

# Chapter 5

## BASIS OF DIAGNOSIS

The relative proportion (%) of cancers based on different methods of diagnosis are represented in Figure 5.1 for the pooled data of all the 25 registries.

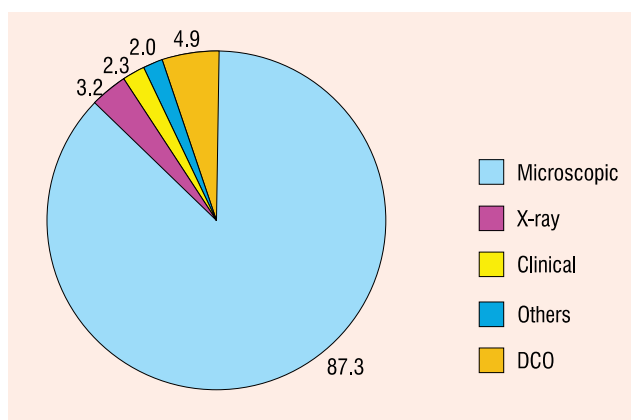
Table 5.1(a), table 5.1(b) and figure 5.2 give the number and relative proportion of cancers based on different methods of diagnosis. The proportion of microscopic verification in males varied from 61.8% in Mizoram excluding Aizawl District to 100% in Nagaland state. Among males, X-ray and Imaging as a form of diagnosis was highest in Chennai (16.5%). Among females, the microscopic proportion varied from 62.0% in Mizoram excluding Aizawl District to 100% in Nagaland state. X-ray and Imaging as a form of diagnosis was higher in Chennai among females with a relative proportion of 15.2%. The Death Certified Only cases showed variation in relative proportion. Among males, it was the lowest in Nagaland state (0%) followed by Barshi Expanded, Manipur excluding Imphal West district and Tripura state, each recording 0.3%. Among females, it was the lowest in Nagaland state (0%) followed by Barshi Expanded (0.1). Mizoram excluding Aizawl District had the highest relative proportion of DCOs of 18.2% and 17.6% for both among males and females respectively.

Table 5.2(a), table 5.2(b) and figure 5.3 illustrates the proportion of different types of microscopic diagnosis. Among males, the cancers diagnosed microscopically, primary histology constituted 44.9% in Manipur excluding Imphal West to 89% in Nagaland. Cancers diagnosed by cytology ranged from 0.2% in Aurangabad to 47.1% in Tripura State. In females, the percentage of cases diagnosed by primary histology varied from 42.5% in Mizoram excluding Aizawl District to 91.1% in Aurangabad. The percentage of cases diagnosed by cytology varied from 0.0% in Aurangabad to 42.8% in Manipur excluding Imphal West.

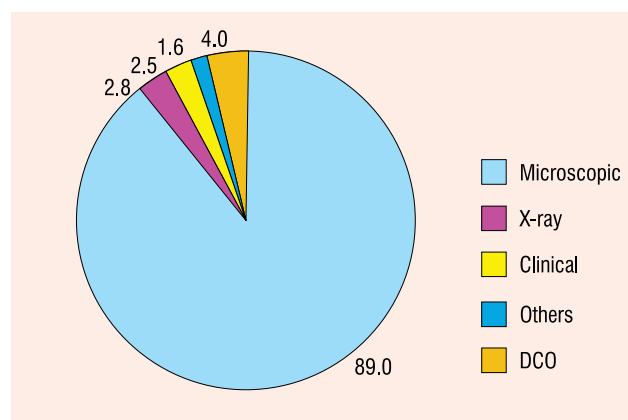
Figures 5.4 to 5.9 give the comparison of relative proportion (%) of microscopically verified cases among all PBCRs for selected sites of cancers.

**Fig. 5.1: Relative Proportion (%) of cancers based on different Methods of Diagnosis - All PBCRs (Pooled Data)**

### Males



### Females



**Table 5.1 (a): Number (#) & Relative Proportion (%) of cancers based on Different Methods of Diagnosis****Males**

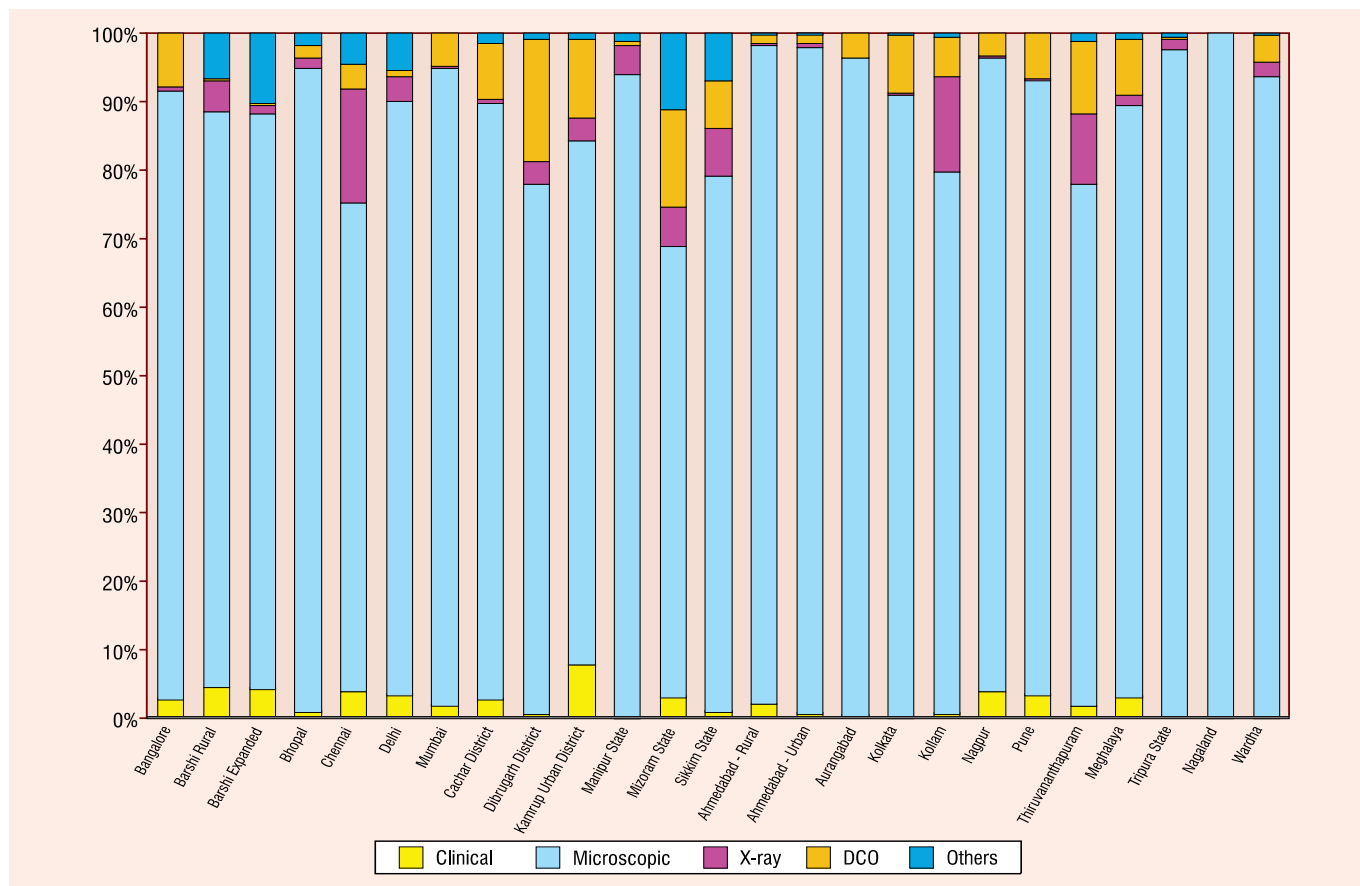
Registry	Clinical		Microscopic		X-Ray		DCO		Others		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
<b>Bangalore</b>	165	2.7	5325	88.4	39	0.6	472	7.8	3	0.0	6026	100.0
<b>Barshi Rural</b>	12	4.4	230	84.2	12	4.4	1	0.4	18	6.6	273	100.0
<b>Barshi Expanded</b>	34	4.3	667	83.7	9	1.1	2	0.3	82	10.3	797	100.0
<b>Bhopal</b>	13	0.9	1400	94.1	19	1.3	28	1.9	27	1.8	1487	100.0
<b>Chennai</b>	99	3.8	1870	71.4	431	16.5	98	3.7	121	4.6	2619	100.0
<b>Delhi</b>	518	3.4	13117	86.4	591	3.9	110	0.7	842	5.5	15189	100.0
<b>Mumbai</b>	203	1.8	10321	93.1	36	0.3	530	4.8	1	0.0	11091	100.0
<b>Cachar District</b>	42	2.7	1375	87.1	9	0.6	129	8.2	24	1.5	1579	100.0
<b>Dibrugarh District</b>	7	0.5	1115	77.5	47	3.3	255	17.7	14	1.0	1438	100.0
<b>Kamrup Urban District</b>	195	7.8	1922	76.6	77	3.1	291	11.6	23	0.9	2508	100.0
<b>Manipur State (MR)</b>	2	0.1	1306	93.8	56	4.0	8	0.6	18	1.3	1393	100.0
<i>Imphal West District</i>	0	0.0	355	94.2	14	3.7	5	1.3	2	0.5	377	100.0
<i>MR - Excl. Imphal West</i>	2	0.2	951	93.6	42	4.1	3	0.3	16	1.6	1016	100.0
<b>Mizoram State (MZ)</b>	41	3.0	902	65.6	79	5.7	196	14.2	153	11.1	1376	100.0
<i>Aizawl District</i>	18	2.6	482	69.3	49	7.0	72	10.3	71	10.2	696	100.0
<i>MZ - Excl. Aizawl</i>	23	3.4	420	61.8	30	4.4	124	18.2	82	12.1	680	100.0
<b>Sikkim State</b>	6	1.0	490	78.1	45	7.2	43	6.9	43	6.9	627	100.0
<b>Ahmedabad - Rural</b>	20	2.0	958	96.3	1	0.1	15	1.5	1	0.1	995	100.0
<b>Ahmedabad - Urban</b>	26	0.6	4409	97.3	27	0.6	67	1.5	4	0.1	4533	100.0
<b>Aurangabad</b>	2	0.4	484	96.0	0	0.0	18	3.6	0	0.0	504	100.0
<b>Kolkata</b>	11	0.2	4623	90.2	12	0.2	435	8.5	11	0.2	5127	100.0
<b>Kollam</b>	21	0.6	2666	79.0	477	14.1	184	5.5	24	0.7	3375	100.0
<b>Nagpur</b>	78	3.8	1896	92.6	7	0.3	66	3.2	0	0.0	2047	100.0
<b>Pune</b>	98	3.4	2585	89.9	5	0.2	188	6.5	0	0.0	2876	100.0
<b>Thiruvananthapuram</b>	43	1.7	1870	75.3	254	10.2	260	10.5	28	1.1	2483	100.0
<b>Meghalaya</b>	47	3.1	1311	86.3	24	1.6	125	8.2	13	0.9	1520	100.0
<i>East Khasi Hills</i>	30	3.2	829	87.8	21	2.2	57	6.0	7	0.7	944	100.0
<b>Tripura</b>	3	0.3	1020	97.1	17	1.6	3	0.3	6	0.6	1051	100.0
<b>Nagaland</b>	0	0.0	218	100.0	0	0.0	0	0.0	0	0.0	218	100.0
<b>Wardha</b>	0	0.0	711	93.6	18	2.4	29	3.8	2	0.3	760	100.0

