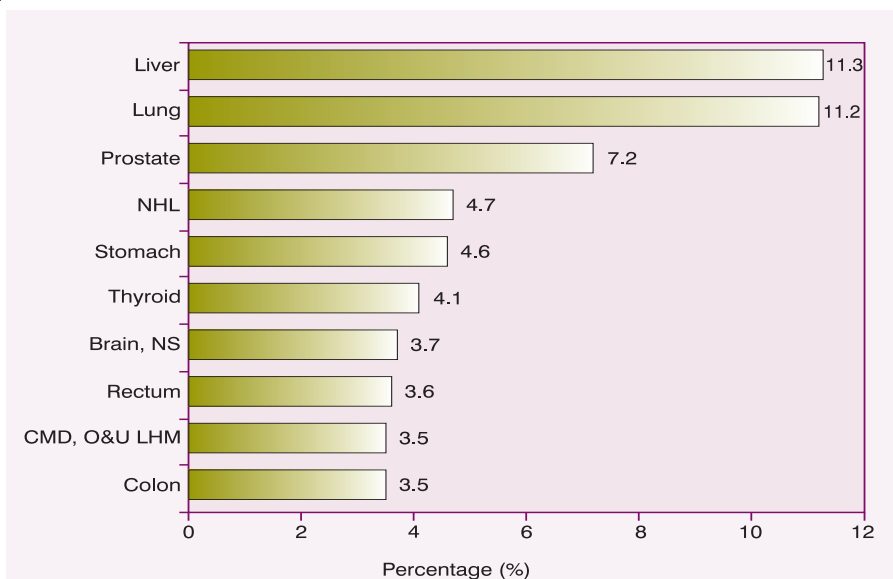
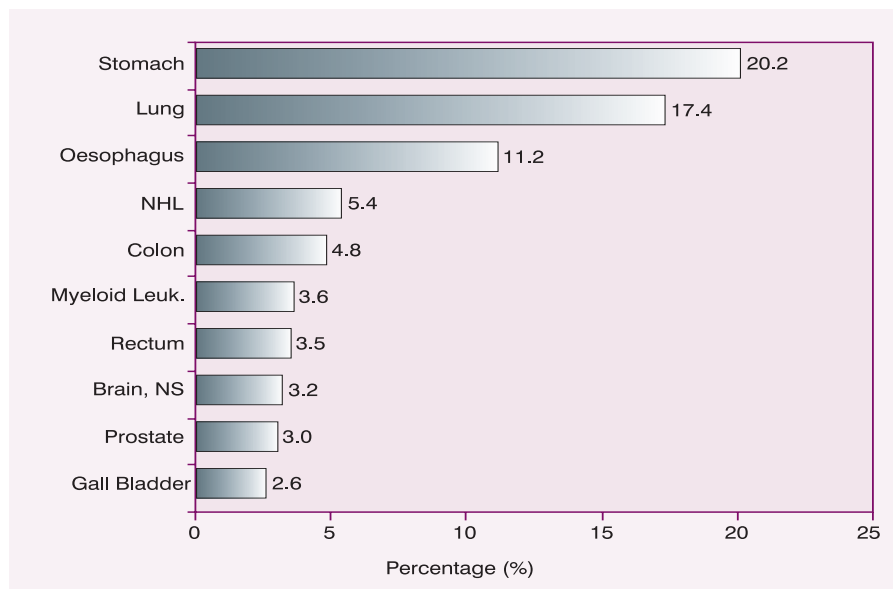


Fig. 1.1(a): Ten Leading Sites of Cancer - Males (contd...)

AIMSRC - Kochi



SKIMS - Srinagar



MCC - Kannur

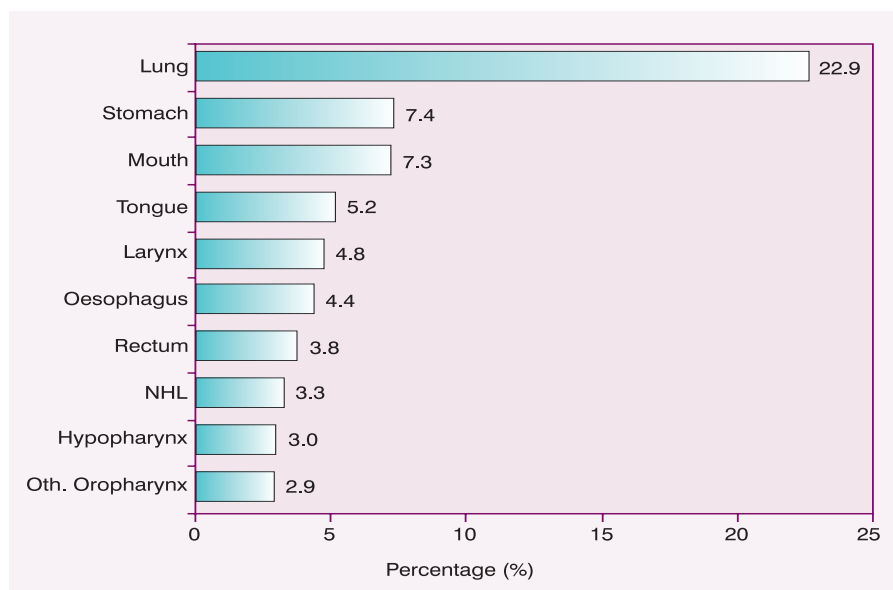
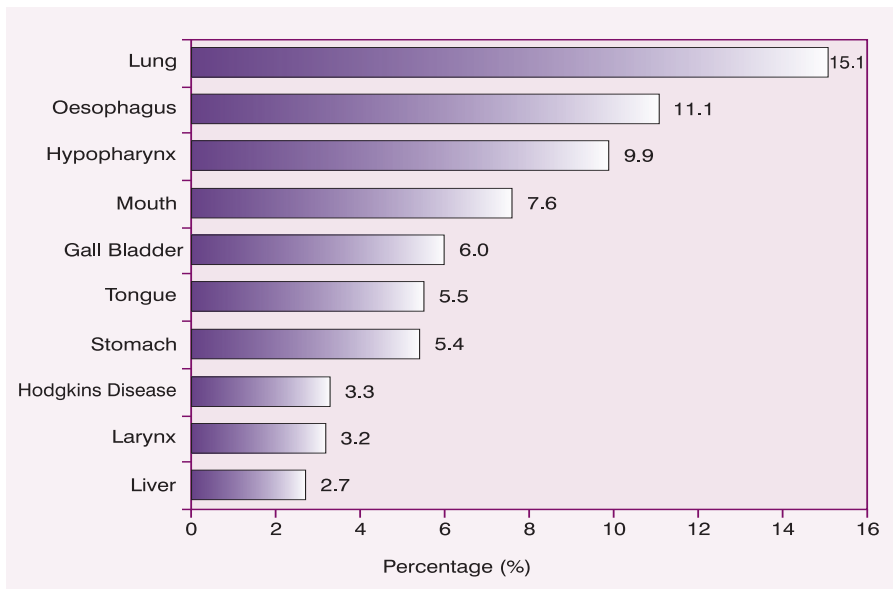
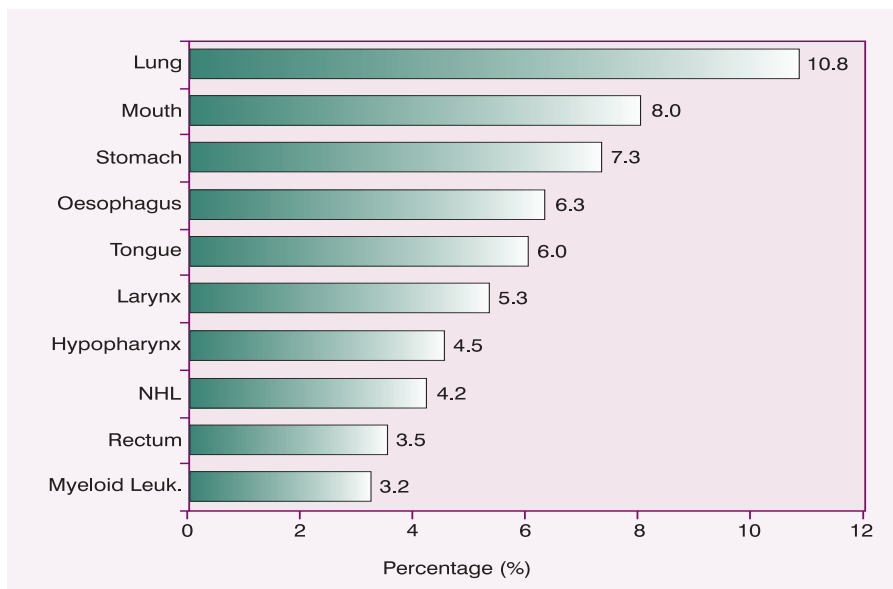


Fig. 1.1(a): Ten Leading Sites of Cancer - Males (contd...)

