



TO STUDY CYTOMORPHOLOGICAL SPECTRUM OF MALE CHEST WALL LESIONS INCLUDING MALE BREAST BY FNAC

Anaesthesiology

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ABSTRACT

INTRODUCTION

The chest wall comprises the muscles, bones, joints, and soft tissues situated between the neck and the abdomen. Pathologic process may involve the chest wall, including Congenital and developmental anomalies, Inflammatory and infectious diseases, Soft tissue tumours and bone tumour.

MATERIAL & METHODS

Aspiration was performed with 22 or 23 gauge needle attached to a 20ml disposable syringe total of 50 cases were studied. Smears were May-Grunwald Giemsa (MGG) stained. Whenever needed, Ziehl-Neelsen staining was done.

RESULT

- Adequate smears were obtained in 48 cases (96%)
- Cytological diagnosis rendered were as follows-
- Three (6%) cases were malignant
- Two (04%) cases were of benign spindle cell lesion.
- Four (08%) cases were of tuberculosis.
- Ten (20%) cases were of gynaecomastia.
- Nine (18%) cases were of inclusion cyst

CONCLUSION

It could be concluded that fine needle aspiration cytology of male chest wall lesion is a useful and safe and diagnostic procedure. Complications were minimal. However in some cases, histological verification, clinico-radiological correlation and ancillary techniques will be required.

KEYWORDS

INTRODUCTION

The chest wall comprises the muscles, bones, joints, and soft tissues situated between the neck and the abdomen. Any pathologic process may involve the chest wall, including; ^{2,3,4} Congenital and developmental anomalies Inflammatory and infectious diseases Soft tissue tumours and Bone tumours Diagnostic modalities for chest wall lesions includes X-ray, C.T, M.R.I, F.N.A.C., Biopsy.

MATERIAL & METHODS

Aspiration was performed with 22 or 23 gauge needle attached to a 20ml disposable syringe. The aspirated material was expressed into the slides and the material was smeared by pressing this material on the slide with another slide. Smears were air-dried, methanol fixed and May-Grunwald Giemsa (MGG) stained. Whenever needed, Ziehl-Neelsen staining was done.

OBSERVATIONS

ADEQUACY

The aspirate was considered adequate if the cellular elements were sufficient for rendering diagnosis. The adequacy was obtained in 48 aspirates out of 50 (96%).

AGE GROUPS

Cases were seen in all age groups.

Table 1 : DISTRIBUTION OF CASES ACCORDING TO AGE GROUPS

S. No.	Age groups in yrs	No of cases	Percentage
1.	1-10	04	08
2.	11-20	10	20
3.	21-30	16	32
4.	31-40	04	08
5.	41-50	06	12
6.	51-60	04	08
7.	61-70	05	10
8.	71-80	01	02
Total	50		100

DIAGNOSIS

The breakup of 50 cases which were adequate enough for giving a CYTOLOGICAL conclusive/suspicious diagnosis on fine needle aspiration as follows.

- 1) Inadequate cases- 02.
- 2) Non-neoplastic cases-45.
- 3) Cases conclusive of malignant neoplasm-03.

Table 2 : DISTRIBUTION ACCORDING TO CYTOLOGICAL DIAGNOSIS

S. No.	Type of lesion	Lesion	No of cases	%age
1.	Inadequate aspirate	Only blood aspirated	02	04%
2.	Benign	Lipoma	14	28%
		Gynaecomastia	10	20%
		Inclusion cyst	09	18%
		Necrotising inflammation AFB negative	04	8%
		Necrotising inflammation AFB positive	04	8%
		Acute bacterial inflammation	02	04%
		Benign spindle cell lesion	02	04%
3.	Malignant	High grade NHL	01	02%
		Adenocarcinoma	02	04%
Total		50		100%

CYTOMORPHOLOGICAL FEATURES

Out of 50 cases 14 cases were of lipoma. Smears from lipoma cases consisted mainly of fragments of mature adipose tissue, a few single fat cells and fat droplets.

Out of 50 cases 10 were of gynaecomastia. Smears from cases were variably cellular, ranging from scanty to markedly cellular and there

was bimodal pattern of stroma and epithelial cells in addition to single bare bipolar/oval nuclei in the background.

HISTOPATHOLOGICAL CORRELATION

Out of 14 cases of lipoma 05 cases underwent histopathological investigation and revealed well circumscribed, thinly encapsulated lesion composed of mature univacuolated adipocytes . Histology was consistent with lipoma.

Out of 10 cases of gynaecomastia 04 cases underwent histopathological investigation and revealed increased number of ducts. Histology was consistent with gynaecomastia.