**Table 5.1 (b): Number (#) & Relative Proportion (%) of cancers based on Different Methods of Diagnosis****Females**

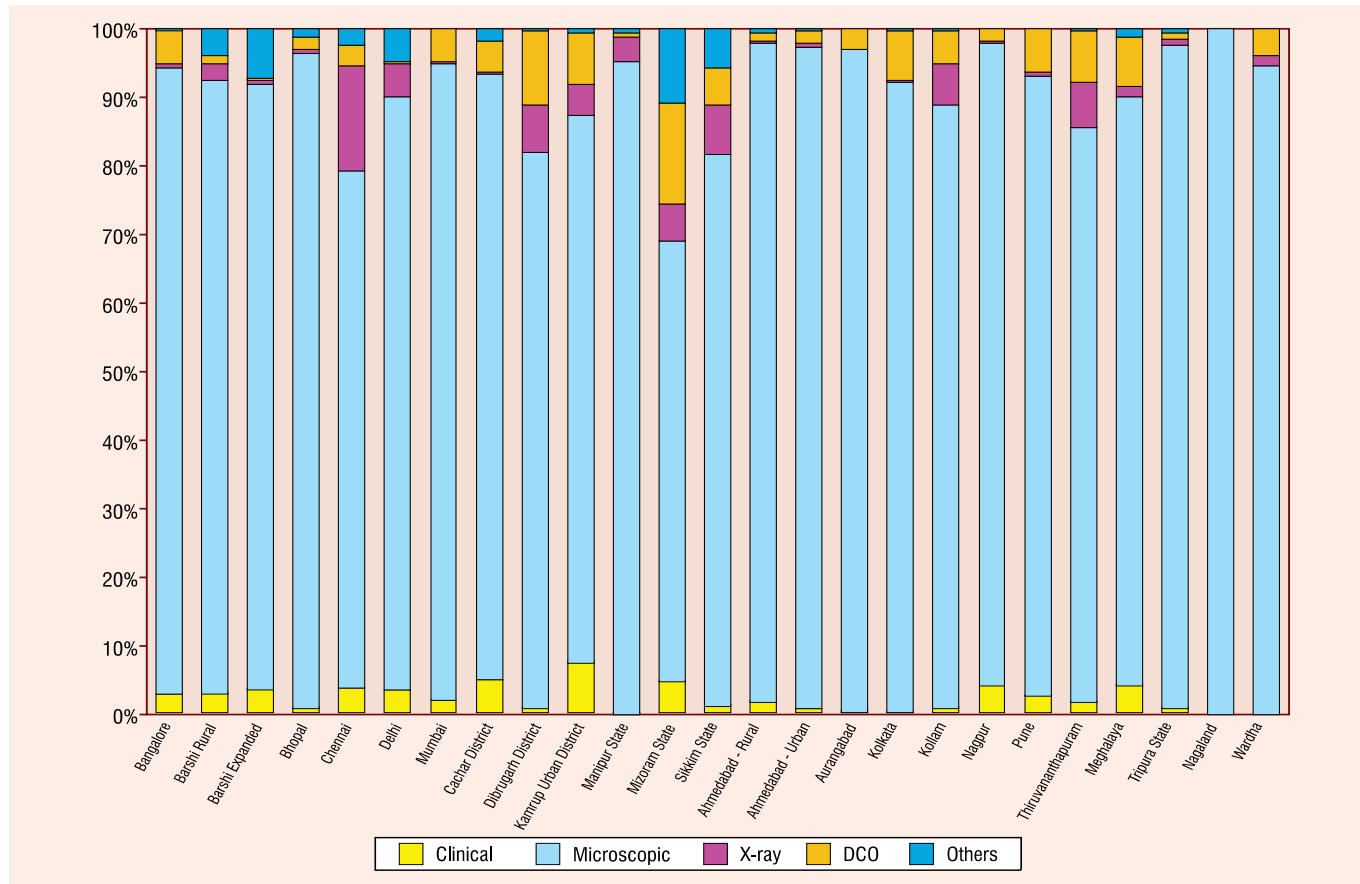
Registry	Clinical		Microscopic		X-Ray		DCO		Others		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
<b>Bangalore</b>	215	2.9	6719	90.9	33	0.4	375	5.1	8	0.1	7389	100.0
<b>Barshi Rural</b>	9	3.0	270	89.4	8	2.6	3	1.0	12	4.0	302	100.0
<b>Barshi Expanded</b>	36	3.7	851	87.9	8	0.8	1	0.1	69	7.1	968	100.0
<b>Bhopal</b>	15	1.0	1373	95.3	11	0.8	25	1.7	17	1.2	1441	100.0
<b>Chennai</b>	107	3.8	2113	75.6	426	15.2	83	3.0	67	2.4	2796	100.0
<b>Delhi</b>	483	3.5	11982	86.6	657	4.7	55	0.4	653	4.7	13838	100.0
<b>Mumbai</b>	230	2.0	10944	93.0	45	0.4	554	4.7	0	0.0	11773	100.0
<b>Cachar District</b>	63	5.0	1118	88.5	2	0.2	56	4.4	24	1.9	1263	100.0
<b>Dibrugarh District</b>	11	1.0	850	81.0	73	7.0	113	10.8	3	0.3	1050	100.0
<b>Kamrup Urban District</b>	145	7.6	1526	80.0	83	4.4	141	7.4	13	0.7	1908	100.0
<b>Manipur State (MR)</b>	1	0.1	1398	94.6	54	3.7	8	0.5	11	0.7	1478	100.0
<i>Imphal West District</i>	0	0.0	391	93.5	18	4.3	3	0.7	5	1.2	418	100.0
<i>MR - Excl. Imphal West</i>	1	0.1	1007	95.0	36	3.4	5	0.5	6	0.6	1060	100.0
<b>Mizoram State (MZ)</b>	54	4.9	705	63.7	59	5.3	164	14.8	117	10.6	1107	100.0
<i>Aizawl District</i>	27	4.5	389	65.2	31	5.2	74	12.4	71	11.9	597	100.0
<i>MZ - Excl. Aizawl</i>	27	5.3	316	62.0	28	5.5	90	17.6	46	9.0	510	100.0
<b>Sikkim State</b>	7	1.2	471	80.5	41	7.0	33	5.6	33	5.6	585	100.0
<b>Ahmedabad - Rural</b>	13	1.8	698	96.1	2	0.3	9	1.2	4	0.6	726	100.0
<b>Ahmedabad - Urban</b>	26	0.8	3343	96.6	16	0.5	69	2.0	6	0.2	3460	100.0
<b>Aurangabad</b>	2	0.4	522	96.7	0	0.0	16	3.0	0	0.0	540	100.0
<b>Kolkata</b>	13	0.3	4380	91.5	9	0.2	352	7.4	9	0.2	4786	100.0
<b>Kollam</b>	28	0.9	2754	88.0	188	6.0	149	4.8	7	0.2	3128	100.0
<b>Nagpur</b>	97	4.3	2108	93.6	5	0.2	43	1.9	0	0.0	2253	100.0
<b>Pune</b>	86	2.8	2756	90.3	14	0.5	195	6.4	0	0.0	3051	100.0
<b>Thiruvananthapuram</b>	51	1.9	2205	83.2	174	6.6	195	7.4	8	0.3	2649	100.0
<b>Meghalaya</b>	36	4.2	739	86.0	11	1.3	62	7.2	11	1.3	859	100.0
<i>East Khasi Hills</i>	27	4.8	492	87.4	7	1.2	28	5.0	9	1.6	563	100.0
<b>Tripura</b>	7	0.9	759	96.7	6	0.8	9	1.1	4	0.5	785	100.0
<b>Nagaland</b>	0	0.0	110	100.0	0	0.0	0	0.0	0	0.0	110	100.0
<b>Wardha</b>	0	0.0	777	94.5	14	1.7	31	3.8	0	0.0	822	100.0