CCH - Silchar



VIMS - Bangalore



RCC - Raipur

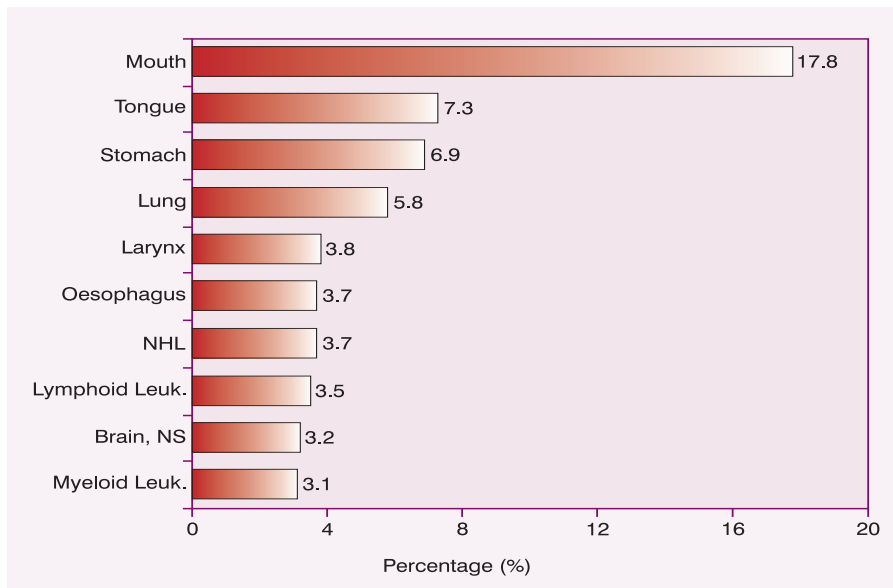
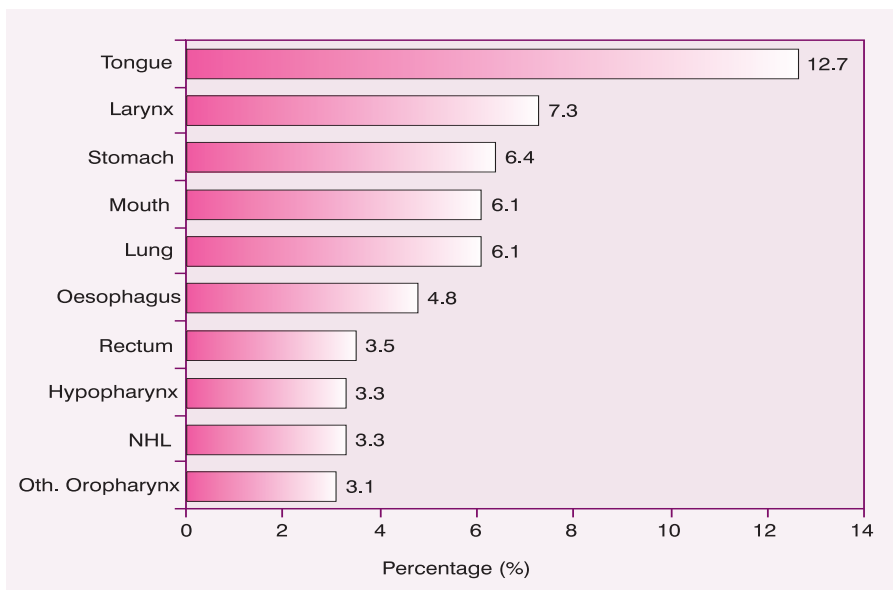
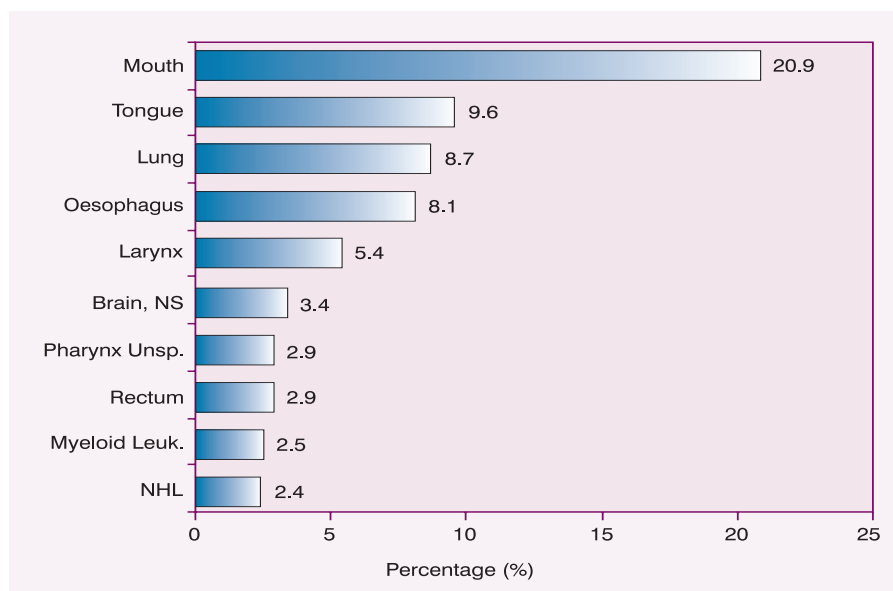


Fig. 1.1(a): Ten Leading Sites of Cancer - Males (contd...)

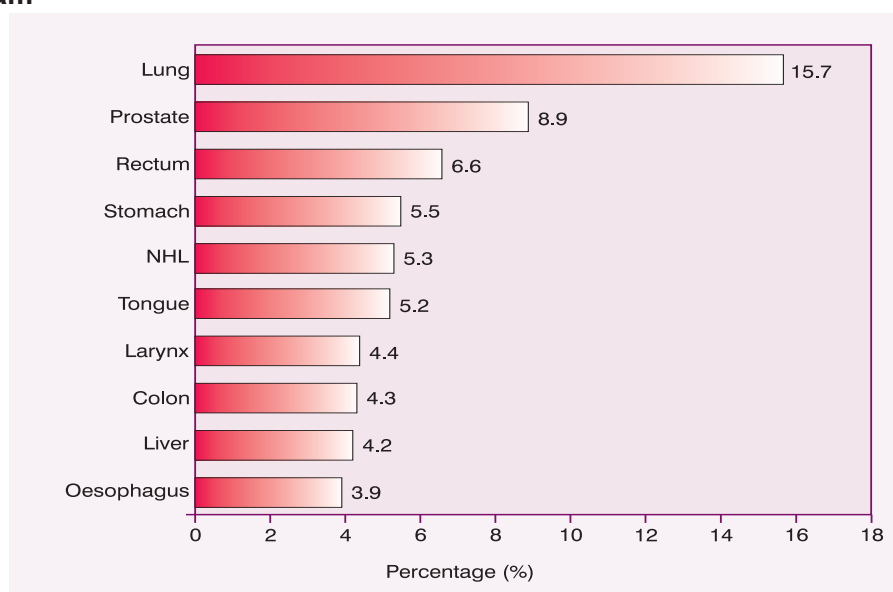
ICC - Neyyoor



RCC - Nagpur



CCICH - Kottayam



In *RCC - TVM*, lung (15.3%) was the leading site followed by mouth (7.5%), tongue (6.1%), stomach (5.5%) and Non-Hodgkin's Lymphoma (NHL) (4.8%).

In *AMC - Dibrugarh*, hypopharynx (14.9%) and oesophagus (13.6%) were the leading sites followed by mouth (8.4%), stomach (7.2%) and tongue (5.0%).

In *BBCI - Guwahati*, cancer of oesophagus was the leading site, accounting for about 15.0% of cancers in males, followed by hypopharynx (12.7%), lung (7.9%), mouth (7.1%) and tongue (6.3%).

In *PGIMER - Chandigarh*, lung (11.9%) and brain, NS (7.2%) were the leading sites. These two sites were followed by oesophagus (6.7%), larynx (6.7%) and tongue (6.7%).

In *BRAIRCH - New Delhi*, mouth (8.9%) and lung (8.5%) were the leading sites. These two sites were followed by tongue (6.8%), Non-Hodgkin's Lymphoma (NHL) (6.3%) and brain, NS (4.9%).

Females:

In *TMH - Mumbai*, breast (27.6%) was the leading site of cancer followed by cervix (11.2%), ovary (5.5%), gall bladder (5.3%) and mouth (4.4%).

In *KMIO - Bangalore*, cancer of the cervix was the leading site, accounting for about 29.4% of cancers in females, followed by breast (14.2%), mouth (9.9%), ovary (5.1%) and oesophagus (4.7%).

In *CI (WIA) - Chennai*, cancer of the breast (24.3%) was the leading site followed by cervix (22.5%), ovary (5.6%), stomach (4.3%) and mouth (4.2%).

In *RCC - TVM*, thyroid gland (13.9%) was the second leading site after breast (28.3%). Thyroid gland was followed by the cancers of cervix (7.4%), ovary (5.3%) and mouth (3.9%).

In *AMC - Dibrugarh*, breast cancer was the leading site, accounting for 20.1% of cancers in females, followed by gall bladder (10.8%), cervix (10.5%), oesophagus (8.9%) and ovary (8.5%).

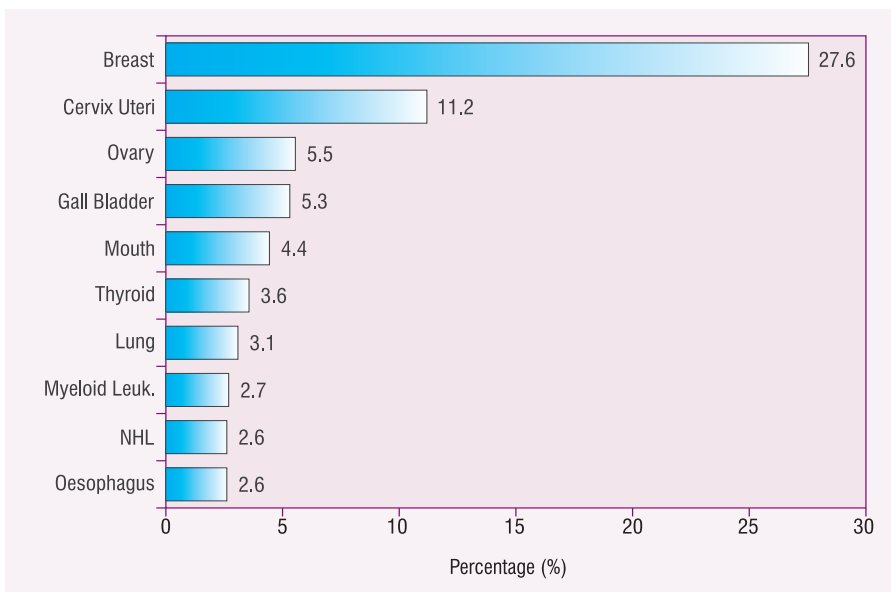
In *BBCI - Guwahati*, cancer of the breast was the leading site, accounting for about 16.1% of cancers in females, followed by gall bladder (13.6%), cervix (12.8%), oesophagus (10.5%) and mouth (5.1%).

In *PGIMER - Chandigarh*, breast (18.6%) and cervix (15.2%) were the leading sites. These two sites were followed by ovary (7.7%), gall bladder (6.4%) and oesophagus (6.3%).

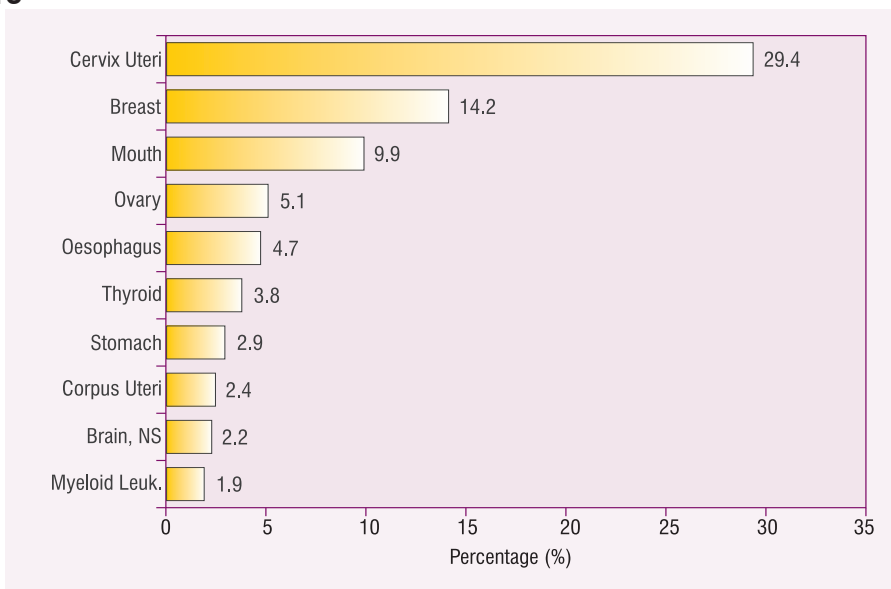
In *BRAIRCH - New Delhi*, breast (26.1%) and cervix (12.1%) were the leading sites. These two sites were followed by ovary (7.6%), gall bladder (5.8%) and Non-Hodgkin's Lymphoma (NHL) (3.9%).

