

Study of Cytology and Histopathology of Secondary Deposits in Lymph Node

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Abstract

Aim: To assess the reliable of cytological diagnosis of second deposits of Lymph node in compare with histopathology.

Material And Methods: In a 3 year period 54 cases of secondary deposits of lymph nodes in cytology were reported and 41 cases were correlated with histopathology.

Conclusion: Cytological study is most reliable ancillary study in case of secondary deposits in lymphnodes.

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I. Introduction

The involvement of lymph nodes by metastatic tumors signifies a new phase in the progress of a cancer. It indicates that through a succession of molecular changes, the cancer cells have acquired phenotypes that enable them to invade, colonize, and disseminate. Establishing the presence of metastatic tumor in lymph nodes is essential for the management and prognosis of cancer. In human solid cancer, lymph node status is the most important indicator of clinical outcome. [16]. Sometimes, a lymph node metastasis is discovered before an occult primary tumor is detected. FNA is a reliable method of diagnosing metastatic cancer. Cytology is an ancillary study helps in identifying some of the primary and most of the metastatic deposits reliably. Cytological smears are also helpful in performing other diagnostic techniques like IHC in cases of unknown primary.

II. Aims And Objectives

Comparative study of cytology and histopathology of secondary deposits in lymph node. To assess the reliability of cytological diagnosis of secondary deposits of lymph node. To study incidence of various secondary deposits. To know the proportion of different types of secondary deposits in lymph node.

III. Materials And Methods

Period of study: from July 2013-July 2016. Total number of cases: 54 cases, 41 cases are correlated. Fixatives used: Methanol fixative for cytological study, 10% formalin for biopsies. Stain used: routine H&E stain.

IV. Observations

Lymph node groups involved and type of secondary deposits in relation to sex based on cytological study of 54 cases.

Site	Type of	Site of	Male	Female
Involved	Secondary	Origin	Total No. of	Total No. of
	Deposits		cases 25	cases 29
Cervical	Squamous	Unknown	24	8
	Cell			
	Carcinoma			
	Adeno	Unknown	01	1
	Carcinoma			
	Other	thyroid	0	4
	epithelial			
	deposits	Salivary		
		gland		
Axillary	adenocarcinoma	Breast	0	14
Inguinal	adenocarcinoma	Unknown	0	1
	Melanoma	Unknown	0	1

Table 1 Lymph node groups involved and type of secondary deposits in relation to sex based on Histopathological study in 41 cases

Site	Type of	Site of	Male	Female
Involved	Secondary	Origin	Total No. of	Total No. of
Deposits		cases 20	cases 21	
Cervical	Squamous	Unknown	19	6
Cell				
Carcinoma				
Adeno	Breast	0		1
Carcinoma	intestine	1		0
Other	Thyroid	0		2
epithelial				
deposits	Salivary			
gland	0			1
Axillary	adenocarcin			
oma	Breast	0		11
deposits				

Table 2 Cytology and histopathological correlation of 41 cases

Type of	Total no. Of	Total no. Of cas	Total
metastatic	cases studied by	correlated	cases ot
in cytology	deposit in 54	histopathology 41	
correlated 13 lymph node			
Squamous cell	32	25	7
carcinoma			
Adeno Duct cell	17	12	
Carcinoma carcinoma			
Deposits of Breast			
Adeno		1	
Carcinoma Of Intestine			
Other Unknown	5	3	
Epithelial			
Deposits Papillary	3	2	
Carcinoma Of thyroid			
Melanoma	1	0	
Muco	1	1	
Epidermoid			
Carcinoma of Salivary Gland			
Deposits			

