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Diagnostic value of frozen section study for thyroid nodules in patients referred to Shariati Hospital 1997-2000

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### Abstract:

Frozen section is a useful method in the diagnosis of different malignancies including those of thyroid origin. However, there are still controversies about its application, sensitivity and specificity for thyroid neoplasm. In this study, diagnostic value of frozen section (FS) was compared with permanent histopathologic and Fine Needle Aspiration (FNA). In this study, which was conducted in process research method, permanent sample, FNA, and frozen section results in 214 patients was compared. All of these 214 patients had been seeking medical evaluation for thyroid nodules between years 1997 and 1999 in Shariati hospital. All pathologic evaluations were performed by pathology staff of this hospital. Permanent pathology was considered as the gold standard; so the specificity, sensitivity and diagnostic precision of FNA and FS were evaluated on the basis of its results. We use Macnemar test for this purpose. The number of patients during this period were 214 (160 women and 54 men). Mean age of our patients was  $42.3 \pm 5.4$  and their age ranged between 12 to 84 years. Pathologic results revealed that 163 of the patients (76 percent) had benign lesions, and 51 of them (24 percent) had malignant lesions. Thyroid malignancies compared papillary carcinoma (70 percent), follicular carcinoma (13.5 percent), papilofollicular carcinoma (6 percent), medulary carcinoma (6 percent), Hurtle cell carcinoma (4 percent) and anaplastic carcinoma (5 percent). FNA was done in all of the patients before surgery and was able to determine the status of nodules in 150 patients. Sensitivity, specificity and precision of FNA in these 150 patients were 72, 96 and 90 percents respectively. When FNA was unable to determine the status of a nodule (64 remaining patients), FS was applied to do the job. A sensitivity of 36 percent, specificity of 85 percent and precision of 73 percent was found in this group of patients. Macnemar test showed that there is no significant difference between FNA and FS methods. This study showed: when FNA is not conclusive, FS will not bring any further benefit. It seems that only in suspicious cases of papillary, undifferentiated and medulary carcinomas, FS can be useful in certifying the results of FNA and choosing the appropriate surgical plan. We should wait for permanent sample reports in the case of follicular or Hurtle cell carcinoma.

### Keywords:

Frozen section . Permanent pathology

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