Fig. 1.1(b): Ten Leading Sites of Cancer - Females

TMH - Mumbai



KMIO - Bangalore



CI (WIA) - Chennai

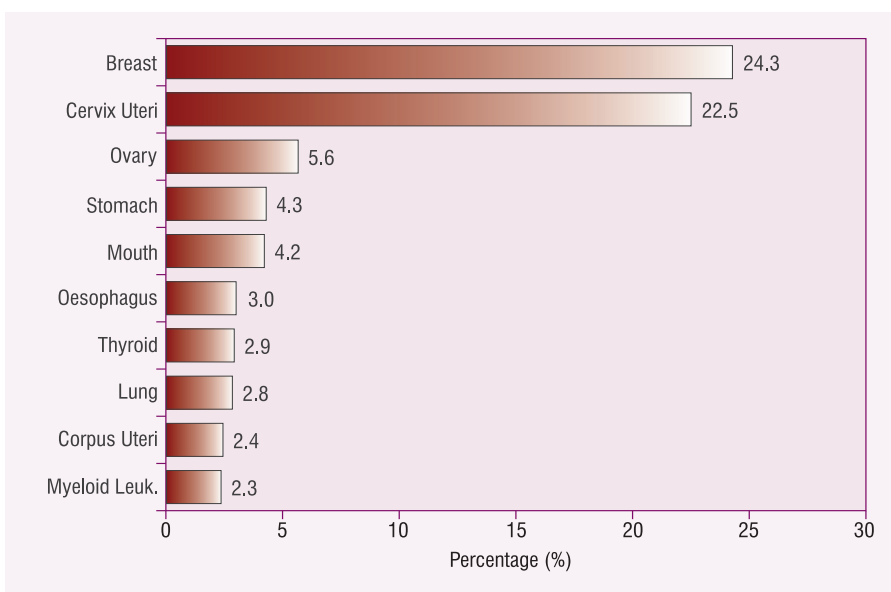
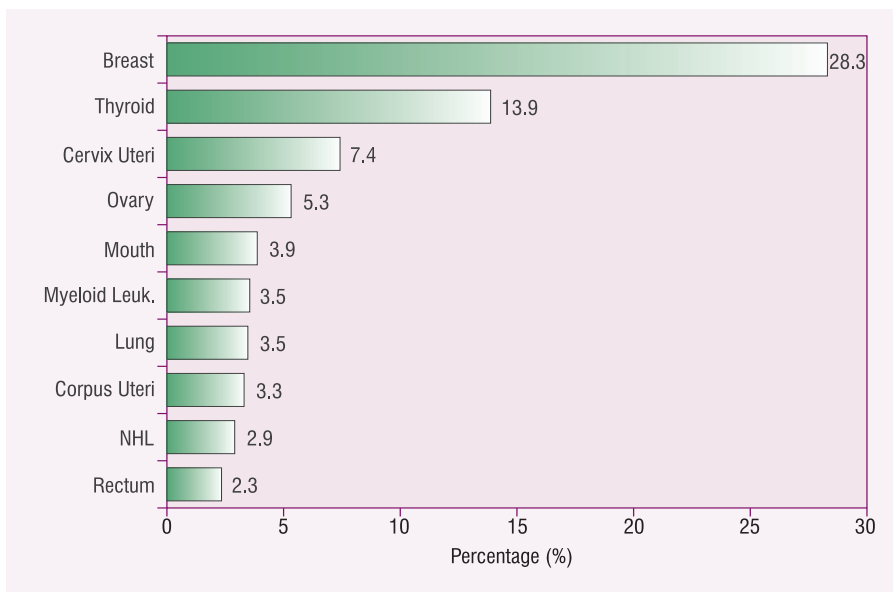
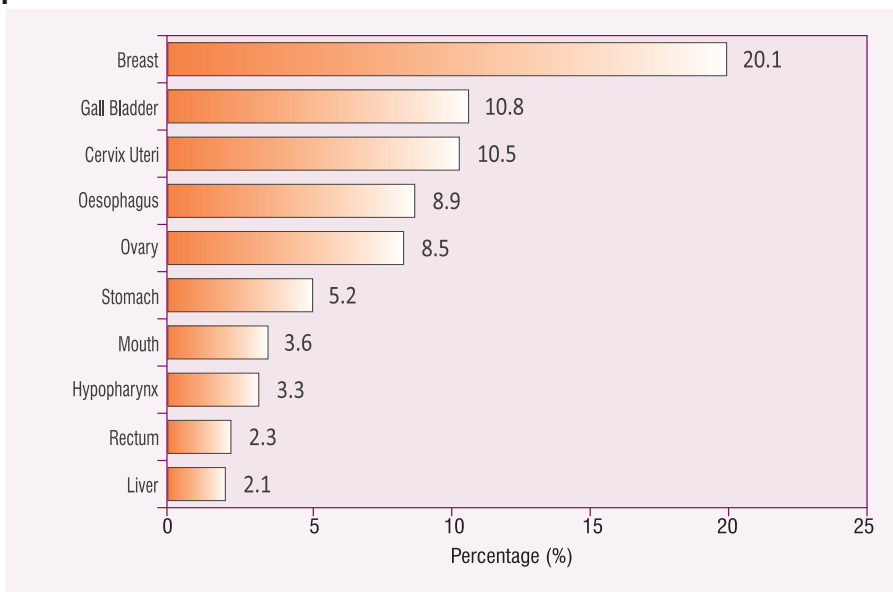


Fig. 1.1 (b): Ten Leading Sites of Cancer - Females (contd...)

RCC - Thiruvananthapuram



AMC - Dibrugarh



BBCI - Guwahati

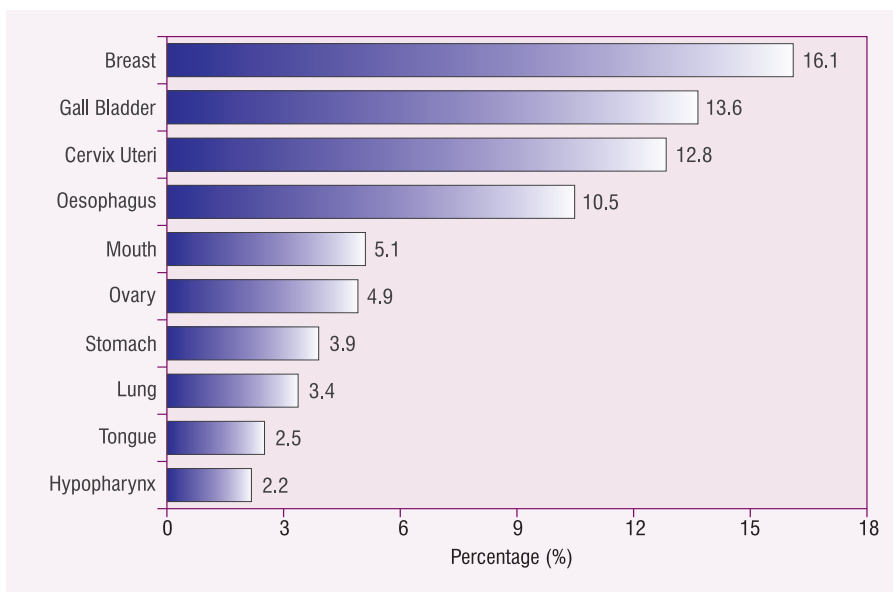
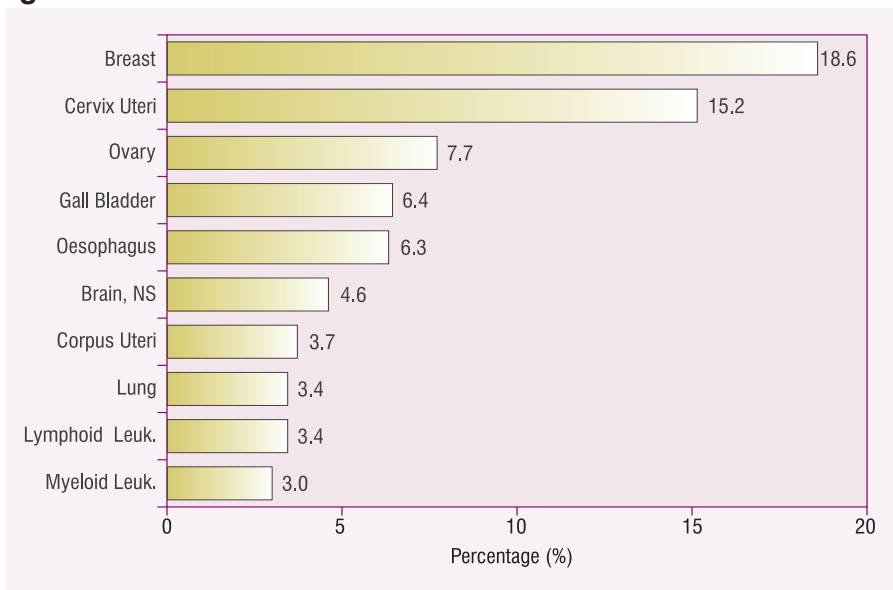
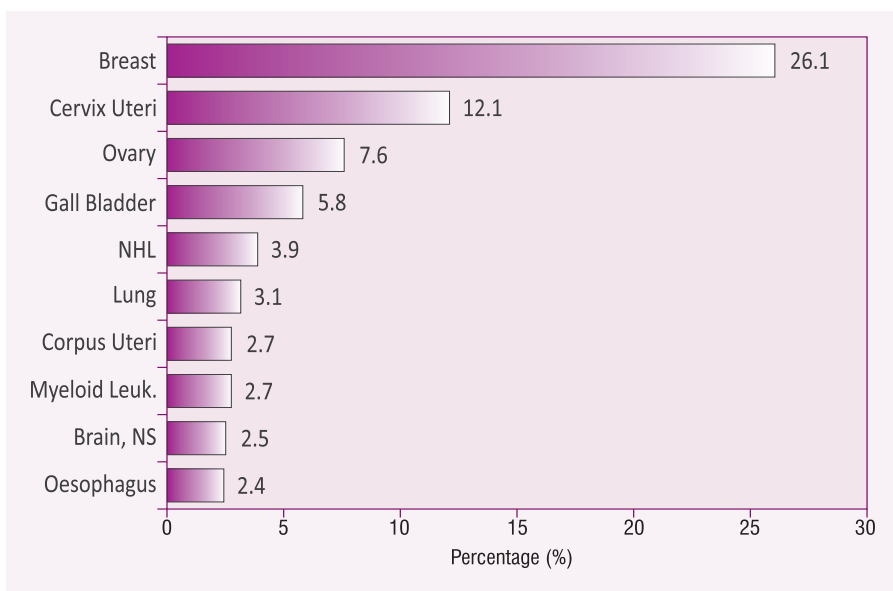


Fig. 1.1 (b): Ten Leading Sites of Cancer - Females (contd...)