V. Discussion

Cytological study of secondary deposits in lymph node is very reliable. Cytological study of the lesions which were positive for metastatic deposits are confirmed by histopathology. Out of 54 cases studied in cytology as secondary deposits 41 cases were correlated with histopathology. 13 cases could not be correlated with histopathology as some were dropouts. Based on FNA study cervical group of lymph nodes (38 cases) are more commonly involved followed by axillary (15 cases) and inguinal (2 cases). In cervical lymph nodes majority are deposits of squamous cell carcinoma (32 cases) followed by other epithelial deposits (4 cases - 3 thyroid, 1 salivary), and adenocarcinoma deposits (2 cases). Squamous cell carcinoma deposits (32 cases) in cervical lymph nodes majority were males (24 cases) followed by females (8 cases). On FNA in axillary group of lymph nodes

adeno carcinoma secondary deposits are observed(14 cases) in females only. On FNA in Inguinal lymph nodes adeno carcinoma(1case),and melanoma (1case)secondary deposits are seen.Out of 54 cases of cytology 41 cases are correlated with histopathology. In cervical region out 38 cases in cytology 30 cases are correlated with histopathology.Inaxillary region out of 14 cases 12 cases are correlated with histopathology. In inguinal region 2 cases could be correlated.

Fig1 .Squamous cell carcinoma meatstatic deposits cytology 10x

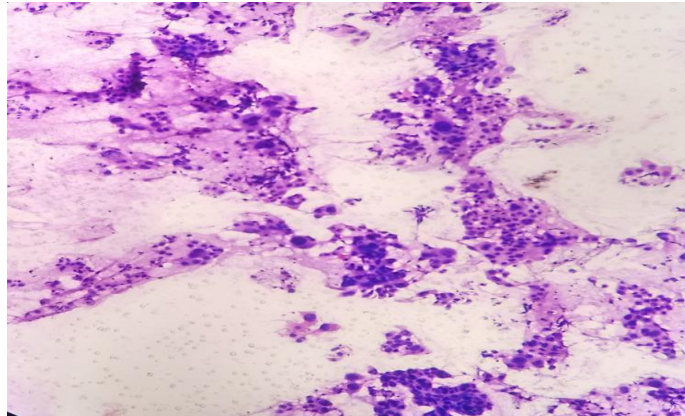


Fig2 Squamous cell carcinoma secondary deposits histopathology 40x

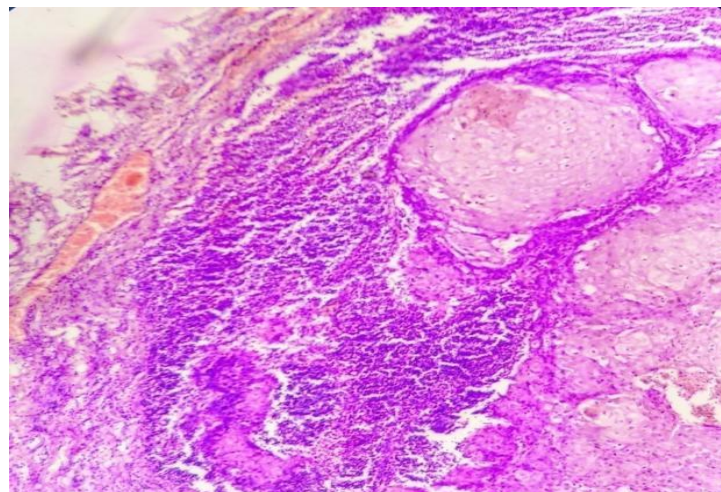


Fig 3 Adenocarcinoma metastatic deposits cytology 40x

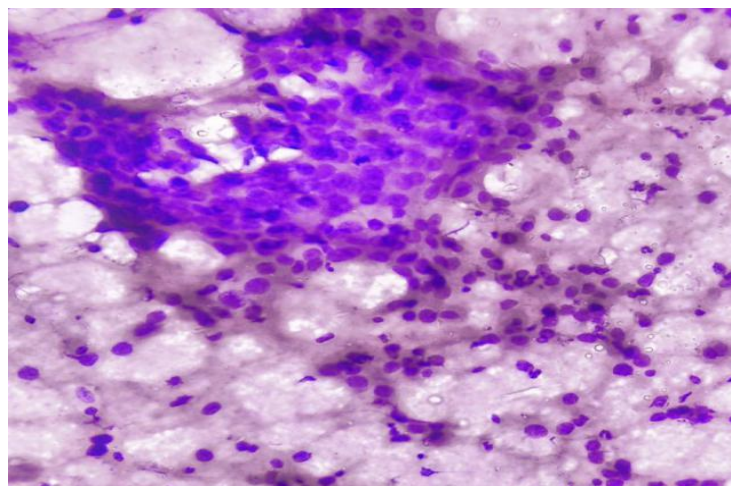


Fig 4 Duct cell Adenocarcinoma Breast secondary deposits histopathology 40x

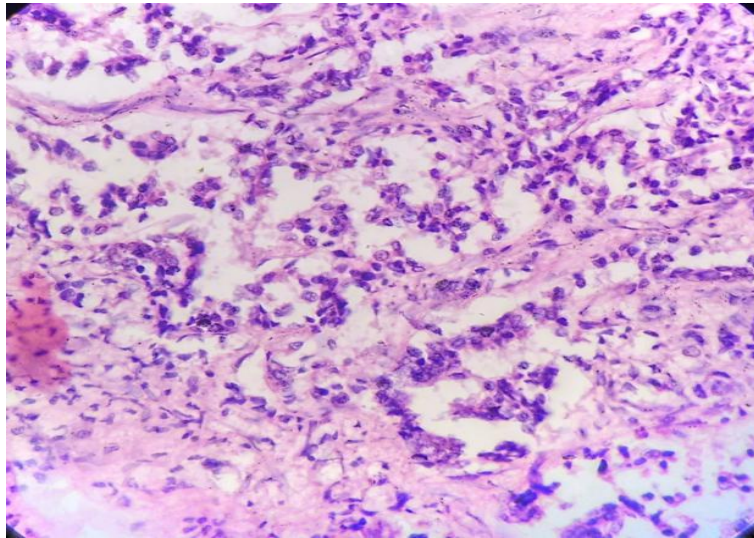


Fig 5 Adeno carcinoma of colon cytology 10x

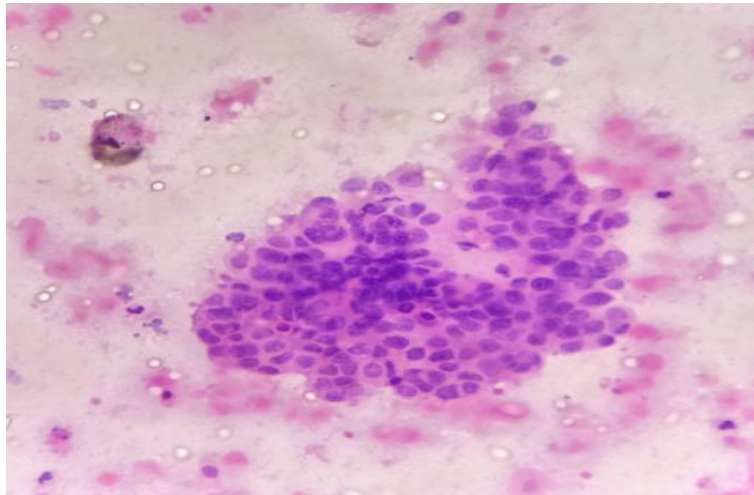


Fig 6 Papillary carcinoma of thyroid secondary deposits in lymphnode histopathology 4x

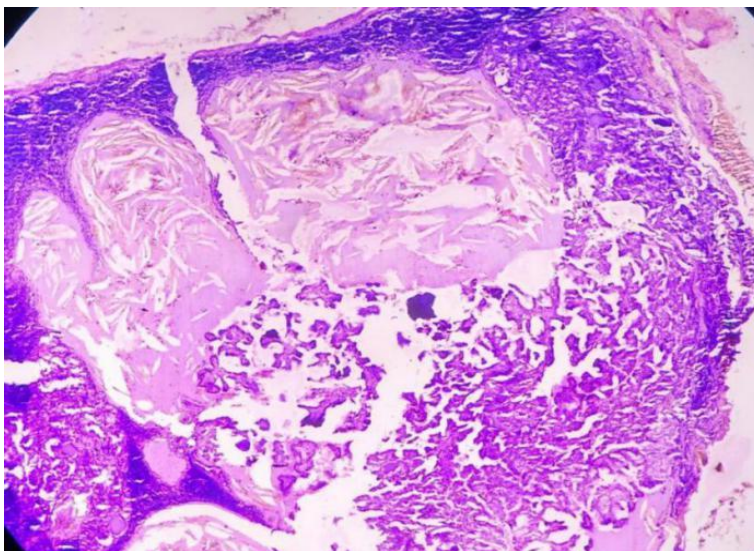


Fig 7 Cytology of lymph node aspirate in mucoepidermoid carcinoma of salivary gland 40x