**Fig. 5.2: Proportion (%) of Cancers based on Different Methods of Diagnosis - All PBCRs**

**Males**



**Females**



**Table 5.2(a): Number (#) & Relative Proportion (%) of cancers based on different types of Microscopic Diagnosis****Males**

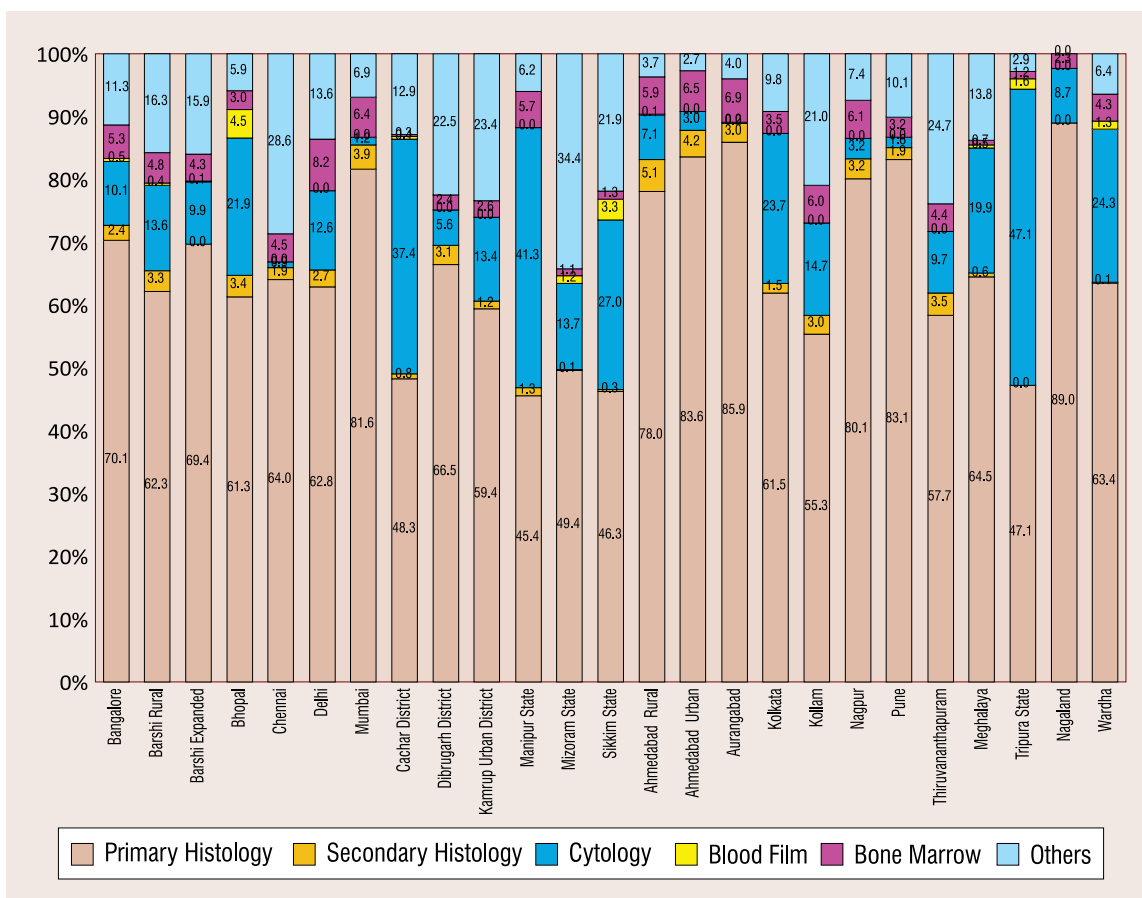
Type of Microscopic Diagnosis	Primary Histology		Secondary Histology		Cytology		Blood Film		Bone Marrow		Others		All Microscopic	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
<b>Bangalore</b>	4224	70.1	142	2.4	610	10.1	31	0.5	318	5.3	679	11.3	6026	100.0
<b>Barshi Rural</b>	170	62.3	9	3.3	37	13.6	1	0.4	13	4.8	43	15.8	273	100.0
<b>Barshi Expanded</b>	553	69.4	-	-	79	9.9	1	0.1	34	4.3	130	16.3	797	100.0
<b>Bhopal</b>	911	61.3	51	3.4	326	21.9	67	4.5	45	3.0	87	5.9	1487	100.0
<b>Chennai</b>	1677	64.0	51	1.9	24	0.9	-	-	118	4.5	749	28.6	2619	100.0
<b>Delhi</b>	9541	62.8	410	2.7	1914	12.6	4	0.0	1248	8.2	2072	13.6	15189	100.0
<b>Mumbai</b>	9052	81.6	430	3.9	128	1.2	-	-	711	6.4	770	6.9	11091	100.0
<b>Cachar District</b>	762	48.3	12	0.8	590	37.4	7	0.4	4	0.3	204	12.9	1579	100.0
<b>Dibrugarh District</b>	956	66.5	45	3.1	80	5.6	-	-	34	2.4	323	22.5	1438	100.0
<b>Kamrup Urban District</b>	1489	59.4	30	1.2	337	13.4	1	0.0	65	2.6	586	23.4	2508	100.0
<b>Manipur State (MR)</b>	633	45.4	18	1.3	576	41.3	-	-	79	5.7	87	6.2	1393	100.0
<i>Imphal West District</i>	177	46.9	6	1.6	147	39.0	-	-	25	6.6	22	5.8	377	100.0
<i>MR - Excl. Imphal West</i>	456	44.9	12	1.2	429	42.2	-	-	54	5.3	65	6.4	1016	100.0
<b>Mizoram State (MZ)</b>	680	49.4	2	0.1	189	13.7	16	1.2	15	1.1	474	34.4	1376	100.0
<i>Aizawl District</i>	360	51.7	1	0.1	108	15.5	8	1.1	5	0.7	214	30.7	696	100.0
<i>MZ - Excl. Aizawl</i>	320	47.1	1	0.1	81	11.9	8	1.2	10	1.5	260	38.2	680	100.0
<b>Sikkim State</b>	290	46.3	2	0.3	169	27.0	21	3.3	8	1.3	137	21.9	627	100.0
<b>Ahmedabad - Rural</b>	776	78.0	51	5.1	71	7.1	1	0.1	59	5.9	37	3.7	995	100.0
<b>Ahmedabad - Urban</b>	3788	83.6	190	4.2	134	3.0	1	0.0	296	6.5	124	2.7	4533	100.0
<b>Aurangabad</b>	433	85.9	15	3.0	1	0.2	-	-	35	6.9	20	4.0	504	100.0
<b>Kolkata</b>	3151	61.5	78	1.5	1213	23.7	1	0.0	180	3.5	504	9.8	5127	100.0
<b>Kollam</b>	1865	55.3	100	3.0	497	14.7	-	-	204	6.0	709	21.0	3375	100.0
<b>Nagpur</b>	1640	80.1	65	3.2	66	3.2	-	-	125	6.1	151	7.4	2047	100.0
<b>Pune</b>	2391	83.1	54	1.9	47	1.6	-	-	93	3.2	291	10.1	2876	100.0
<b>Thiruvananthapuram</b>	1432	57.7	87	3.5	241	9.7	1	0.0	109	4.4	613	24.7	2483	100.0
<b>Meghalaya</b>	981	64.5	9	0.6	303	19.9	8	0.5	10	0.7	209	13.8	1520	100.0
<i>East Khasi Hills</i>	631	66.8	8	0.8	180	19.1	5	0.5	5	0.5	115	12.2	944	100.0
<b>Tripura</b>	495	47.1	-	-	495	47.1	17	1.6	13	1.2	31	2.9	1051	100.0
<b>Nagaland</b>	194	89.0	-	-	19	8.7	-	-	5	2.3	-	-	218	100.0
<b>Wardha</b>	482	63.4	1	0.1	185	24.3	10	1.3	33	4.3	49	6.4	760	100.0