PGIMER - Chandigarh



BRAIRCH - New Delhi



AIMSRC - Kochi

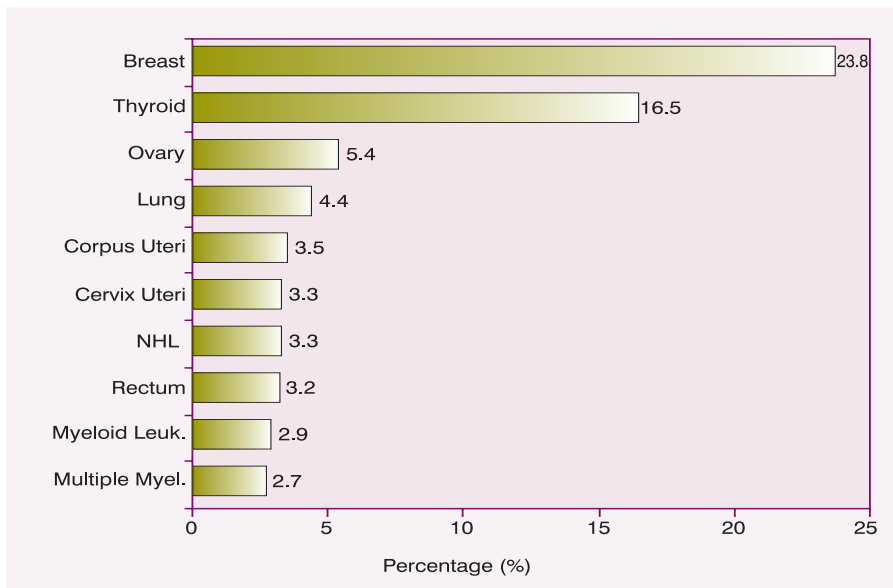
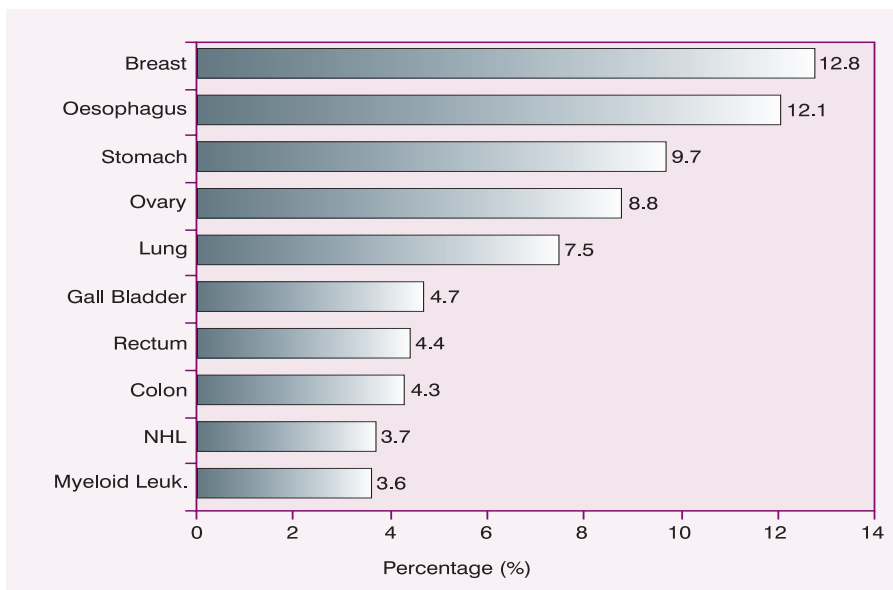
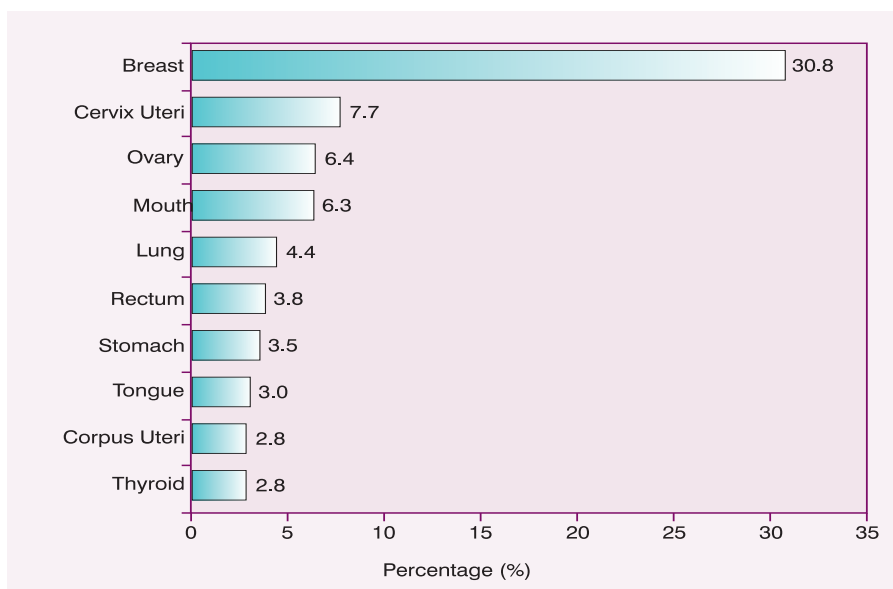


Fig. 1.1 (b): Ten Leading Sites of Cancer - Females (contd...)

SKIMS - Srinagar



MCC - Kannur



CCH - Silchar

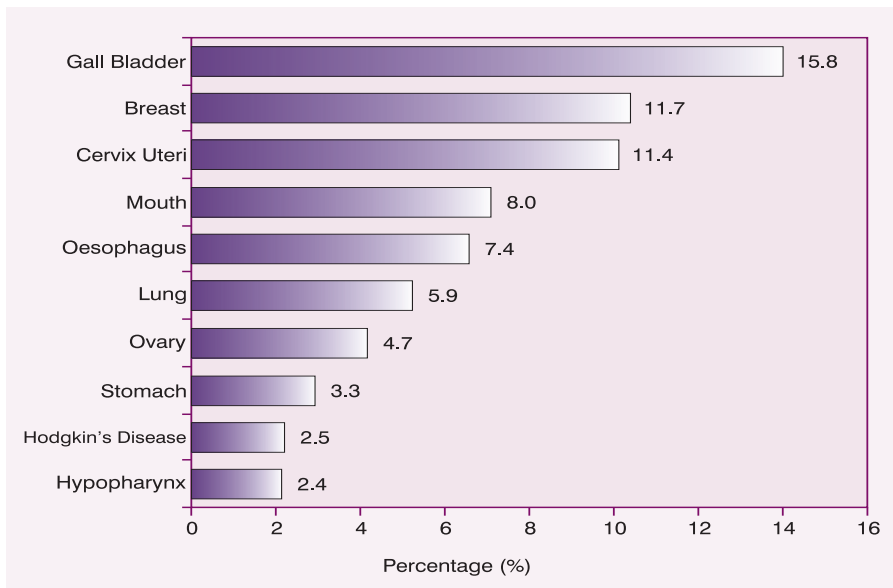
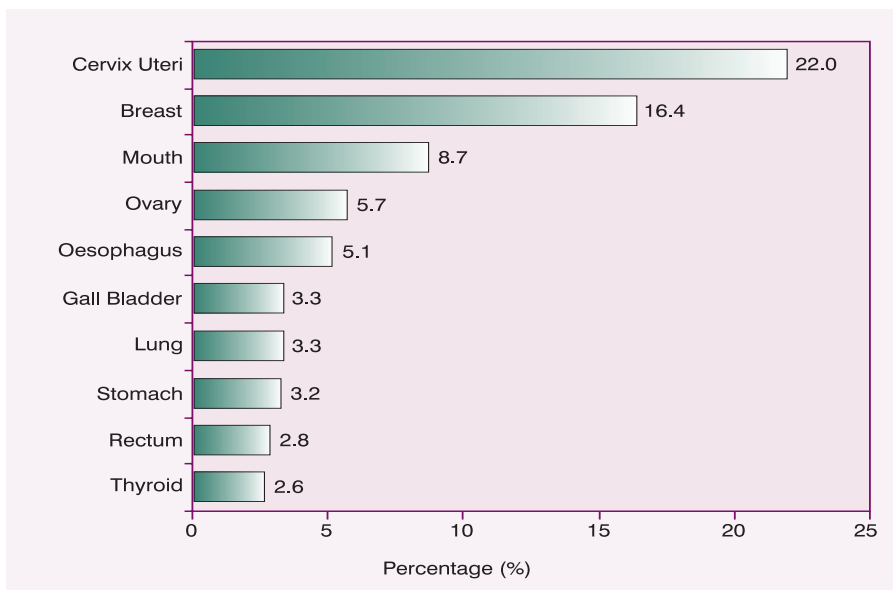
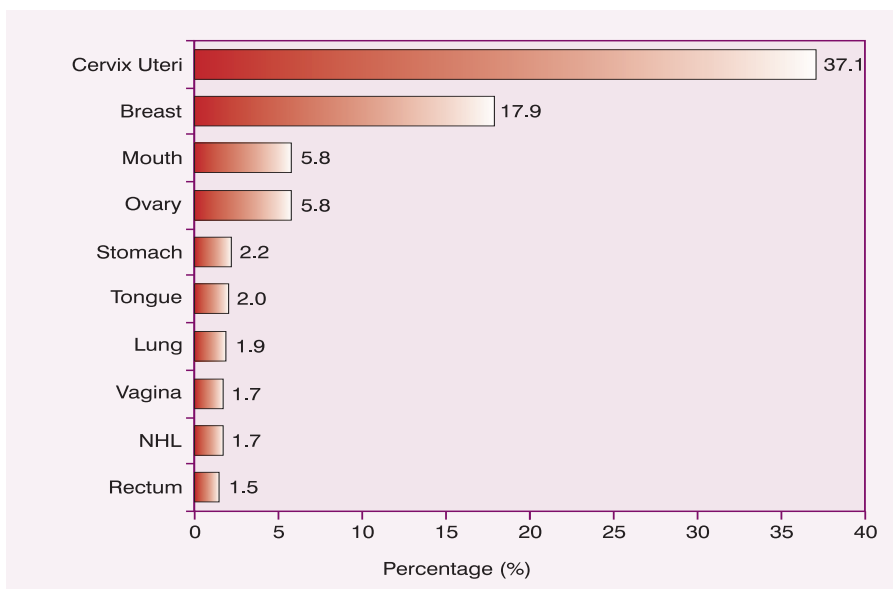


Fig. 1.1 (b): Ten Leading Sites of Cancer - Females (contd...)