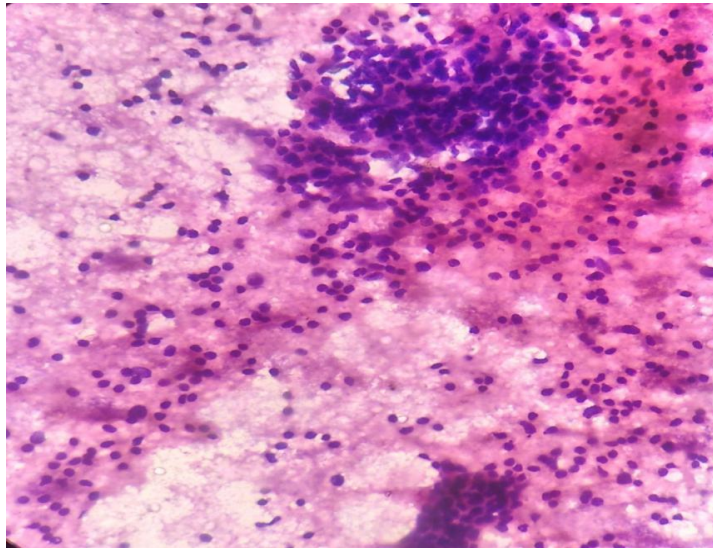


Fig 8 Gross picture of lymphnode in mucoepidermoid carcinoma of salivary gland

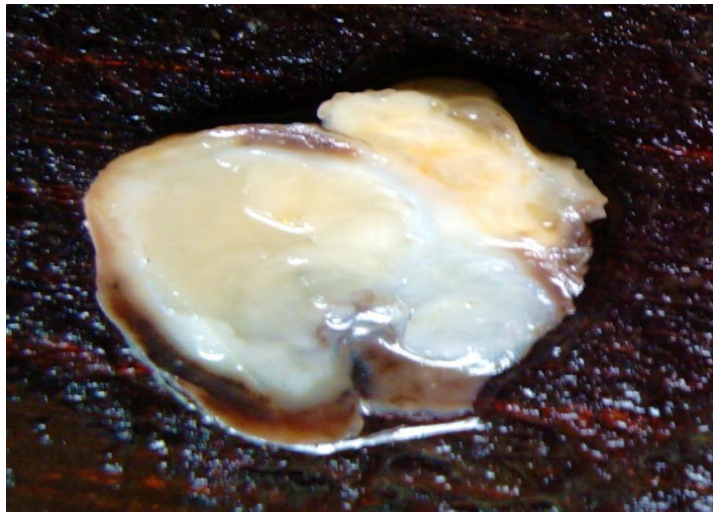


Fig 9 Histopathology of lymphnode10x

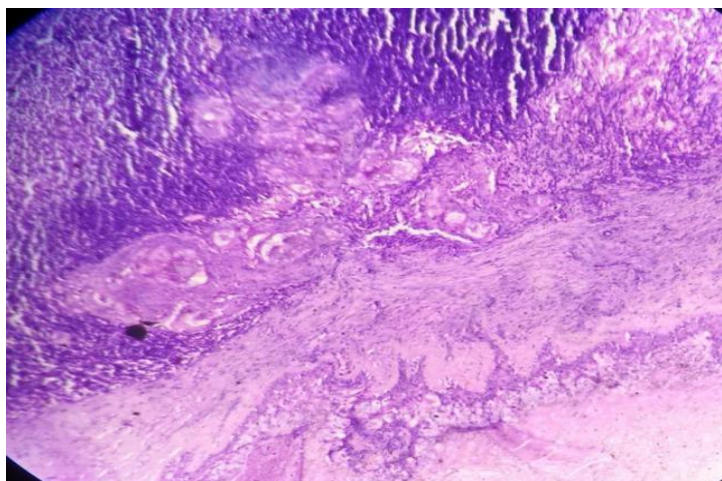


Fig 9 Malignant melanoma secondary deposits in lymph node cytology 40x

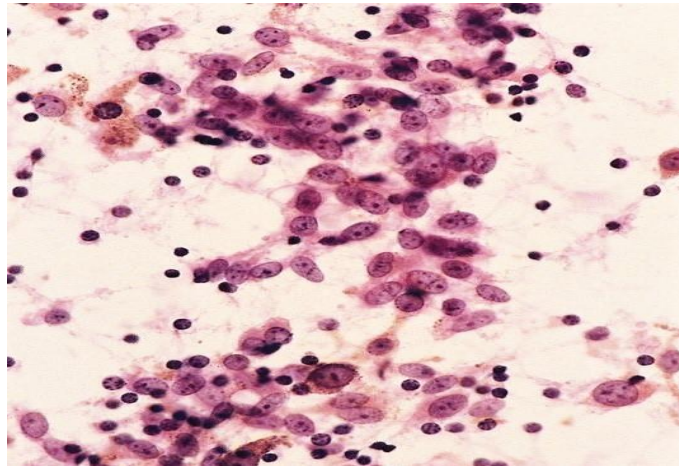


Fig 10 Malignant melanoma histopathology 10x

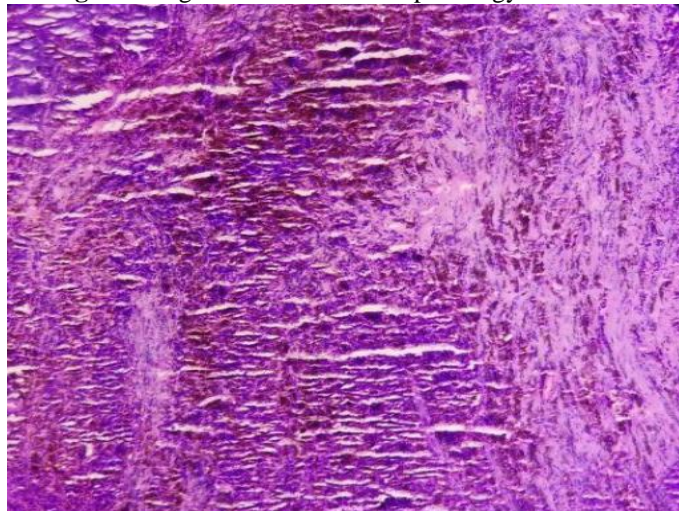
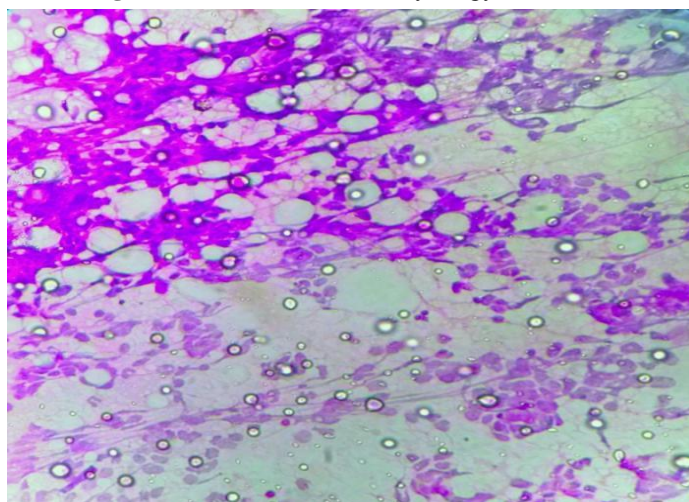


Fig 11. Small cell carcinoma cytology 40x



VI. Summary

Cytological study is most reliable ancillary study in case of secondary deposits. Cervical lymph nodes are most commonly involved followed by axillary and inguinal lymph nodes. The incidence of secondary deposits are slightly more common in females compared to males. The incidence of Squamous cell carcinoma

deposits is seen in males in majority of the cases in cervical lymph nodes. The incidence of Duct cell adenocarcinoma of breast is seen in females in majority of the cases in axillary lymph nodes.

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