**Table 5.2(b): Number (#) & Relative Proportion (%) of cancers based on different types of Microscopic Diagnosis****Females**

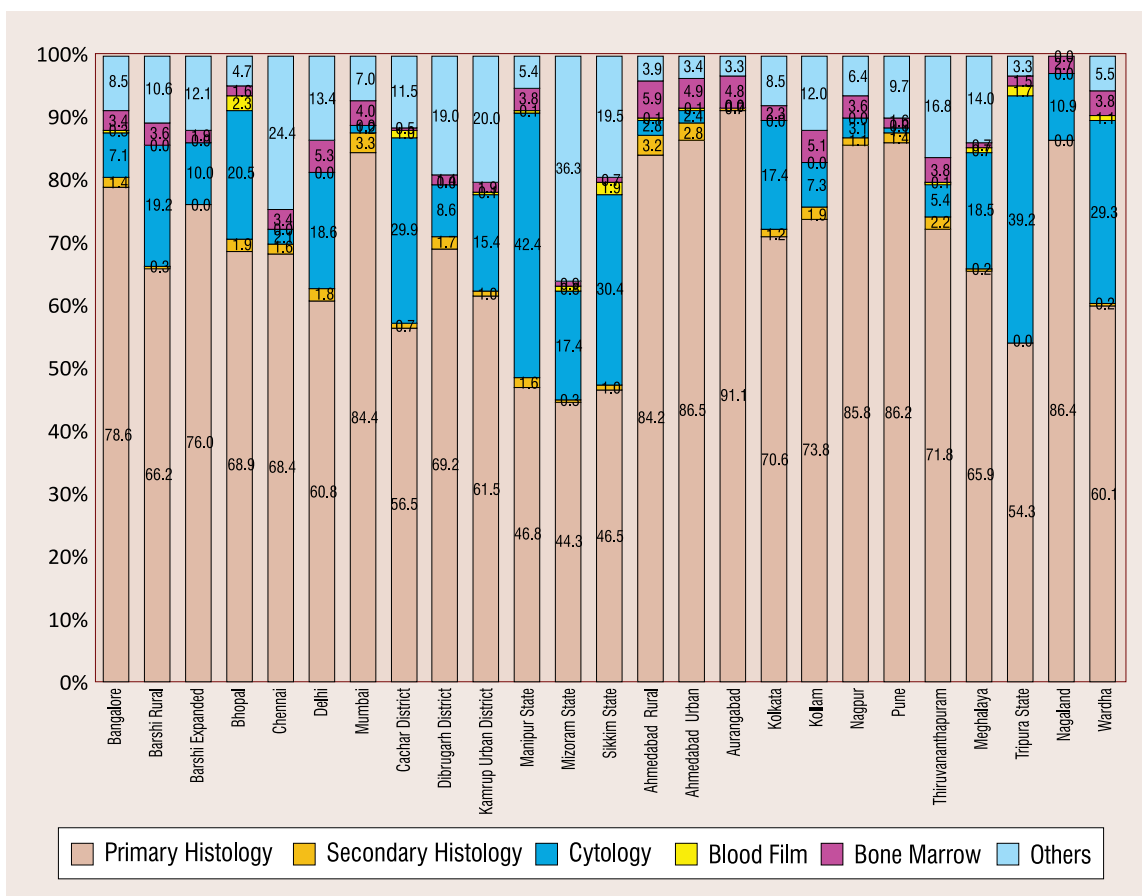
Type of Microscopic Diagnosis	Primary Histology		Secondary Histology		Cytology		Blood Film		Bone Marrow		Others		All Microscopic	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
<b>Bangalore</b>	5809	78.6	107	1.4	528	7.1	22	0.3	253	3.4	631	8.5	7389	100.0
<b>Barshi Rural</b>	200	66.2	1	0.3	58	19.2	-	-	11	3.6	32	10.6	302	100.0
<b>Barshi Expanded</b>	736	76.0	-	-	97	10.0	-	-	18	1.9	117	12.1	968	100.0
<b>Bhopal</b>	993	68.9	28	1.9	296	20.5	33	2.3	23	1.6	68	4.7	1441	100.0
<b>Chennai</b>	1913	68.4	46	1.6	59	2.1	-	-	95	3.4	683	24.4	2796	100.0
<b>Delhi</b>	8414	60.8	255	1.8	2573	18.6	-	-	740	5.3	1856	13.4	13838	100.0
<b>Mumbai</b>	9937	84.4	392	3.3	142	1.2	1	0.0	472	4.0	829	7.0	11773	100.0
<b>Cachar District</b>	713	56.5	9	0.7	378	29.9	12	1.0	6	0.5	145	11.5	1263	100.0
<b>Dibrugarh District</b>	727	69.2	18	1.7	90	8.6	-	-	15	1.4	200	19.0	1050	100.0
<b>Kamrup Urban District</b>	1174	61.5	20	1.0	294	15.4	1	0.1	37	1.9	382	20.0	1908	100.0
<b>Manipur State (MR)</b>	692	46.8	23	1.6	626	42.4	1	0.1	56	3.8	80	5.4	1478	100.0
<i>Imphal West District</i>	196	46.9	7	1.7	172	41.1	-	-	16	3.8	27	6.5	418	100.0
<i>MR - Excl. Imphal West</i>	496	46.8	16	1.5	454	42.8	1	0.1	40	3.8	53	5.3	1060	100.0
<b>Mizoram State (MZ)</b>	490	44.3	3	0.3	193	17.4	9	0.8	10	0.9	402	36.3	1107	100.0
<i>MZ Aizawl District</i>	273	45.7	1	0.2	104	17.4	3	0.5	8	1.3	208	34.8	597	100.0
<i>MZ - Excl. Aizawl</i>	217	42.5	2	0.4	89	17.5	6	1.2	2	0.4	194	38.0	510	100.0
<b>Sikkim State</b>	272	46.5	6	1.0	178	30.4	11	1.9	4	0.7	114	19.5	585	100.0
<b>Ahmedabad - Rural</b>	611	84.2	23	3.2	20	2.8	1	0.1	43	5.9	28	3.9	726	100.0
<b>Ahmedabad - Urban</b>	2993	86.5	96	2.8	82	2.4	4	0.1	168	4.9	117	3.4	3460	100.0
<b>Aurangabad</b>	492	91.1	4	0.7	-	-	-	-	26	4.8	18	3.3	540	100.0
<b>Kolkata</b>	3378	70.6	57	1.2	833	17.4	-	-	112	2.3	406	8.5	4786	100.0
<b>Kollam</b>	2307	73.8	60	1.9	228	7.3	-	-	159	5.1	374	12.0	3128	100.0
<b>Nagpur</b>	1933	85.8	24	1.1	70	3.1	-	-	81	3.6	145	6.4	2253	100.0
<b>Pune</b>	2629	86.2	43	1.4	34	1.1	-	-	50	1.6	295	9.7	3051	100.0
<b>Thiruvananthapuram</b>	1902	71.8	57	2.2	143	5.4	3	0.1	100	3.8	444	16.8	2649	100.0
<b>Meghalaya</b>	566	65.9	2	0.2	159	18.5	6	0.7	6	0.7	120	14.0	859	100.0
<i>East Khasi Hills</i>	390	69.3	1	0.2	93	16.5	5	0.9	3	0.5	71	12.6	563	100.0
<b>Tripura</b>	426	54.3	-	-	308	39.2	13	1.7	12	1.5	26	3.3	785	100.0
<b>Nagaland</b>	95	86.4	-	-	12	10.9	-	-	3	2.7	-	-	110	100.0
<b>Wardha</b>	494	60.1	2	0.2	241	29.3	9	1.1	31	3.8	45	5.5	822	100.0

