

## Study of Metastatic Lesions In Search of Primary

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### Abstract:

#### Background:

**Aim:** To identify the site of primary based on histopathological features in correlation with clinical, radiological and immunohistochemical findings wherever possible.

**Materials And Methods:** A prospective study of 200 cases for a period of 2 yrs. The material was fixed in 10% formalin routinely processed and stained with H&E.

**Results :** out of 200 cases studied most common secondary deposit is adenocarcinoma 152 cases followed by squamous cell carcinoma 21 cases , others 27 cases. most common age group is 40-50 yrs with female preponderance. Most common metastatic site is axillary lymph node 96 cases.

**Conclusion:** The predominant type of deposit was adenocarcinoma . Most common site to show metastasis with known primary was lymphnode i.e., axillary lymphnode . Most common site involved in metastasis of unknown origin was cervical lymphnode .

**Keywords :** Adenocarcinoma, Axillary lymphnode , Secondary deposit.

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## I. Introduction

Metastases are tumor implants discontinuous with the primary tumor. Major cause of cancer related morbidity and mortality. With the advent of newer chemotherapeutic regimens, specific for various sites, it has become essential to quote the most probable primary site

## II. Aims

To study the patterns and sites of metastasis to a particular site in the body. To identify the site of primary based on histopathological features. To study the age, sex incidence of various metastatic lesions. To correlate with clinical, radiological and immunohistochemical findings wherever possible.

## III. Materials and Methods

A prospective study of 200 cases was done at the Dept. of Pathology, GMC, Guntur from May 2008 to May 2010. Biopsy material received from GGH, Guntur. The material was fixed in 10% formalin routinely processed and stained with H&E. Special stains & IHC were done in a few cases.

## IV. Results

200 cases of metastatic lesions were studied over a period of two years. Based on histopathology the cases were categorised as secondary deposits of Adenocarcinoma , Squamous cell carcinoma , Undifferentiated carcinoma, Germ cell tumors , Miscellaneous group .

Table 1: Age and Sex incidence in various metastatic deposits

Age in years	Males	Females	Total
0-9	1	0	1
10-19	2	4	6
20-29	3	4	7
30-39	12	9	21
40-49	14	58	72
50-59	17	30	47
60-69	14	18	32
70-79	8	5	13
80-89	1	0	1
Total	72	128	200

**Table 2:Sex incidence in various histological types of secondary deposits**

Sex	Adeno Carcinoma	Squamous Carcinoma	cell	Undifferentiated Carcinoma	Germ cell tumors	Miscellaneous
Males	34	15		9	1	9
Females	118	6		6	0	2
Total	152	21		15	1	11

**Table03:Incidence of Specific histological types in different metastatic sites**

Metastatic sites	No of cases	Primary identified sites	Primary sites	Unknown primary sites
Axillary LN	98	96	Breast	2
Cervical LN	31	21	Thyroid ,lung,GIT, Nasopharynx,tongue	10
Left SCLN	1	1	GIT	0
Omental LN	7	7	GIT	0
Inguinal LN	7	6	Penis, scrotum,GIT,skin	1
Mesentric LN	5	5	GIT	0
Hilar LN	5	5	Respiratory tract	0
Para aortic LN	1	1	Adrenal gland	0
Omentum	9	9	GIT,FGT	0
Bone	6	1	Kidney	5
Lung	4	3	Bone ,GIT	1
CNS	7	3	GIT,Bladder	4
Ovary	6	1	GIT	5
Pleura	4	3	Respiratory tract	1
Pericardium	3	2	Respiratory tract	1
Liver	1	0	-	1
Soft tissue	3	1	GIT	2
Colon	1	1	FGT	0
Prostate	1	1	GIT	0
Falopian tube	1	0	-	1