VIMS - Bangalore



RCC - Raipur



ICC - Neyyoor

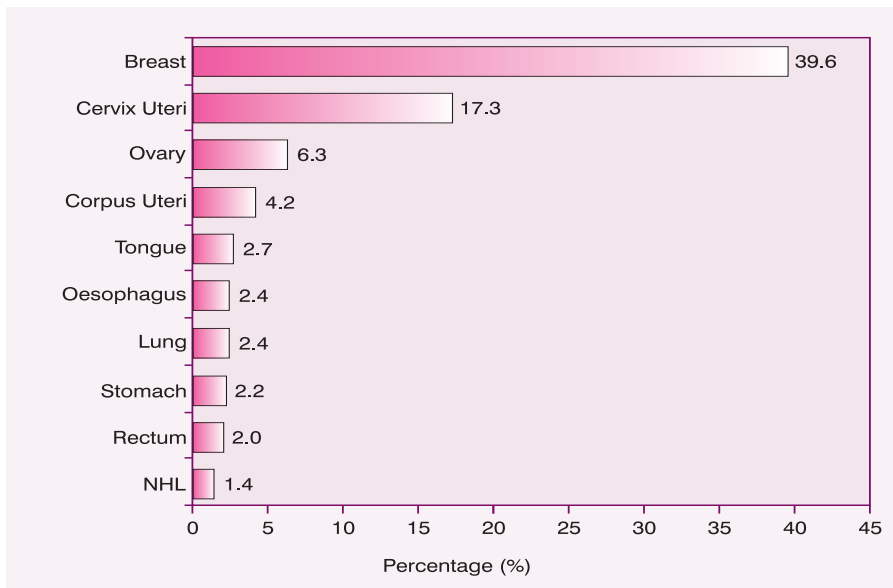
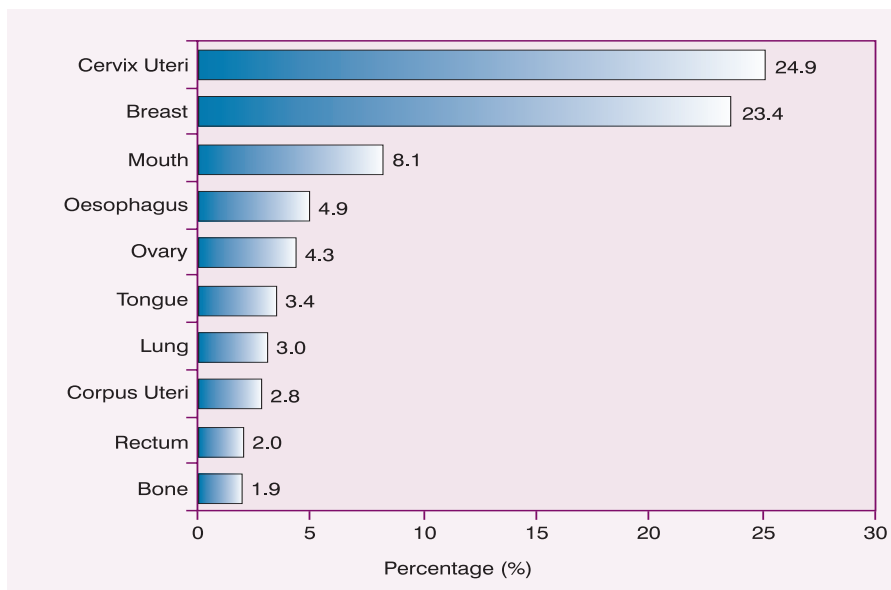
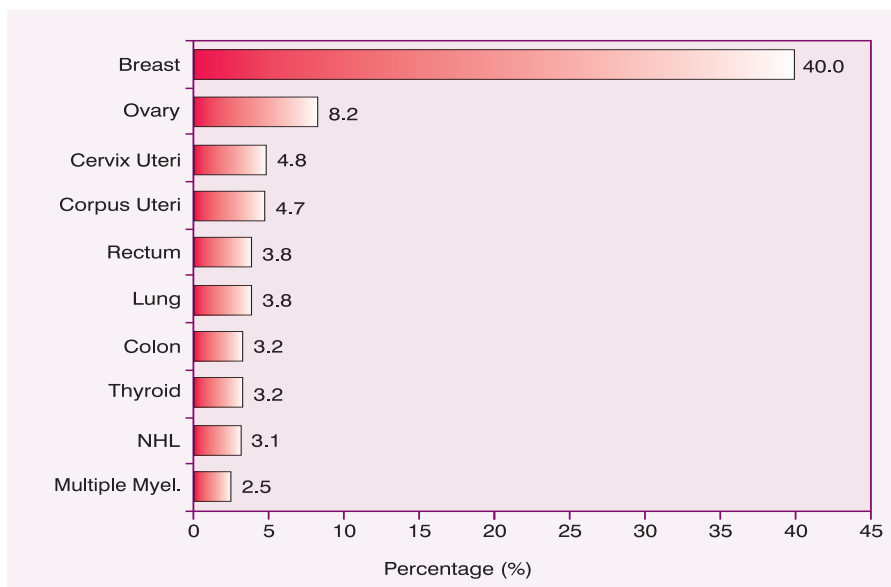


Fig. 1.1 (b): Ten Leading Sites of Cancer - Females (contd...)

RCC - Nagpur



CCICH - Kottayam



LEADING SITES IN BROAD AGE GROUPS

The numbers and relative proportions of cancers according to broad age groups (0-14, 15-34, 35-64 and 65 and above years of age), for both sexes across the eight registries are shown in Table 1.3 and diagrammatically represented in Figure 1.2. Figures 1.3 to 1.5 give the bar diagrams of the leading sites with their relative proportions in each of these broad age groups, except, childhood cancers (which is given separately in Chapter 2).

The relative proportion of young adults (15-34 years) with cancer varied from 6.0% in males in AMC - Dibrugarh and BBCI - Guwahati to 16.8% in BRAIRCH - New Delhi and in females from 9.1% in BBCI - Guwahati to 14.0% in BRAIRCH - New Delhi. The relative proportion of cancers in the age group 35-64 years varied from 55.2% in males in BRAIRCH - New Delhi to 63.1% in TMH - Mumbai, while in females it varied from 65.3% in RCC - TVM to 77.0% in AMC - Dibrugarh.

Age Group (15-34 Years)

Males:

Myeloid leukaemia was the leading site in TMH - Mumbai, CI (WIA) - Chennai and RCC - TVM and the second leading site in KMIO - Bangalore and BRAIRCH - New Delhi. Lymphoid leukaemia was the second leading site in CI (WIA) - Chennai and PGIMER - Chandigarh and third leading site in TMH - Mumbai, RCC - TVM and BRAIRCH - New Delhi, while it is the fifth leading site in KMIO - Bangalore.

Females:

Breast was the leading site in TMH - Mumbai, CI (WIA) - Chennai, AMC - Dibrugarh, BBCI - Guwahati, PGIMER - Chandigarh and BRAIRCH - New Delhi. Cancer of the cervix was the leading site in KMIO - Bangalore and cancer of the thyroid in RCC - TVM.

Age Group (35-64 Years)

Males:

Mouth was the leading site in TMH - Mumbai, CI (WIA) - Chennai and BRAIRCH - New Delhi, second leading site in RCC - TVM, third in AMC - Dibrugarh and BBCI - Guwahati and sixth in KMIO - Bangalore and PGIMER - Chandigarh. Lung was the first leading site in RCC - TVM and PGIMER - Chandigarh, second in CI (WIA) - Chennai and BRAIRCH - New Delhi and third in TMH - Mumbai and KMIO - Bangalore whereas oesophagus was the leading site in KMIO - Bangalore, AMC - Dibrugarh and BBCI - Guwahati and third in PGIMER - Chandigarh.

Females:

Breast and cervix were the leading sites in all the registries. Ovary was another important site within five leading sites in all registries. Thyroid gland was the second leading site only in RCC - TVM and within first ten in TMH - Mumbai, KMIO - Bangalore and CI (WIA) - Chennai. Gall bladder was among the first five leading sites in TMH - Mumbai, AMC - Dibrugarh, BBCI - Guwahati, PGIMER - Chandigarh and BRAIRCH - New Delhi.

Age Group (65 Years and above)

Males:

In this age group, lung was the first leading site in TMH - Mumbai, CI (WIA) - Chennai, RCC - TVM, PGIMER - Chandigarh and BRAIRCH - New Delhi, second in KMIO - Bangalore, third in BBCI - Guwahati and fifth in AMC - Dibrugarh. Hypopharynx was the first leading site in KMIO - Bangalore and AMC - Dibrugarh, oesophagus in BBCI - Guwahati. Mouth, tongue and stomach were among the leading sites in all registries.

