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DIAGNOSTIC YIELD BY MULTIPLE BIOPSIES IN MALIGNANT PLEURAL EFFUSION

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SUMMARY

The role of multiple pleural biopsies in malignant pleural effusion to achieve better diagnostic yield was evaluated. The specific diagnosis was established in 43.8 percent (14/32) of cases on first biopsy, and improved to 93.8 percent (30/32) of cases by three biopsies. The contribution of multiple biopsies was stressed.

INTRODUCTION

Very variable results of pleural biopsy have been reported in the literature in malignant pleural effusion. The need of repeat biopsies in cases not showing specific lesion on first biopsy was felt. Little however has been mentioned about the specific role of multiple biopsies in the establishment of diagnosis of malignant pleural effusion in the medical literature. [1,2,3] The present study was therefore, conducted to secure some factual information regarding the value of multiple pleural biopsies in the diagnosis of malignant pleural effusion.

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MATERIALS AND METHODS

Thirty-two patients (22 males, 10 females) of provisionally diagnosed malignant pleural effusion were included in the study. The mean age of the group was 52 years (range 42-76). The diagnosis of these cases were based on : age above 40 years (100 percent), haemorrhagic pleural fluid (100 percent), repeated refilling of pleural space (100 percent), malignant shadow on x-ray chest (32 percent), positive bronchoscopy for growth (24 percent), known primary site in the body (16 percent), and malignant cells in pleural fluid (64 percent). Pleural biopsy was carried out in every case by Abrams needle. Biopsy was repeated (upto 3) only in those cases where histology was nonspecific or noncontributory. In order to avoid the pathologist's bias, the experiment was strictly blind.

RESULTS

Table I shows diagnostic productivity of each biopsy.

The specific diagnosis was found on first biopsy in 14 (43.8 percent), on second biopsy the total number increased to 27 (84.4 percent), and positivity further improved to 30 (93.8 percent) cases by three biopsies, out of total 32 cases. No complication was found due to multiple biopsies in any case.

DISCUSSION

In the present study, the improvement of diagnostic

TABLE I
DIAGNOSTIC YIELD OF SERIAL PLEURAL BIOPSIES

Histological diagnosis	Number of biopsy		
	First	Second	Third*
Malignancy	14	13	3
Nonspecific inflammation	5	3	-
Inconclusive	4	1	-
Normal	9	1	-
Total	32	18	3

* 2 histology negative cases left hospital before third biopsy.

accuracy was quite impressive (nearly double) by second pleural biopsy from that of first biopsy (43.8 percent to 84.4 percent). The overall improvement in diagnostic yield was of 50 percent by three biopsies (43.8 percent to 93.8 percent). Two cases of negative biopsy were not included. The author is of the view that poor results on first biopsy may be because of the fact that pleura present a vast surface and the tissue obtained through the needle may not be representative of the area of malignant deposits of the parietal pleura. The high diagnostic yield in our series has raised a serious question of the advisability of multiple pleural biopsies in malignant pleural effusion.

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