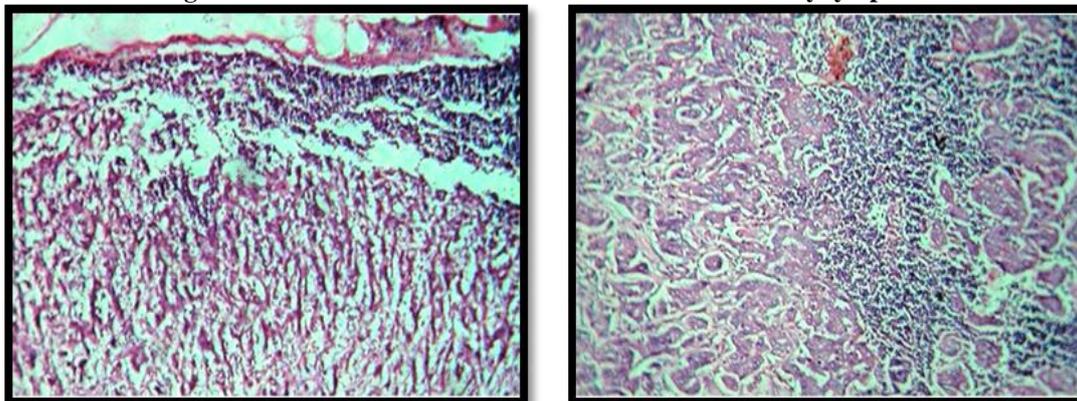
**V. Discussion**

Commonest age group being 40-50yrs constituting 72(36%) cases out of 200. Female preponderance observed with 128 (64%) cases out of 200. In females, common age group is 40-50 yrs. In males, common age group is 50-60yrs. Secondary deposits from adenocarcinoma accounted for majority 152(76%) out of 200. Followed by squamous cell carcinoma deposits (21 cases) and undifferentiated carcinoma (15 cases). Among adenocarcinoma deposits 118 out of 152 were from females. Common age group for adenocarcinoma is 40-50yrs. Out of all 21 squamous cell carcinoma deposits 15 were from males. Most common age group for squamous cell carcinoma is 50-70yrs.

Metastatic sites: In the present study, 18 metastatic sites identified. Most common site being the lymphnode, especially axillary lymphnode. A total of 154 cases out of 200 were lymphnodal metastases. Second most common site of metastasis in both sexes was omentum.

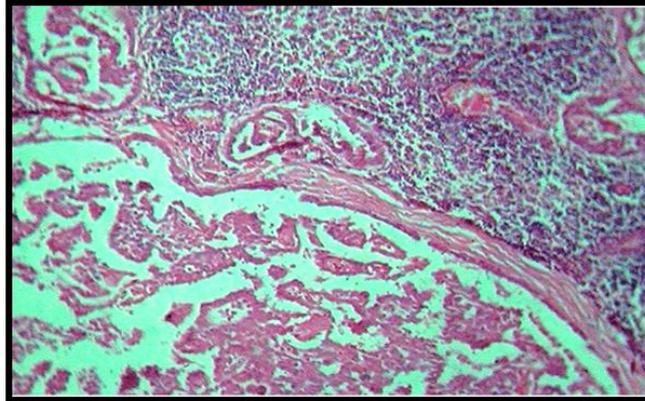
**5.1-Axillary lymphnode :** Deposits from Infiltrating Duct cell carcinoma of Breast – 96 cases constitutes major group in females

**“Fig”:1 & 2 Invasive Duct cell carcinoma breast in axillary lymphnode**



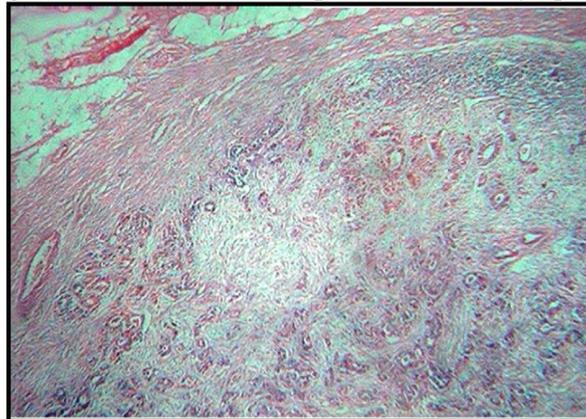
**5.2-Cervical lymphnode :** Total 31 cases – Males (14) ,Females (17) Adenocarcinoma most common (12) followed by Squamous cell carcinoma (9) and Undifferentiated carcinoma