Females:

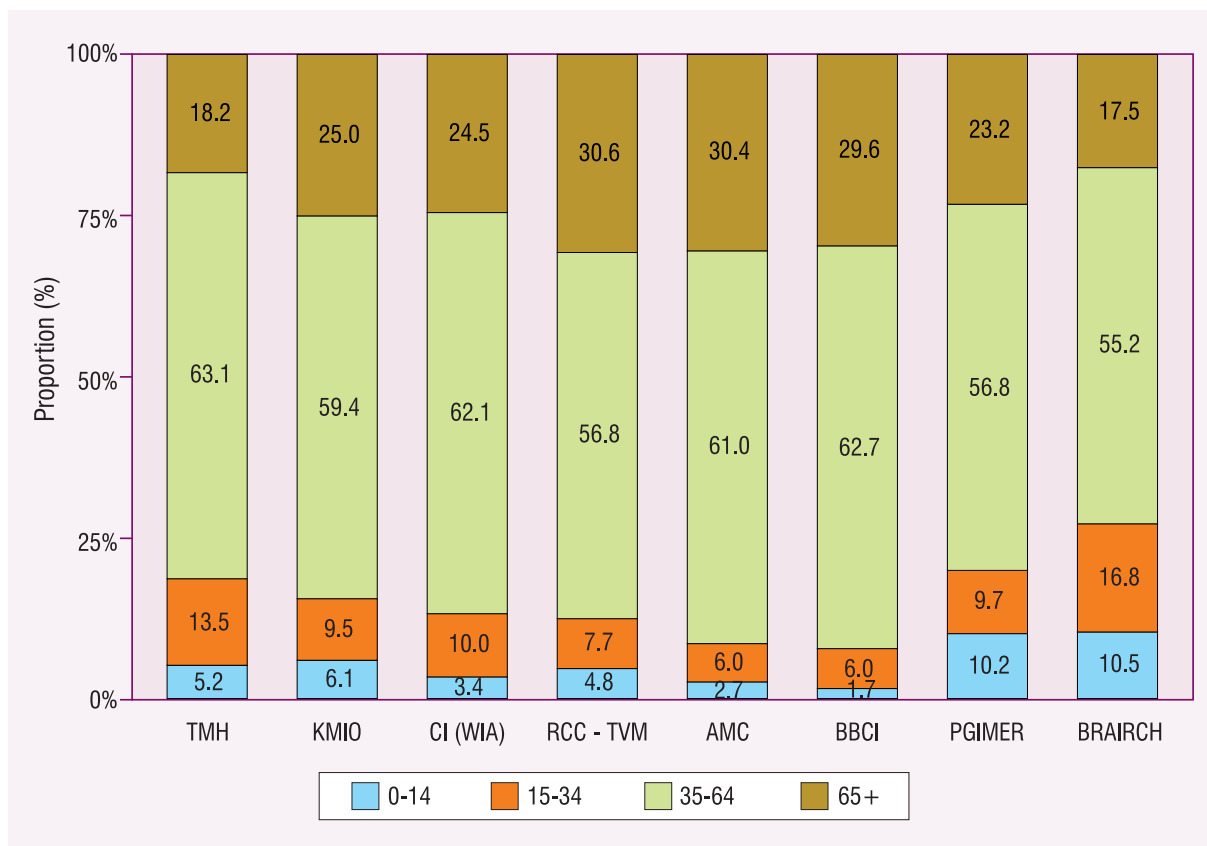
Cervix was the leading site in this age group in KMIO - Bangalore, CI (WIA) - Chennai and PGIMER - Chandigarh while it was the second leading site in TMH - Mumbai and BRAIRCH - New Delhi and the third position in RCC - TVM. Breast was the leading site in TMH - Mumbai, RCC - TVM and BRAIRCH - New Delhi, second in CI (WIA) - Chennai, AMC - Dibrugarh and PGIMER - Chandigarh and third in KMIO - Bangalore. Mouth, oesophagus, lung and ovary were other important leading sites.

Table 1.3: Number (#) and Proportion (%) of Cancers by Broad Age Groups

Registry	0-14		15-34		35-64		65+		All Ages
	#	%	#	%	#	%	#	%	#
MALES									
TMH	751	5.2	1965	13.5	9156	63.1	2647	18.2	14519
KMIO	236	6.1	372	9.5	2313	59.4	976	25.0	3897
CI (WIA)	138	3.4	407	10.0	2538	62.1	1002	24.5	4085
RCC - TVM	549	4.8	885	7.7	6507	56.8	3506	30.6	11447
AMC	48	2.7	107	6.0	1094	61.0	545	30.4	1794
BBCI	221	1.7	793	6.0	8226	62.7	3884	29.6	13124
PGIMER	983	10.2	939	9.7	5487	56.8	2241	23.2	9650
BRAIRCH	463	10.5	745	16.8	2447	55.2	775	17.5	4430
FEMALES									
TMH	408	5.2	1315	11.9	7784	70.6	1515	13.7	11022
KMIO	167	3.5	514	10.7	3281	68.5	828	17.3	4790
CI (WIA)	90	2.0	406	9.1	3270	73.1	703	15.8	4469
RCC - TVM	434	3.7	1311	11.1	7683	65.3	2331	19.8	11759
AMC	22	1.2	173	9.6	1380	77.0	218	12.2	1793
BBCI	129	1.4	857	9.1	6912	73.2	1540	16.3	9438
PGIMER	474	6.3	714	9.5	5110	67.8	1234	16.4	7532
BRAIRCH	192	5.3	506	14.0	2419	67.0	492	13.6	3609
BOTH SEXES									
TMH	1159	4.5	3280	12.8	16940	66.3	4162	16.3	25541
KMIO	403	4.6	886	10.2	5594	64.4	1804	20.8	8687
CI (WIA)	228	2.7	813	9.5	5808	67.9	1705	19.9	8554
RCC - TVM	983	4.2	2196	9.5	14190	61.1	5837	25.2	23206
AMC	70	2.0	280	7.8	2474	69.0	763	21.3	3587
BBCI	350	1.6	1650	7.3	15138	67.1	5424	24.0	22562
PGIMER	1457	8.5	1653	9.6	10597	61.7	3475	20.2	17182
BRAIRCH	655	8.1	1251	15.6	4866	60.5	1267	15.8	8039

Fig. 1.2: Stack (100%) Diagram Showing Proportion of Cancer by Broad Age Groups

Males



Females

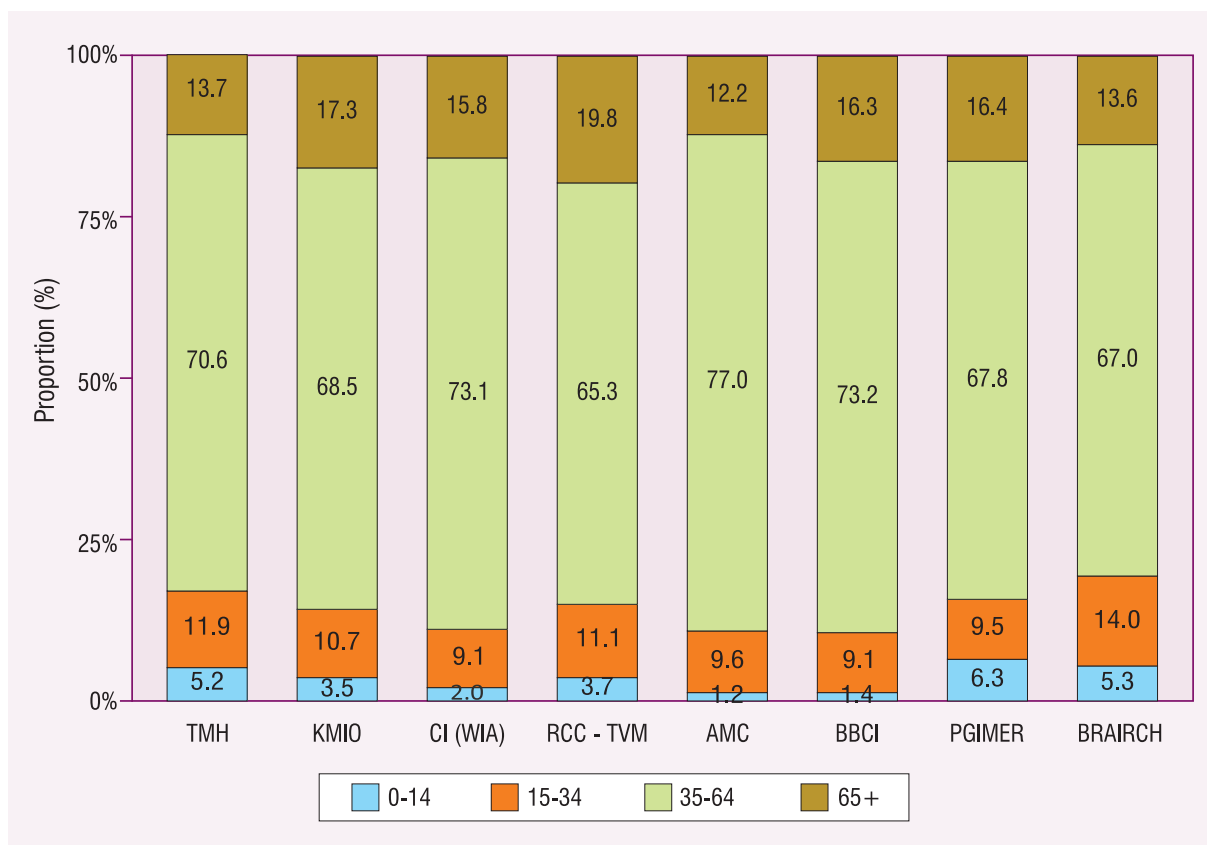


Fig. 1.3: Leading Sites in Broad Age Groups (15-34 years)