**Fgi. 5.3 Relative Proportion (%) of cancers based on different types of Microscopic Diagnosis**

**Males**

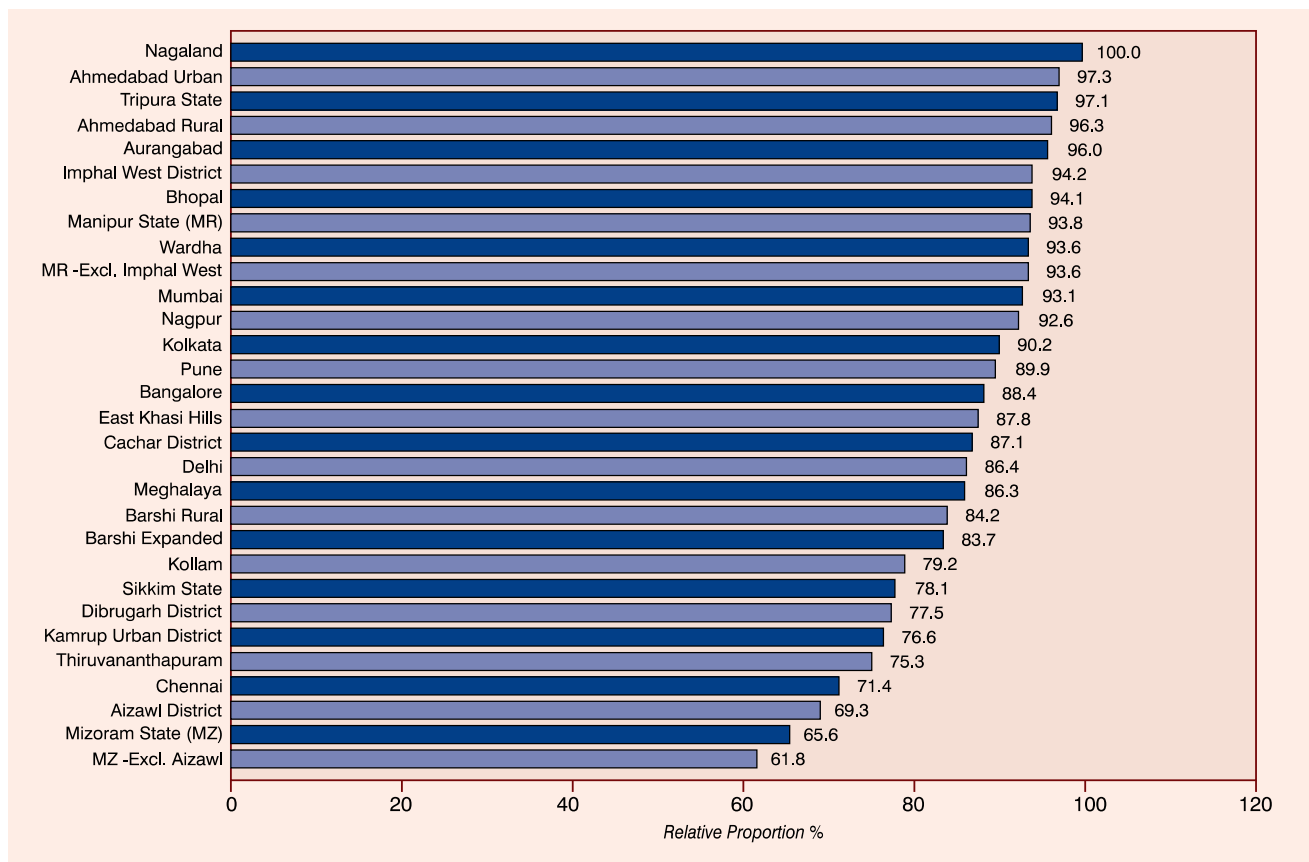


**Females**

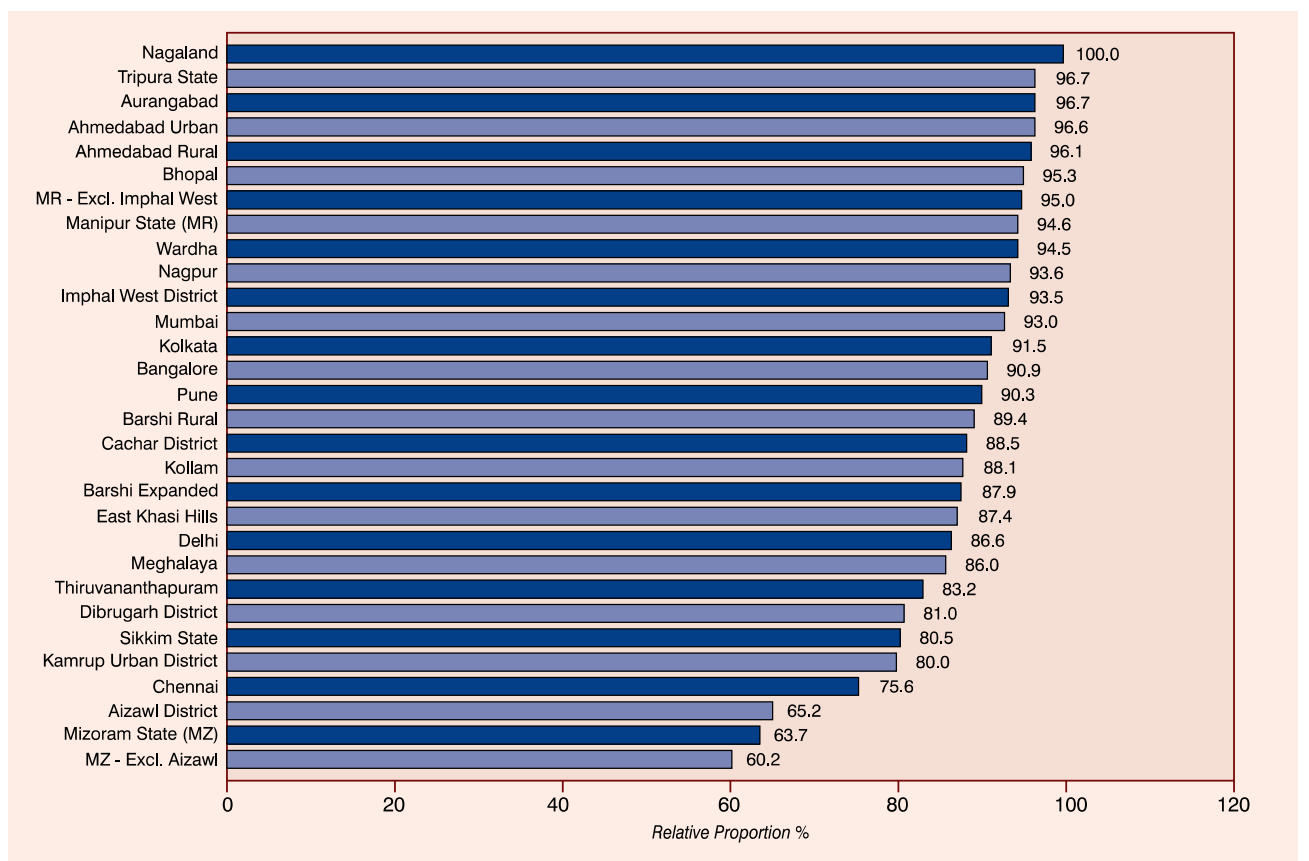


**Fig. 5.4: Comparison of Relative Proportion (%) of Microscopically Verified Cases of all PBCRs ALL SITES (ICD-10: C00-C97)**