**‘Fig.’ : 3 Papillary carcinoma of thyroid deposit in cervical lymphnode**



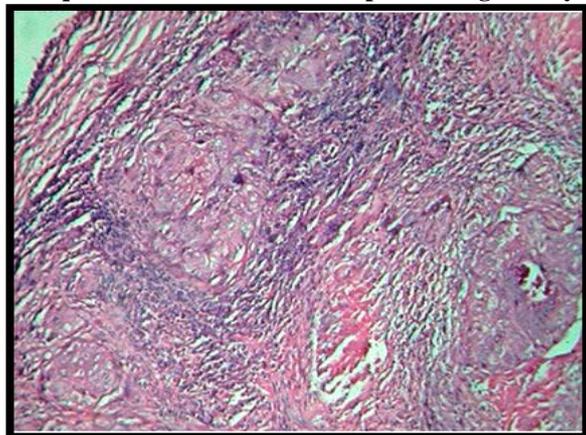
**5.3-Omental lymphnode :** Total - 7 cases ; males - 5 , females – 2. All are adenocarcinoma deposits from GIT primaries.

**‘ Fig.’ : 4 Adenocarcinoma deposit in omental lymphnode**

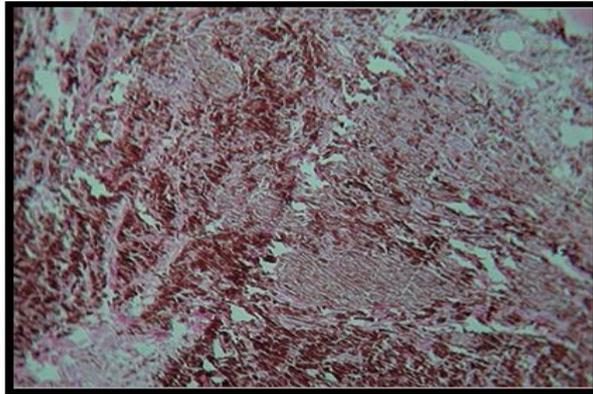


**5.4-Inguinal lymphnode :** Total - 7 cases , 6 in males and 1 in female. Squamous cell carcinomas - 4, 1 each from adenocarcinoma of GIT, undifferentiated Carcinoma and Malignant melanoma foot.

**‘ Fig.’ : 5 Squamous cell carcinoma deposit in inguinal lymphnode**



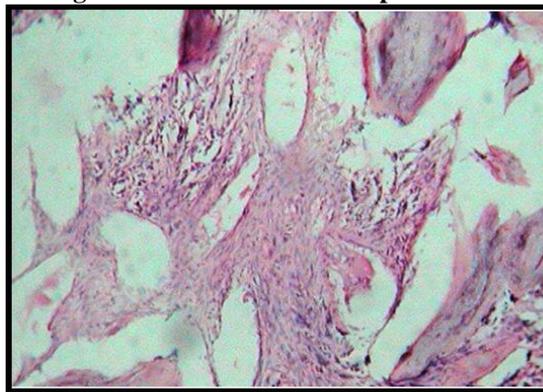
**‘ Fig.’ : 6 Malignant melanoma deposit in inguinal lymphnode**



**5.5- Mesenteric lymphnode:** Total - 5 cases ; 3 in males and 2 in females. All are adenocarcinoma deposits from GIT primaries.

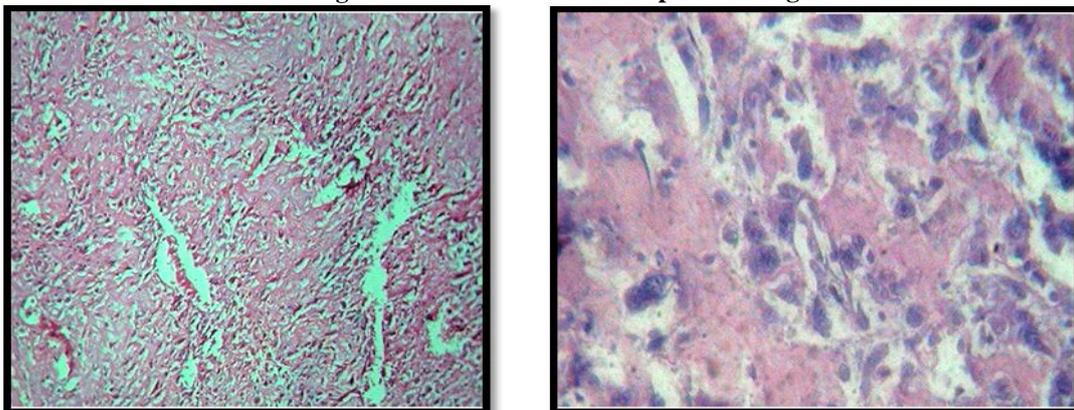
**5.6-Bone :** Total - 6 cases , 3 in males and 3 in females. adenocarcinomas - 2, Squamous cell carcinomas -2 & 1 undifferentiated type