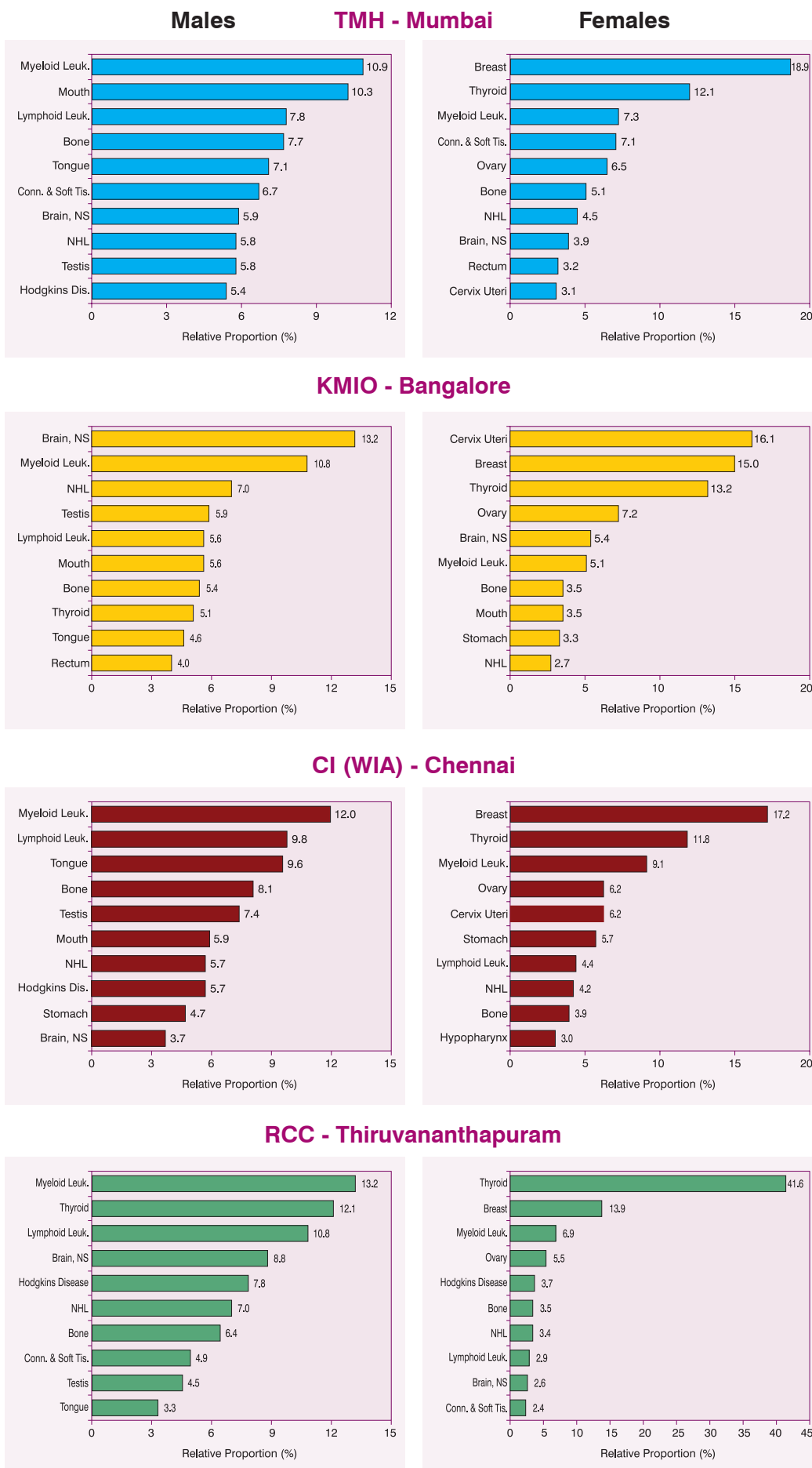
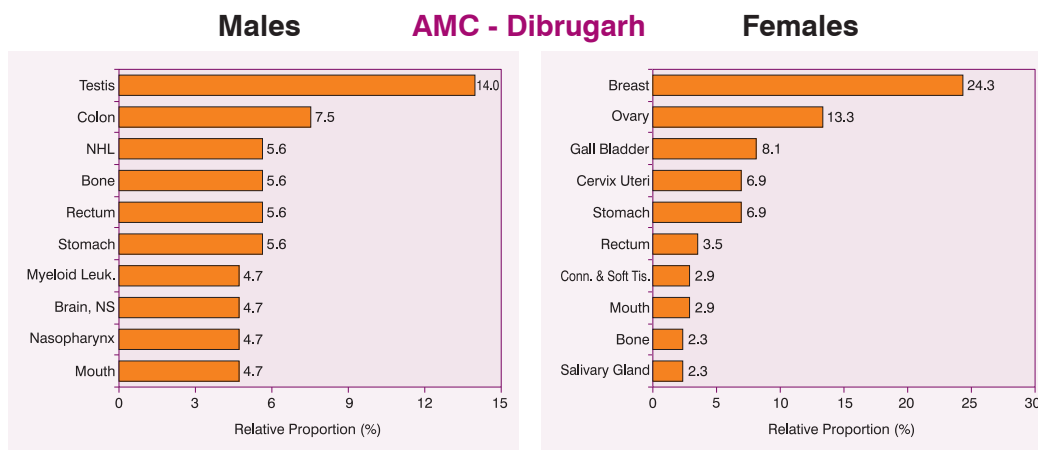
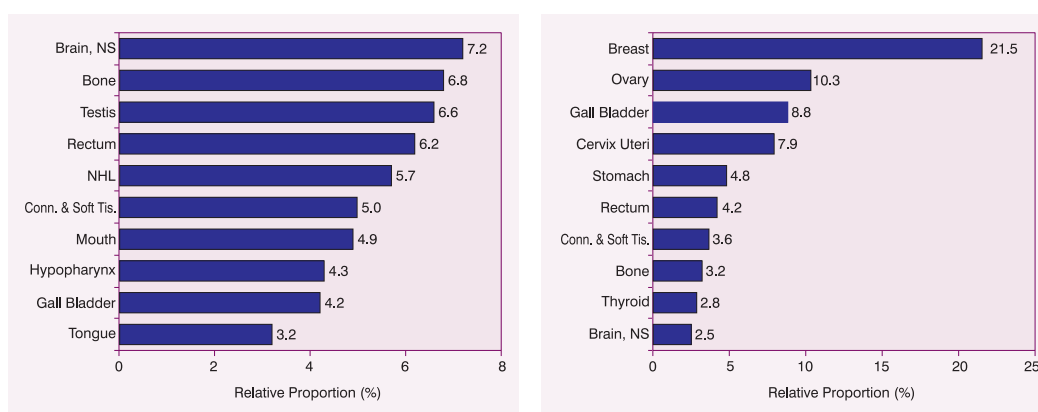


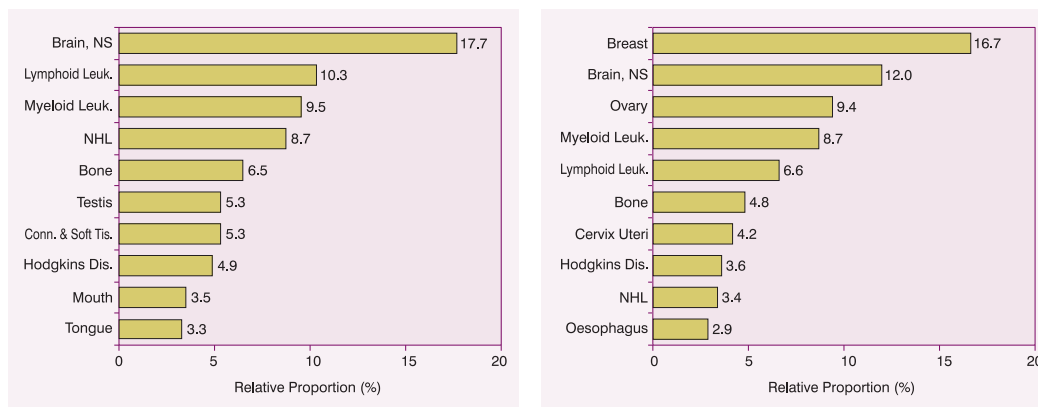
Fig. 1.3: Leading Sites in Broad Age Groups (15-34 years) (contd...)



BBCI - Guwahati



PGIMER - Chandigarh



BRAIRCH - New Delhi

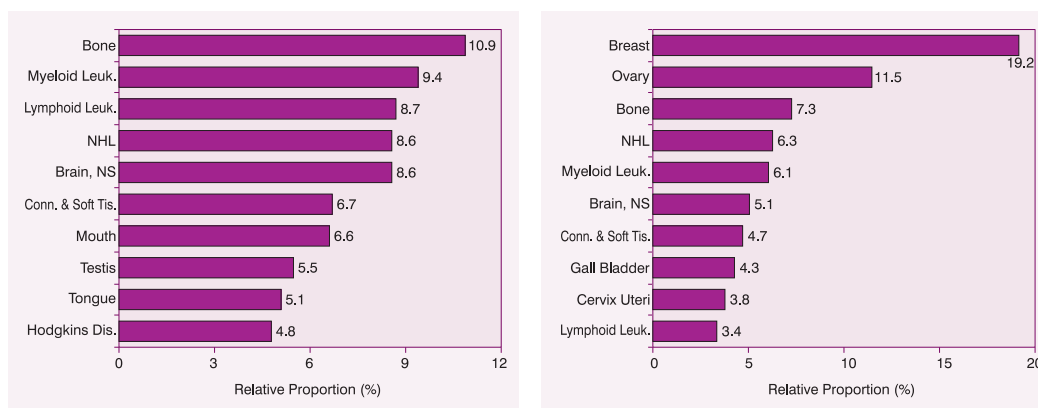


Fig. 1.4: Leading Sites in Broad Age Groups (35-64 years)