**Males**



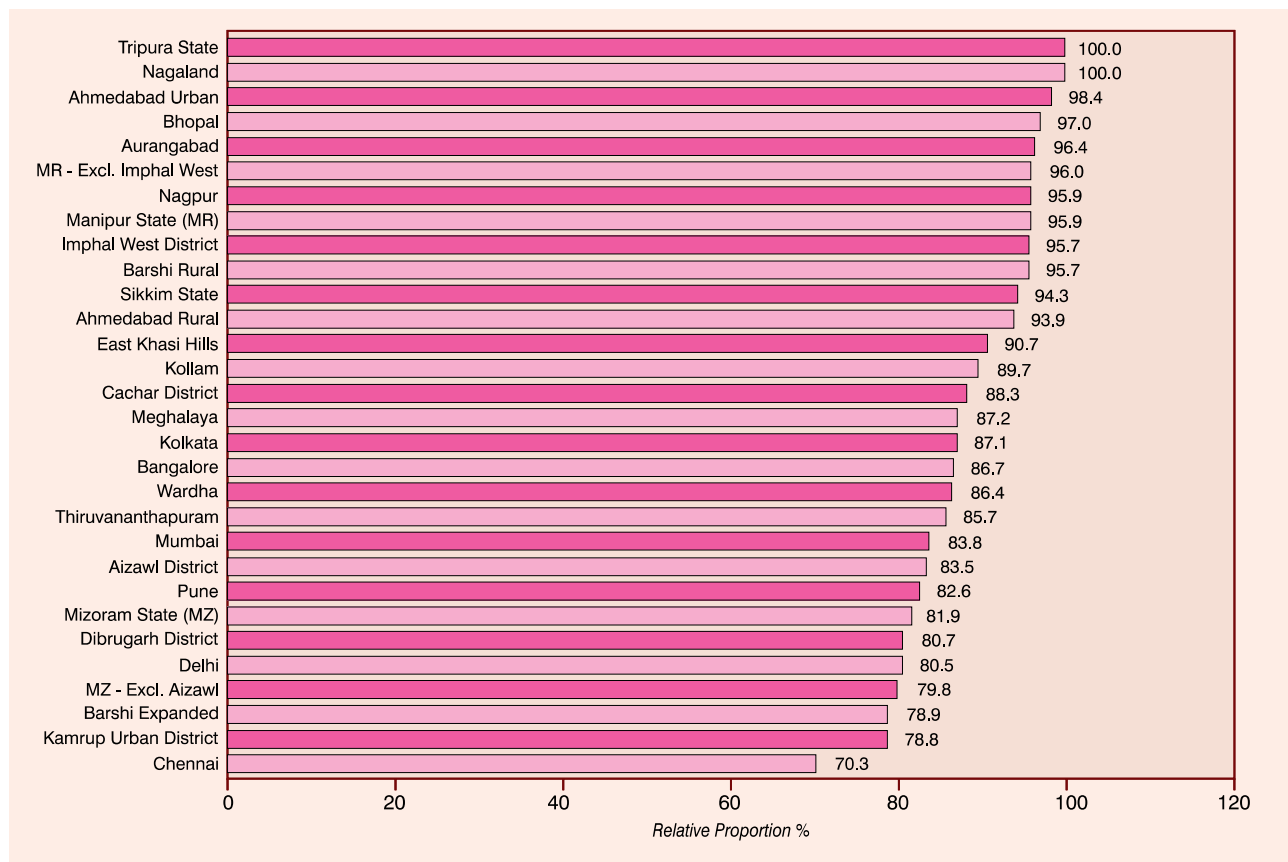
**Females**



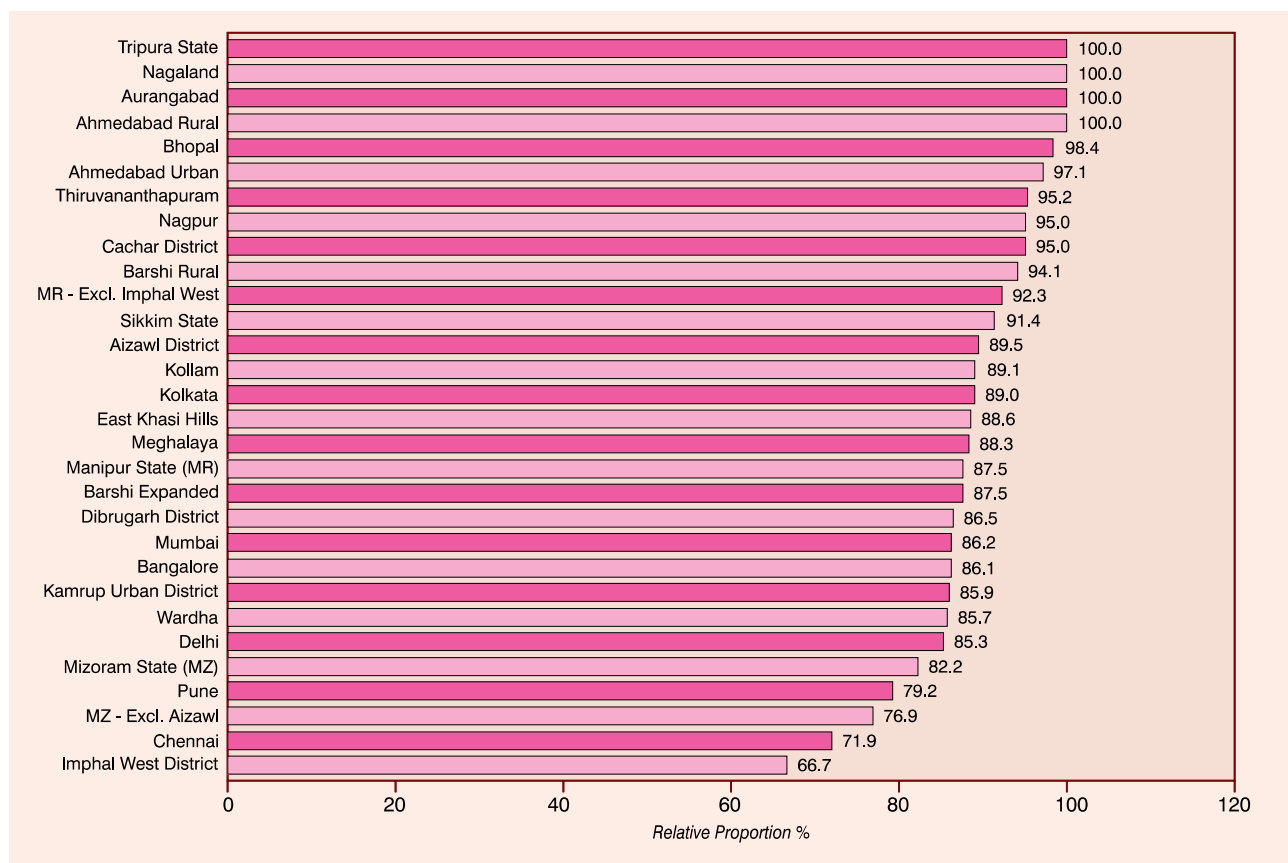


**Fig. 5.5: Comparison of Relative Proportion (%) of Microscopically Verified Cases of all PBCRs OESOPHAGUS (ICD-10: C15)**