**‘Fig.’ : 7 Adenocarcinoma deposit in bone**



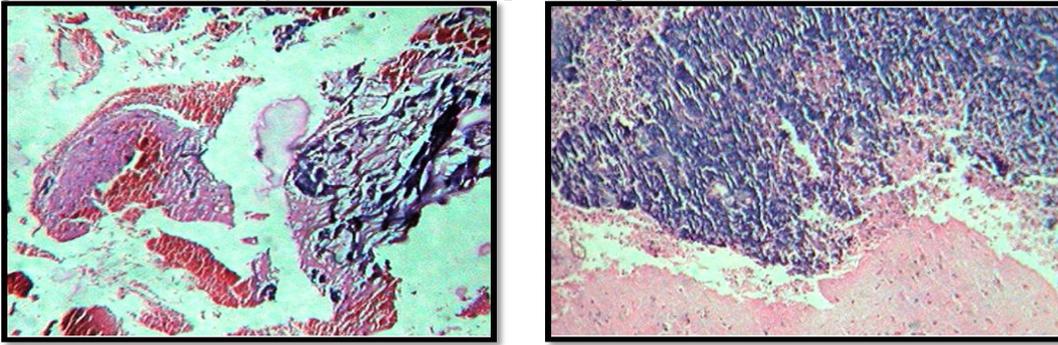
**5.7- lung :** Total 4 cases all in males, out of them 2 osteosarcoma deposits, 1 - adenocarcinoma from GIT & one undifferentiated carcinoma

**‘ Fig.’ : 8 & 9 Osteosarcoma deposit in lung**



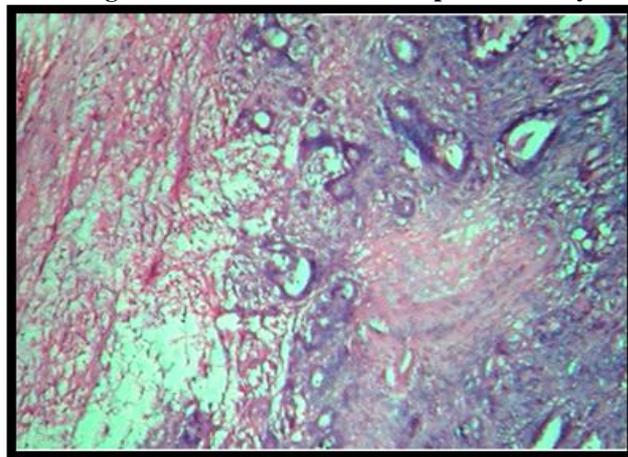
**5.8-CNS :** Total - 7 cases , 6 in males & 1 in female. Adenocarcinomas-2,Squamous cell carcinomas-2, 1 each undifferentiated type, Germ cell tumor & Transitional cell carcinoma deposit.

