CHAPTER VI

SUMMARY AND CONCLUSIONS
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75 patients having upper GI tumors as based on clinical data, radiologic findings and endoscopic appearances form the basis of this study. An evaluation of biopsy histology and cytologic methods (brush cytology and imprint smear cytology) was done as an aid to the diagnosis in all these patients.

Of these 75 patients, 54 had esophageal and 21 had stomach tumors. Further categorising the esophageal lesions - 43 were malignant whereas 11 were benign.

Out of the 43 malignant tumors, 40 (93 percent) were squamous cell carcinomas and 3 (7 percent) were adenocarcinomas (2 esophageal and one of stomach origin). 50 percent of patients with Ca esophagus presented between 40 to 60 years age and thus occurred a decade earlier than in the western population. Dysphagia was the presenting symptom in
all the patients with Ca esophagus and all patients had advanced disease.

According to the site of involvement, middle third was involved in 44.2 percent and was the commonest site of involvement. Upper third was involved in 21 percent and lower one third in 34.8 percent. Morphologically, polypoidal lesions occurred in 48.8 percent, stenotic in 16.3 percent, mixed in 25.6 percent and 3 (7 percent) were ulcerative and one had fungating growth. Of the stomach lesions, 17 were malignant and 4 were benign in nature. Majority (53%) presented above 60 years of age and male to female ratio being 1.6 : 1. Abdominal pain being the main presentation in 76 percent, other symptoms were upper GI bleed (53 percent) and mass (48 percent). All the 17 stomach cancers were adenocarcinomas and there was no lymphomas or sarcomas detected during the period of present study. According to the site of involvement body was involved in 6 (47 percent) and was the most common site. Pyloric antrum was involved in 6
(28.7 percent) and cardia in 3 (14.3 percent). Morphologically, polypoidal (47 percent) were the commonest followed by mixed (35.3 percent) and ulcerative lesions (11.76 percent).

Endoscopy ever diagnosed and gave a false positive rate of 14.2 percent. Comparing the results of three test methods as an aid to the diagnosis in all upper GI tumors, the endoscopic biopsy histology gave a positive diagnosis in 37 (86 percent) of 43 diagnosed malignant esophageal lesions and in the remaining 6 where biopsy histology was negative, 5 were diagnosed by cytological methods and one patient in whom all the three methods were negative was diagnosed by fine needle aspiration cytology obtained from left supra-clavicular gland. Of these 6 cases which were negative by biopsy histology three were stenotic lesions and remaining three were ulcer-necrotic lesions. In all the three stenotic lesions brush cytology was positive and imprint cytology added to the diagnosis in one of these. Whereas as in the remaining three ulcerative necrotic growths both brush and imprint smear cytology were positive
in two while all tests were negative in one where diagnosis was made by fine needle aspiration cytology of left supraventricular node.

The present study showed that with the cytodiagnosis using either the brush cytology or imprint smear cytology, the accuracy achieved was 88.3 and 85 percent respectively. It was almost the same as biopsy histology and there was no statistically significant difference ($p>0.05$) between the three applying the law of proportions. But when all the three methods were combined, the diagnostic accuracy increased to 96.6 percent in the whole group of GI tumors. As regards to esophageal or gastric lesions separately the percentage positivity for diagnosis combining the three methods was to the extent of 97.7 percent in esophageal and 94.1 percent in stomach lesions suggesting that the three methods are complimentary to each other.

A high level of sensitivity was obtained with all the three methods in the diagnosis of upper GI
tumors without loss of specificity as no false positive or suspicious reports were issued. However, superiority of cytology in particular over histology is demonstrated in both esophageal and stomach lesions.

The diagnostic accuracy of brush cytology was 92.8 percent in esophageal lesions in the present study and was the single most accurate method.

The biopsy histology was positive in 37 (86 percent) of 43 cases and brush cytology added to the diagnosis in 5 cases, i.e., increase in sensitivity by 11.6 percent in esophageal lesions in whom all endoscopic biopsy specimens failed to show any evidence of malignancy. Similarly, when imprint smear cytology was considered in esophageal lesions it added to the diagnosis or was positive in 5 cases along with brush cytology in whom biopsy was negative.

3 of these 6 were stenotic lesions (Brush positive-3, Imprint positive-1) and three were ulceronecrotic lesions (Brush positive-2, Imprint positive-2)
however, one was positive by fine needle aspiration cytology. These findings suggest that both the cytological methods increase the positivity rates in esophageal lesions and are supplementary to biopsies as the rate of correct diagnosis of malignancy improves.

Strictureus lesions: There were 14 patients who had strictures of esophagus. Of these 7 turned out to be benign. Of the 7 malignant strictures biopsy histology was positive in 4 out of 7 (57 percent) and negative in three. Brush cytology was positive in all 7 cases and imprint smear cytology in 5 out of 7 cases (71.4 percent) suggesting that the cytological methods added to the diagnosis in 3 cases which were negative by brush. Of the two cytological methods used brush seems to have an edge over imprint smear cytology as it gave positive diagnosis in 3 cases alone and added to the 2 where 1 imprint cytology was also positive.

There were 18 malignant lesions in the cardio esophageal junction. There was no statistically
significant difference in the diagnostic accuracy by biopsy (83.3 percent) or cytologic methods (88.8 percent). However, the cytologic methods added to the diagnosis made by biopsy by 16.7 percent and all the three methods combined diagnosed all the 18 cases.

Of the 11 benign lesions of the esophagus, 7 were benign strictures. All the three test methods were highly specific with specificity of 100 percent as there was no false positive report.

In the stomach, 17 patients had adenocarcinomas and all were adenocarcinomas. Biopsy histology was positive in 88.2 percent, brush cytology in 82.4 percent and imprint cytology in 94 percent. The imprint was positive in 16/17 cases and it added to the diagnosis in all the cases negative by brush (2) and by biopsy (1). The results of our study showed that imprint smear cytology achieved a higher accuracy (94 percent) in diagnosis of stomach lesions than even brush (82.4 percent) and biopsy histology (88.2 percent) alone though the difference in the results of three methods was not statistically significant and the three
combined together achieved the accuracy in 16 (94 percent) of these 17 cases. All these were adenocarcinomas on final histology and the only case negative by all three methods was of Ca pylorus diagnosed on surgical biopsy following laparotomy. The increase in sensitivity in two cases (11.76 percent) due to use of touch smears as a procedure complimentary to biopsy.

Our sample was rather small for stomach tumors and all the 17 cases were those of adenocarcinomas as no lymphoma or sarcoma was detected during the period of study and thus it is difficult to comment on the value of imprint in patients with other types like lymphomas and sarcomas.