**Males**

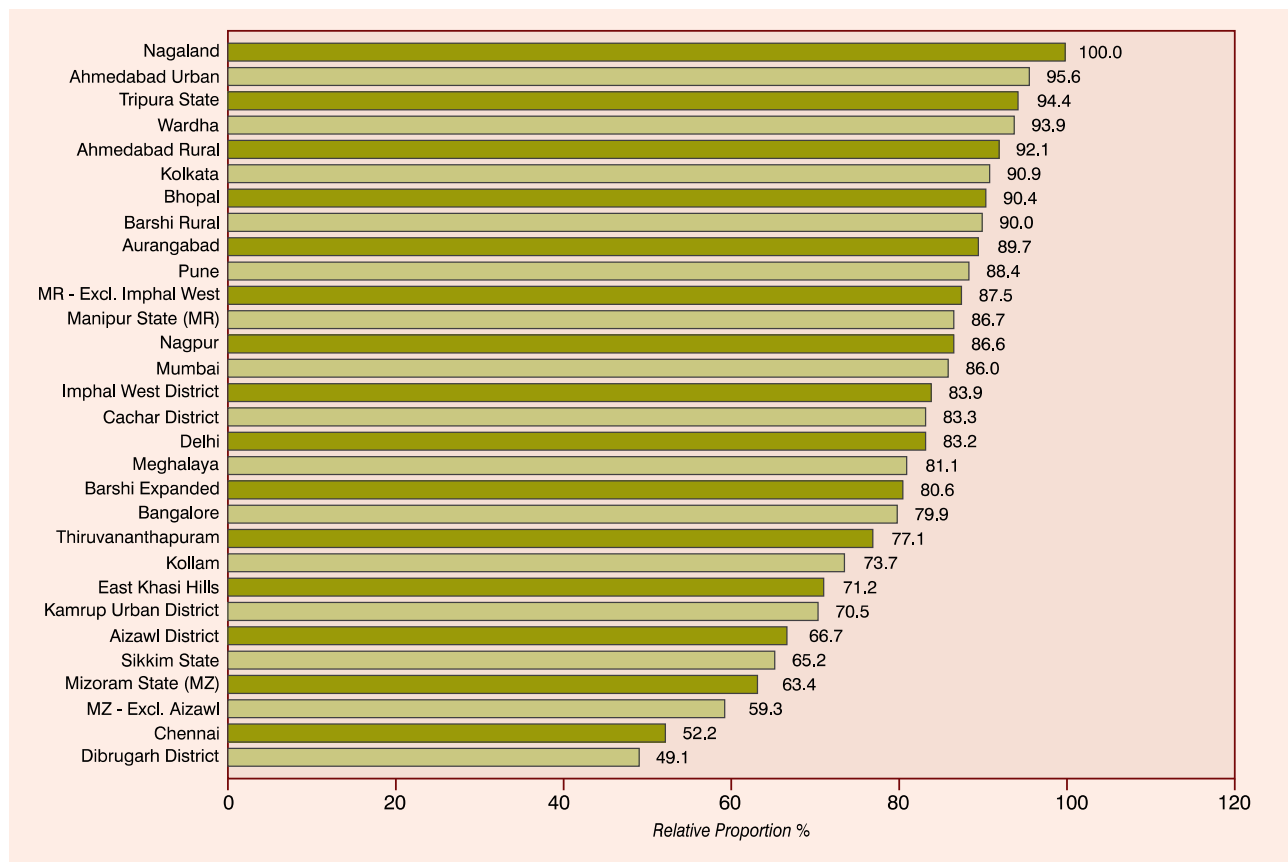


**Females**

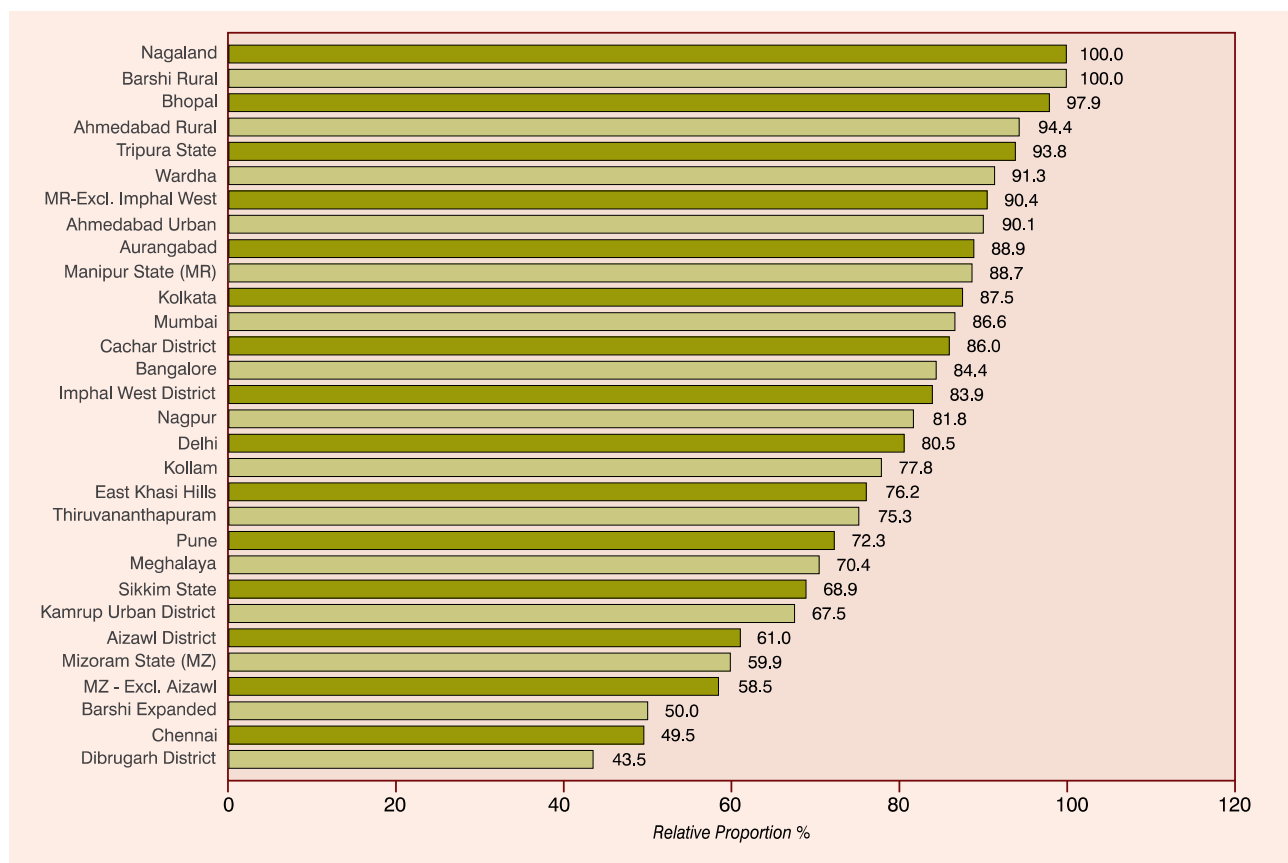


**Fig. 5.6: Comparison of Relative Proportion (%) of Microscopically Verified Cases of all PBCRs LUNG (ICD-10: C33-34)**

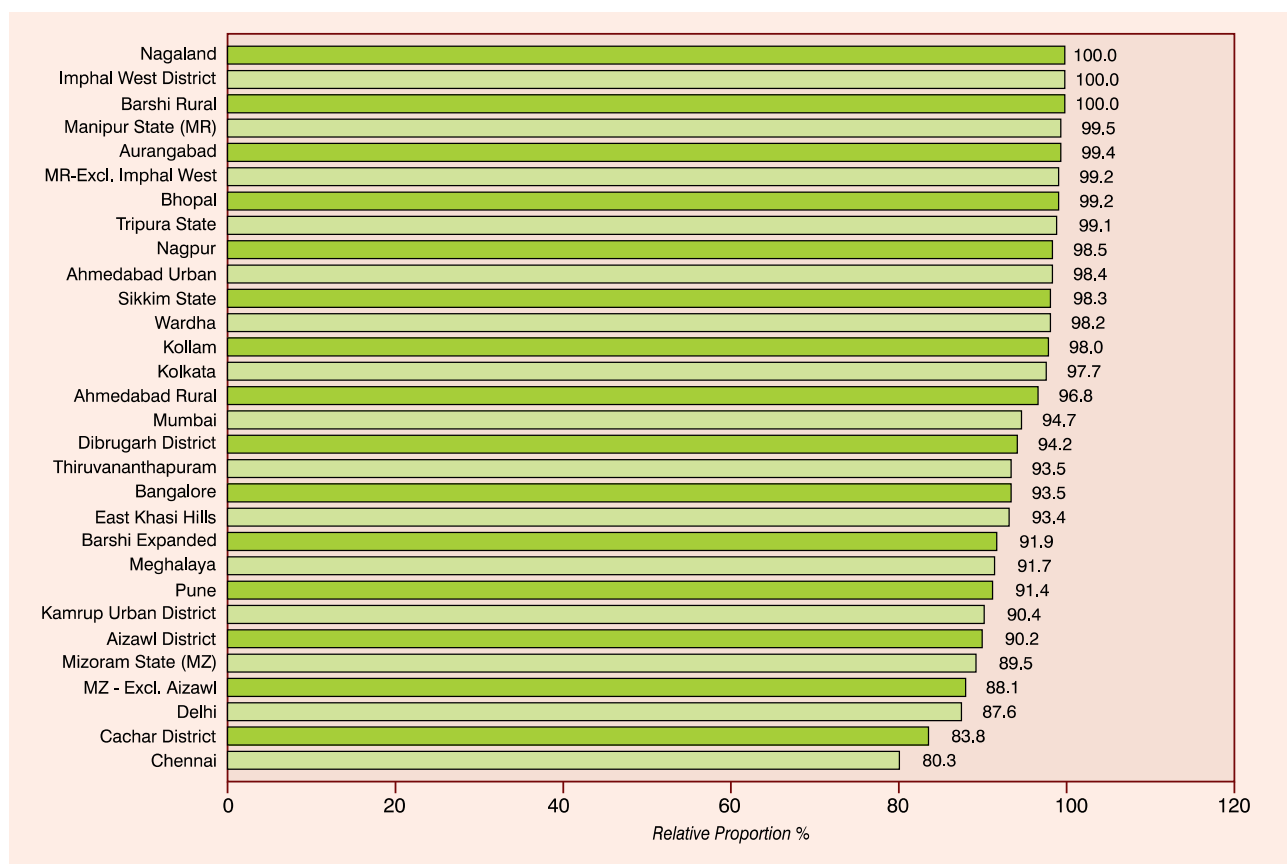
**Males**



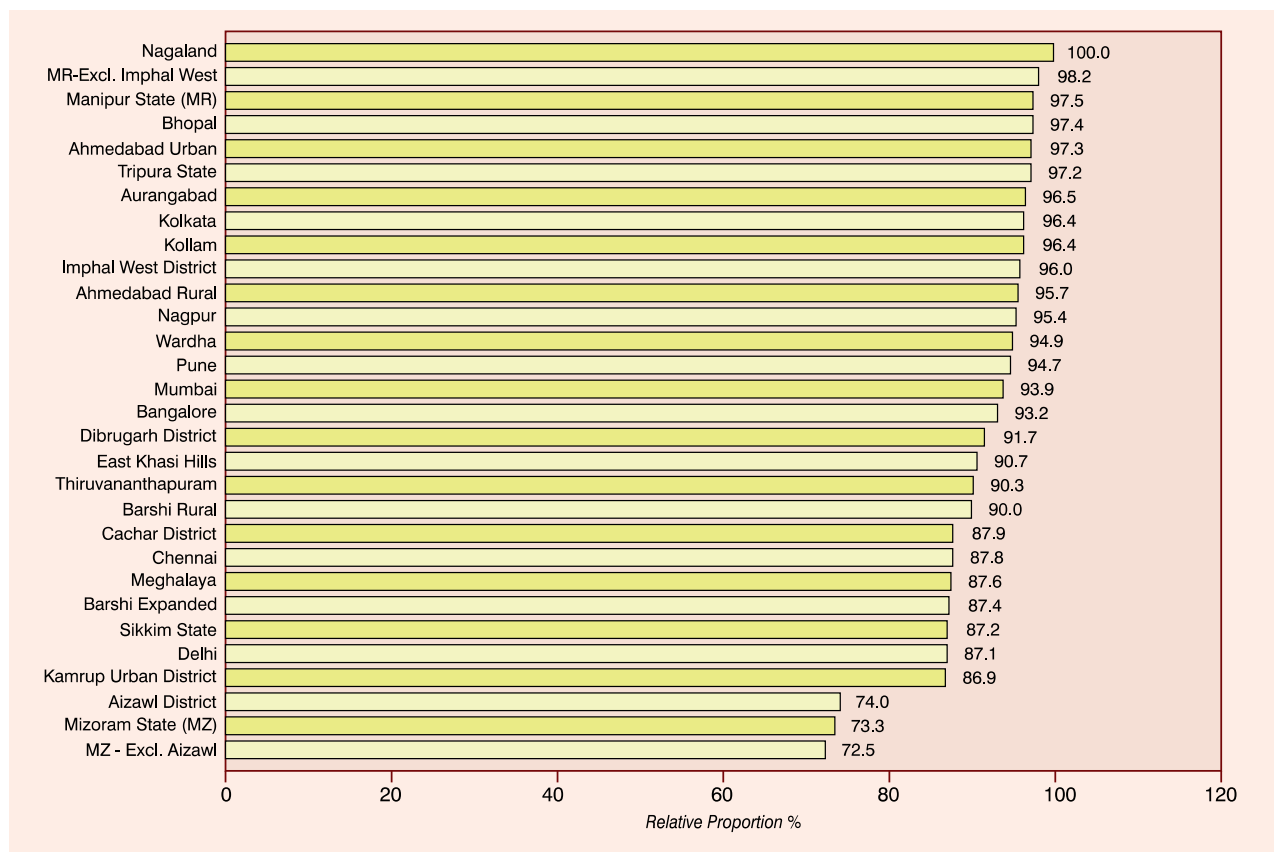
**Females**



**Fig. 5.7: Comparison of Relative Proportion (%) of Microscopically Verified Cases of all PBCRs BREAST (ICD-10: C50) - Females**



**Fig. 5.8: Comparison of Relative Proportion (%) of Microscopically Verified Cases of all PBCRs CERVIX UTERI (ICD-10: C53) - Females**



**Fig. 5.9: Comparison of Relative Proportion (%) of Microscopically Verified Cases of all PBCRs PROSTATE (ICD-10: C61) - Males**