**‘ Fig.’ : 10 Mucin secreting adenocarcinoma deposit ‘ Fig.’ : 11- Transitional cell carcinoma deposit**

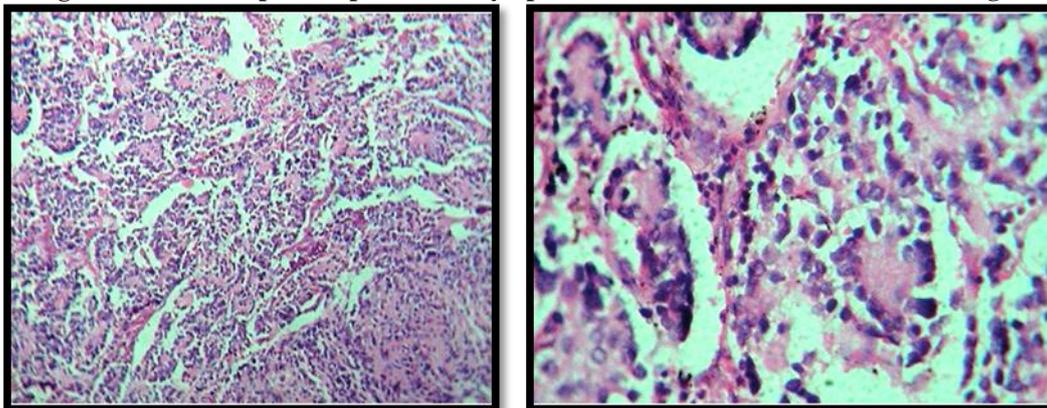


**5.9-Ovary :** Total - 6 cases, all are adenocarcinoma deposits, 1 with known Gastro intestinal primary

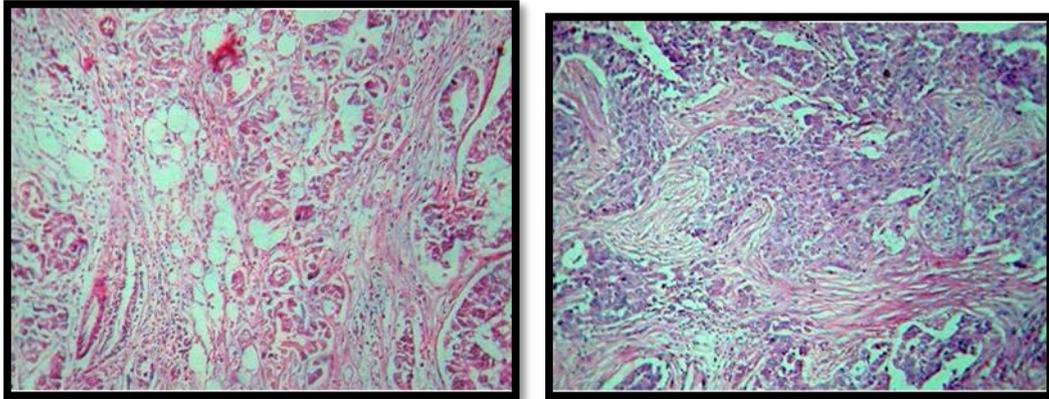
**‘ Fig.’ : 12 - Adenocarcinoma deposit in ovary**



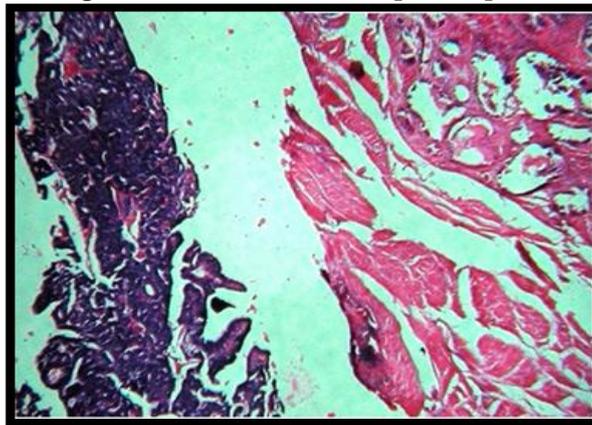
**‘ Fig.’ : 13 & 14 - Deposit in para aortic lymphnode from Neuroblastoma of adrenal gland**



