

Comparison of near patient fine needle aspiration cytology with rapid on side evaluation V/S fine needle aspiration done by other specialists

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Abstract

Introduction:- FNAC procedure looks very easy parse, but it is highly tactic & require special training.

Object:- The study is done to evaluate the efficacy of FNAC done by other specialist vs near patient FNAC & ROSE(rapid on side evaluation).

Material & Method:- All the FNAC done by cytopathologist & those done outside & received for reporting were evaluated for efficacy & material adequacy.

Result:- Near patient FNAC & ROSE have sensitivity & specificity over 95% as compared to on the sample received from the specialist were below 30%.

Keyword:- Near patient FNAC, ROSE, Reporting cytopathologist, other specialists.

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I. Introduction:

Fine needle aspiration cytology (FNAC) is an effortless, sensitive, rapid and economical method in diagnosis of various benign and malignant lesions. It is particularly valuable in diseases like lymphadenopathy, breast lesions, thyroid nodules, pancreatic lesions, testicular tumors etc. FNAC per se looks very easy procedure and it has been observed that anyone whether Clinician, Surgeon, Radiologist or pathologist (without cytopathology training) used to perform the procedure & send the slide to expert cytopathologist for reporting. There is large data on utility of FNA but there are very few studies on yield of FNA in the hands of different operators.

Gomez[1] has shown that the experience and training of the person performing the aspiration biopsy, as well as immediate evaluation of the material when it is guided, substantially reduces the number of inadequate samples, improving the sensitivity of the method as well as reducing the need for open biopsies to reach a diagnosis. We have retrospectively evaluated our data of FNA done by cytopathologist themselves versus those reported on aspirations done elsewhere

II. Objective:

To compare the yield of Fine Needle aspiration done by cytopathologist versus that aspiration done elsewhere and reported by cytopathologist.

III. Study Design:

All the FNA done at SV diagnosis center by reporting cytopathologist & the FNA received from outside during the year 2008-2016 level retrospectively evaluated for results specificity & satisfactory. We collected data from various centers from where we got samples to know whether FNA was done by Cytopathologist or Clinician or Radiologist or Surgeon.

IV. Result:

Total of 3260 FNA were analyzed & reported 2008-2016. Out of this 2060 were done at the center itself by the reporting cytopathologist. 1200 were referred from outside.

FNA done by reporting cytopathologist was associated with greater proportion of definite reports & with higher specificity (98.64%) & markedly, lower unsatisfactory smear rate (2% versus 26.68%)

V. Data :

	FNA Done by Cytopathologist	FNA done outside
	2060	1274
Inadequate	0006	0340
Clumped Smear	0009	0406
Grossly Hemorrhagic	0012	0152
Hemorrhagic& clumped	0001	0082
Smear adequacy	2032	0294

	FNA Done by Cytopathologist	FNA done outside
	2060	1274
Clinical Details availability	2060	042

	FNA Done by Cytopathologist	FNA done outside
	2060	1274
Definate diagnosis	2032	0302

VI. Discussion:

There are not many Studies in world literature wherein FNAC done by different specialists is compared. Gu Wx[5] et al found that Surgeon performed FNAC had greater clinical efficiency in patients with thyroid nodule than those performed by radiologist in terms of time taken to reach cytological diagnosis. Sharma et al[6]found that immediate cytology and presence of radiologist increases the yield of FNAC and reduces need of repeat FNAC. In a study similar to ours Gomez [1]cleared adequacy of smear in 3 different groups. I- those performed by pathologist. II- by specialists who are not pathologist & iii- imaging guided FNA with onsite evaluation by pathologist. They found statistically significant difference between FNA performed by pathologist ($p < 0.001$) than other groups.

We in this Study have looked not only at adequacy of smear but also at the final diagnosis when comparing the two groups I- done by cytopathologist themselves & II- done by another pathologist / clinician / radiologist.

FNA procedure looks easy but it has to be done very meticulously keeping in mind all the finer details of the procedure.

Higher unsatisfactory rate & difficulty in diagnosis for definitive opinion is due to many reasons, wider bore needle 20 & 22 G, (lead to more contamination with blood, sometimes only fibrin clot) and delay in making smears (leads to clumping of representative material).

Secondly if smears are thick & clumped it leads to difficulty in definitive diagnosis due to unclear morphological details. Moreover, no clinical data & the lump details are available to reporting pathologist increasing his/her difficulty for making a definitive opinion. On the other hand, if reporting cytopathologist does the FNAC, he/she takes full clinical history, sees all the investigation, examine the lump thoroughly, and then according to site & vascularity decides whether FNA should be done by aspiration or non-aspiration technique to minimize the contamination by blood. When the cytopathologist puts the needle in the lump he/she would assess the consistency. (Soft, firm, gritty) of the lump, & the appearance of aspirate (Grossly- watery, mucoid, gelatinous, granular, cheesy, necrotic etc.)

Then a proper single cell thin smears are made and stained with rapid stain to assess the cellularity[2] Al-Marzooq(field stain). If cellularity is less, one can immediately repeat the procedure in same sitting, lowering or almost avoiding unsatisfactory or inadequate smears.

The results of present study are consistent with those from other series [4,6]. In which specificity ranged from 44 to 90%, absolute sensitivity from 30 -90% & complete sensitivity from 66 – 99%.

VII. Conclusion:

FNA done by dedicated cytopathologist should be preferred. Even if CT/USG/ EUS guidance is required, the reporting cytopathologist should be present at the time of FNA.

FNA performed by single skilled cytopathologist with immediate reporting of result improves the quality of cytological diagnosis in private laboratories, leave aside institutes where residents pathologists are also well trained & record all the clinical details & examination, we recommend adoption of this technique (NPF) i.e. near patient fine needle diagnosis by all teaching cytopathologists specially at district & lower level.

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