Out of 02 cases of adenocarcinoma both underwent histopathological investigation and revealed arrangement of cells in sheets with cells had variable appearance, cytoplasm was moderate and eosinophilic, nuclei highly pleomorphic and there was formation of glandular structures. Histology was consistent with adenocarcinoma.

DISCUSSION

A total of 50 cases were aspirated and specific diagnosis could be rendered in 48 cases.

ADEQUACY

The adequacy in the present series was 96 %.The adequacy rate of other studies was close to that of present study. In Goel A et al (2001) and Sniege N et al (1993) adequacy rate was 91% and 92% respectively which was slightly lower than present study. In Singh R et al (2012) adequacy rate was 100% which was higher than the present study.

AGE RANGE

TABLE 3: SUMMARY OF AGE RANGE.

S. No.	Study	Age range
1	Sniege N et al (1993)	19 yrs – 86 yrs
2	Present study	1 yrs – 80 yrs

The age range in present study was comparable to that of Sniege N et al (1993).

Table 4 : SUMMARY OF MALIGNANT AND NON-MALIGNANT LESIONS REPORTED IN VARIOUS SERIES.

S. No.	References	No. of cases	Specific diagnosis rendered in cases	Malignant	Non -malignant
1.	Sniege N et al (1993)	64	59 (92%)	12 (18.7%)	47 (73.4%)
2.	Goel A et al (2001)	227	207 (91%)	81 (36.1%)	126 (55.5%)
3.	Singh R et al (2012)	119	119 (100%)	14 (11.8%)	105 (88.2%)
4.	Present study	50	48 (96%)	03 (06%)	45 (90%)

In our study, the lower number of malignant cases could be due to smaller size as compared to other studies.

CYTOLOGICAL DIAGNOSIS

In the present study the various cytological diagnosis were as follows

Table 5: SUMMARY OF VARIOUS DIAGNOSIS RENDERED

S. No.	Type of lesion	Lesion	No of cases	%age
1	Inadequate aspirate	Only blood aspirated	02	04%
2	Benign	Lipoma	14	28%
		Gynaecomastia	10	20%
		Inclusion cyst	09	18%
		Necrotising inflammation AFB negative	04	8%

		Necrotising inflammation AFB positive	04	8%
		Acute bacterial inflammation	02	04%
		Benign spindle cell lesion	02	04%
3.	Malignant	High grade NHL	01	02%
		Adenocarcinoma	02	04%
	Total	50	100%	

COMPARISON WITH OTHER STUDIES

Frequency of lesions in various studies

Table 6: COMPARISON WITH OTHER STUDIES

S. No.	Studies	Gynaecomastia	Lipoma	Adenocarcinoma
1	Sniege N et al (1993)	45/64 (70.3%)	01/64 (1.5)%	06/64 (9.4%)
2	Goel A et al (2001)	00	38/227 (16.7%)	00
3	Singh R et al (2012)	86/119 (72.2%)	00	00
4	Present Study	10/50 (20%)	14/50 (28%)	02/50 (04%)

RESULTS & CONCLUSION

- The present work was done on the aspirated smears from the male chest wall lesions including male breast lesions of 50 patients
- Adequate smears were obtained in 48 cases .
- Cytological diagnosis rendered were as follows-
- Three (6%) cases were malignant which included one Non-Hodgkin's lymphoma (02%) and two (04%) breast adenocarcinomas.
- Two (04%) cases were of benign spindle cell lesion.
- Four (08%) cases were of tuberculosis.
- Ten (20%) cases were of gynaecomastia.
- Nine (18%) cases were of inclusion cyst
- The maximum number of cases were of lipoma 14 cases (28%)

CYTOMORPHOLOGICAL SPECTRUM

Cytomorphological features of all these lesions were similar to other studies. The features of lipoma was similar to that studied by Mans Akerman et al(2012)²³ and the features of gynaecomastia was similar to that studied by MacIntosh RE et al(2008)⁴⁹ .

The features of granulomatous inflammation was similar to that studied by Andrew S. Field et al (2012)⁵⁰ and the features of adenocarcinoma was similar to that studied by Joan Cangiarella et al (2012)⁵¹.

HISTOPATHOLOGICAL CORRELATION

Out of 14 cases of lipoma 05 cases underwent histopathological investigation and histology was consistent with lipoma.

Out of 10 cases of gynaecomastia 04 cases underwent histopathological investigation and histology was consistent with gynaecomastia.

02 cases were of adenocarcinoma underwent histopathological investigation and histology was consistent with adenocarcinoma.

It could be concluded that fine needle aspiration cytology of male chest wall lesion is a useful and safe and diagnostic procedure. Complications were minimal and included only mild discomfort or mild pain during needle puncture. The few problems encountered on cytology could be greatly minimized through clinic-radiologic correlation. However in some cases, histological verification and ancillary techniques will be required.

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