**‘Fig.’ 15 Adenocarcinoma deposit in omentum ‘Fig.’ 16 Adenocarcinoma deposit in pericardium**



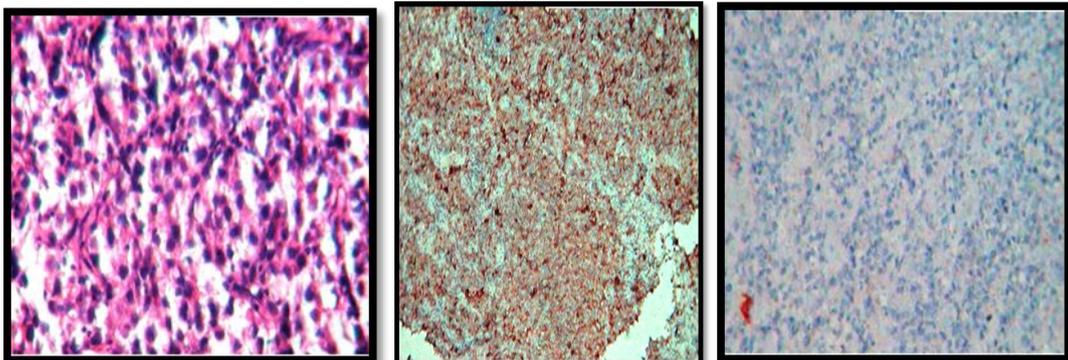
**‘ Fig.’ : 17 Adenocarcinoma deposit in prostate**



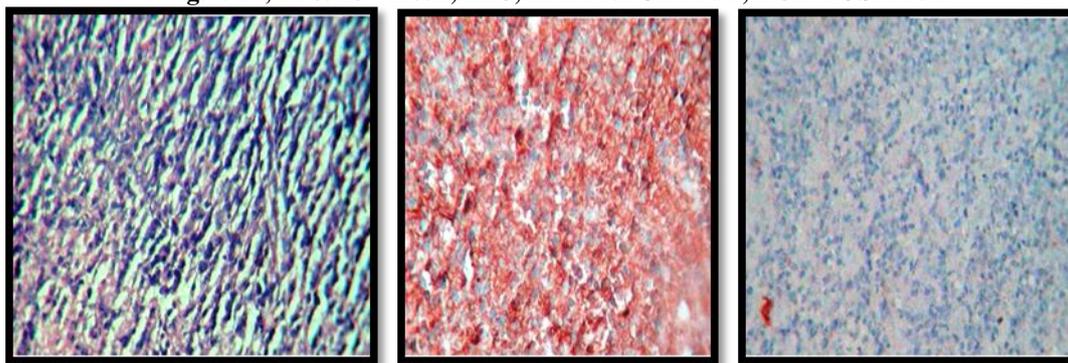
**Unknown primary sites :**

34 cases identified which constitute 17% of the total cases, 19 in males & 15 in females.  
The peak age group was 4<sup>th</sup> -5<sup>th</sup> decades

**‘ Fig.’ : 18, 19 & 20 H&E, IHC- EMA-POSITIVE, LCA-NEGATIVE.**



‘ Fig.’ : 21, 22 & 23 - H&E, IHC, EMA-NEGATIVE, LCA-POSITIVE



Dominant site of metastasis, in lesions with unknown primary was cervical lymphnode (10 cases) followed by bone (5 cases) ovary (5 cases) and CNS (4 cases).

### VI. Summary & Conclusion

The commonest age group to show metastases was 40 – 60 years .Most of the cases were females. Most common site to show metastasis with known primary was lymphnode i.e., axillary lymphnode in carcinoma of breast. Most common site involved in metastasis of unknown origin was cervical lymphnode .The predominant type of deposit was adenocarcinoma constituting 76% of the total cases. In comparative study, metastases with an occult primary site constituted 17% when compared to 10% of the literature. Out of 200 cases, primary site was detected in 83% when compared to 88.5% of cases in a study of Dr. SK Sinha et al. The dominant site of metastasis in both studies was lymphnode .Incidence of squamous cell carcinoma deposits was more in males than females in both studies.

### References

- [1]. Hynes RO: Metastatic potential: generic predisposition of the primary tumor or rare, metastatic variants – or both. Cell 113 : 821,2003.
- [2]. Ramaswamy S, et al : A molecular signature of metastasis in primary solid tumors. Nat Genet 33:49, 2003.
- [3]. Duarte I, Llanos O (1981) patterns of metastases in stomach. Hum Pathology 12 : 237-242.
- [4]. Fidler IJ : The pathogenesis of cancer metastasis: the “seed and soil” hypothesis revisited. Nat Rev Cancer 3:453, 2003.
- [5]. Dr. Sk. Sinha; Keya Bajju, Aparna Bhattacharya, Uma Benerjee 2003, 16-60.

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