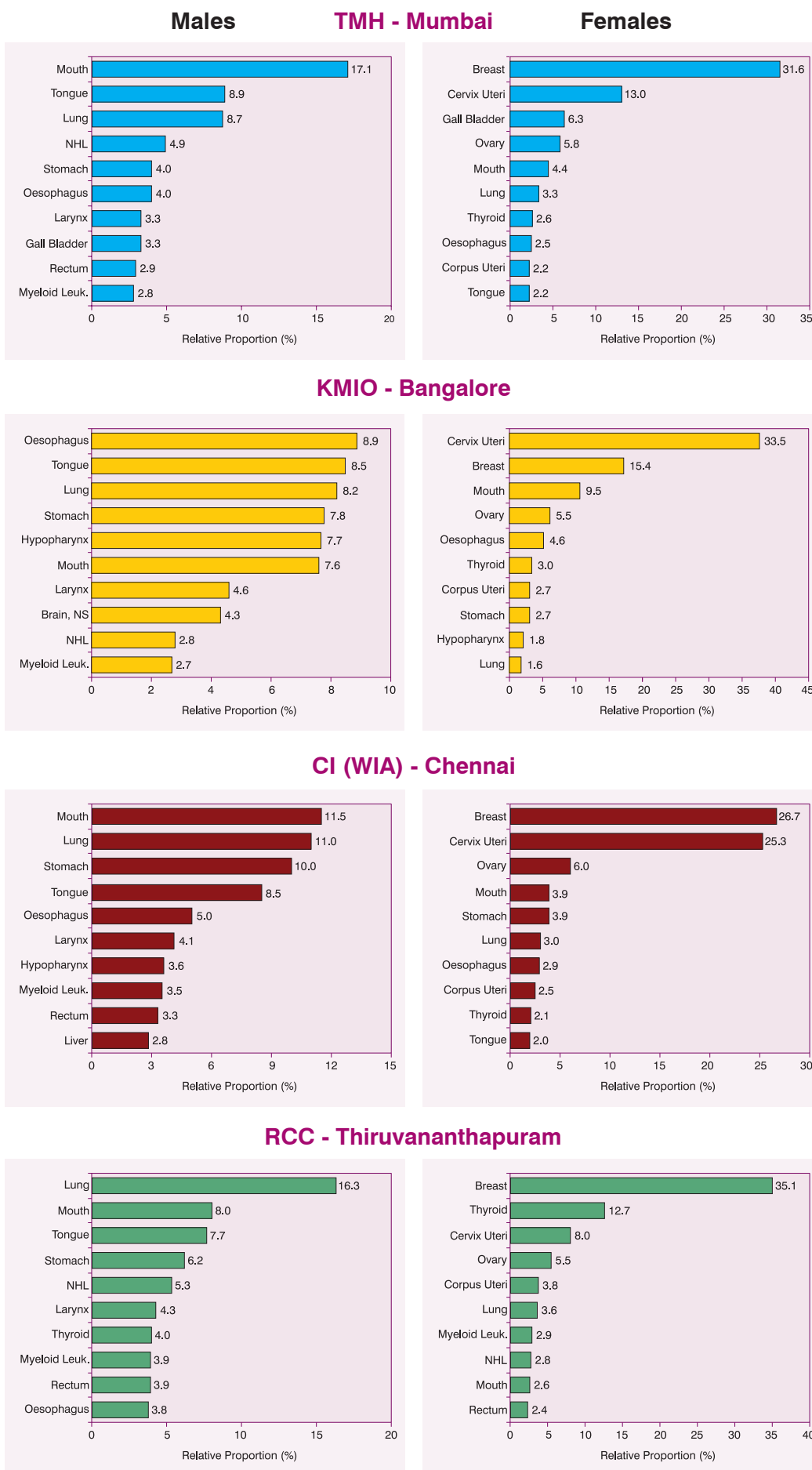
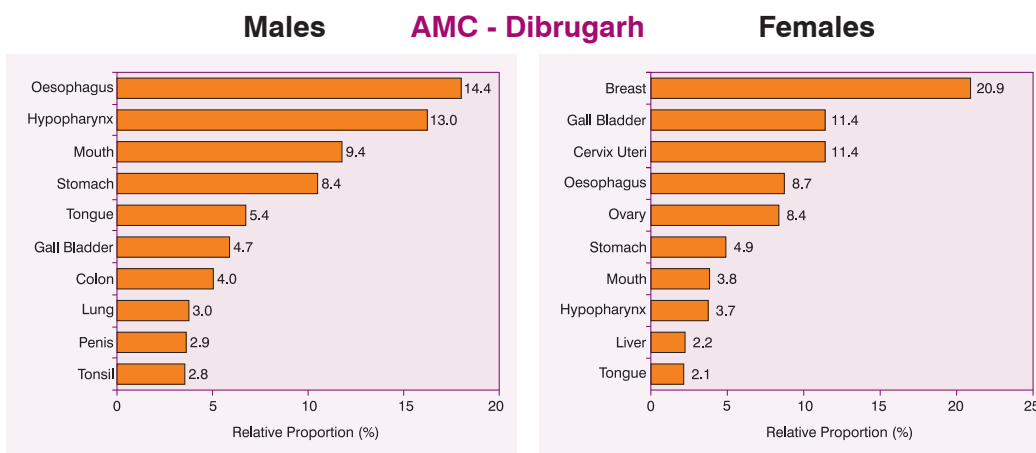
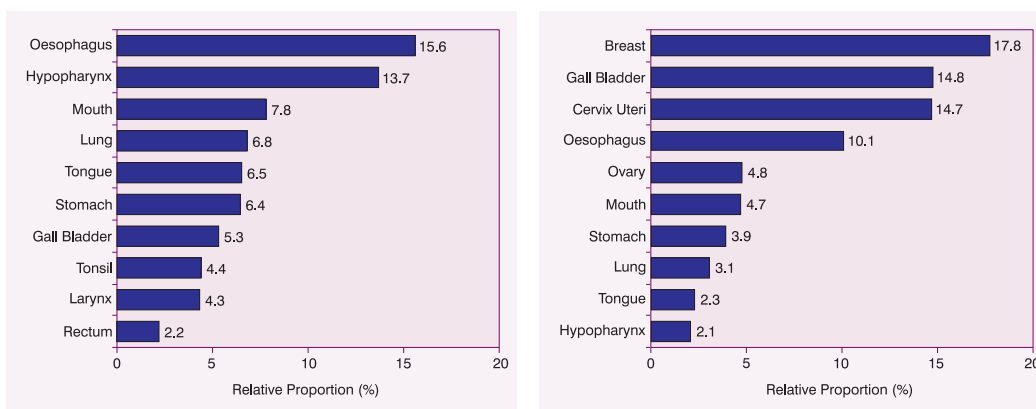


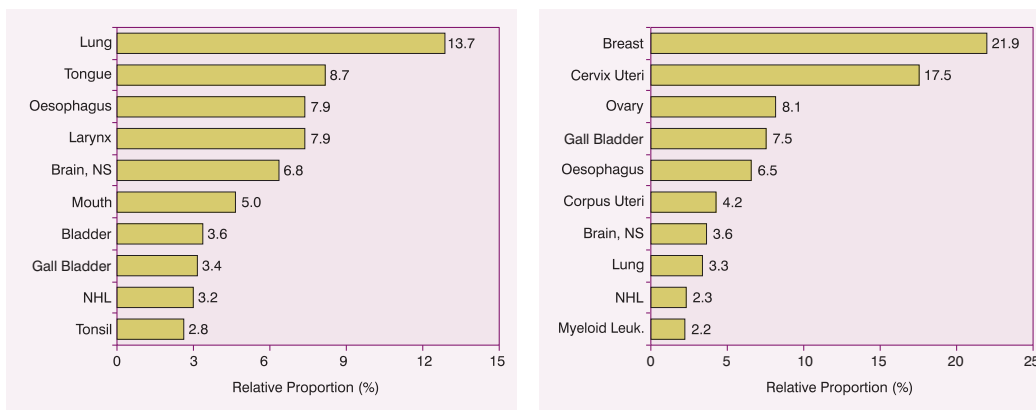
Fig. 1.4: Leading Sites in Broad Age Groups (35-64 years) (contd...)



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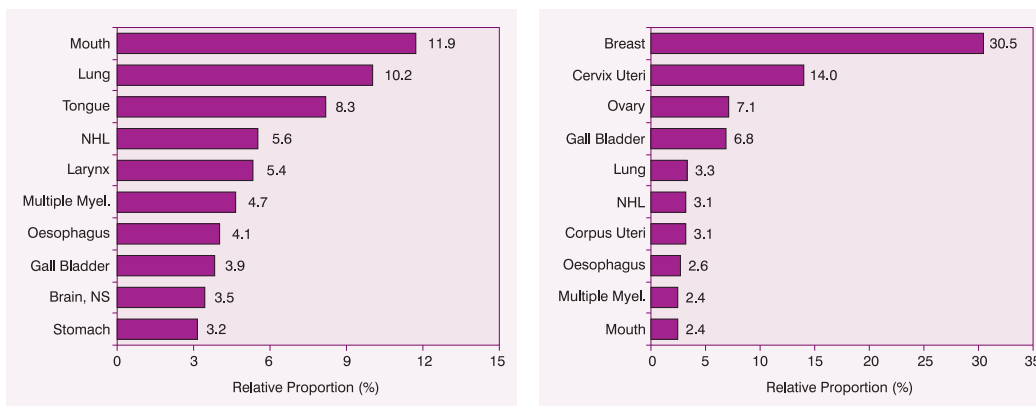


Fig. 1.5: Leading Sites in Broad Age Groups (65 years and above)

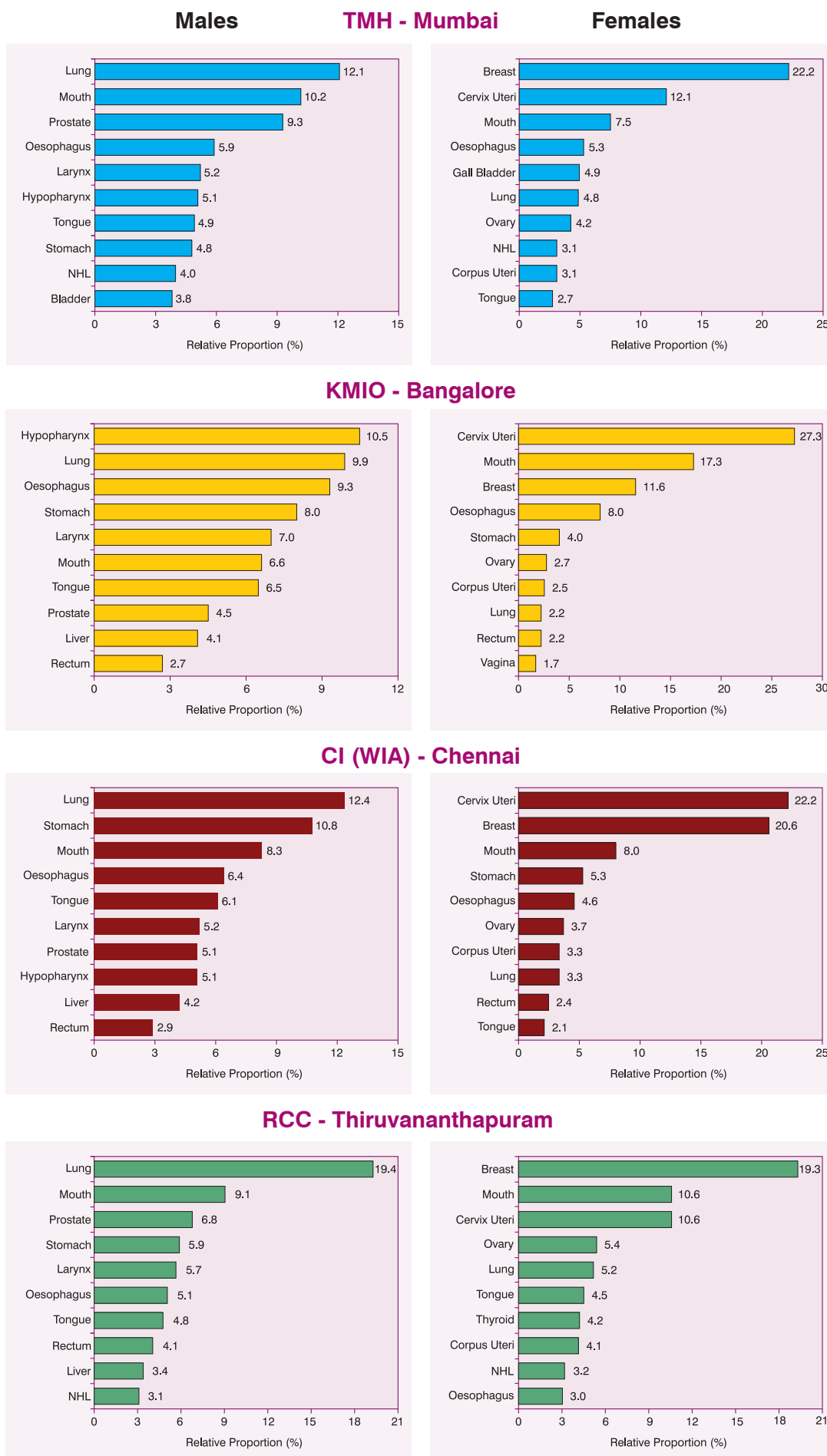


Fig. 1.5: Leading Sites in Broad Age Groups (65 years and above) (contd...)

