

Imprint cytology

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ABSTRACT

A valuable information on morphological details of the cell can be obtained through imprint cytology. Though it has some pitfalls, it is still considered to be one of the best methods as it provides an excellent cytological clarity in fresh surgical specimens. This article shares knowledge about the procedure, uses, advantages and disadvantages of imprint cytology.

KEY WORDS: Benign neoplasms, imprint cytology, malignant neoplasms

Dudgeon and Patrick reported a technique for examination of imprints of fresh specimens.^[1] Imprint cytology serves surgeons in identifying lesions whether it is malignant or not.^[2-4] While the patient is under anesthesia it gives accurate results in minutes, pathologists views, arrives at a diagnosis and with this result surgeon modifies the surgical plans for the treatment. It provides an appropriate cellular detail.^[5]

Procedure

On a glass slide, freshly cut surface of the specimen is gently pressed, misrepresentation of the cell's shape can be prevented by restricting a gliding movement. Then the slide is stained with hematoxylin and eosin stain before that it is fixed with 95% of ethyl alcohol for 5–6 s.^[6]

Uses

In determining the parathyroid tissue,^[7] the sentinel lymphnodes^[8] and the adenomatous goiter. It is also useful in determining the

surgical resection margins.^[9,10] However, it is extensively used in the diagnosis of benign and malignant lesions.^[5] In tumors such as meningiomas, gliomas imprint cytology plays a major role.^[11] Imprint cytology provides good results without any difficulties in basal carcinomas of the skin.^[12] In the diagnosis of ovarian cancers, imprint cytology provides valuable details regarding the lesion, for further investigative procedures.^[13]

Sarcoma occurring in the alveolar soft part also imprint cytology has been useful.^[14] An accurate diagnosis is provided in the diagnosis of metastatic tumors.^[15]

Imprint cytology is used as a diagnostic tool in the study for assessing the salivary gland tumors such as mixed parotid tumors, pleomorphic adenoma and mucoepidermoid carcinoma.^[16]

Advantages

The procedure for imprint cytology can be done even in underdeveloped infrastructure and deficient trained technician. Analysis of an individual cell is performed by imprint cytology. It provides an immediate result with minimal artifacts, it is cheaper and so it is most commonly used. A precise diagnosis is received through this technique.^[16]

Disadvantages

The depth of infiltration cannot be analyzed with imprint cytology.^[17]

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Tumors and well-differentiated tumors with dense fibrous stroma cannot be interpreted through this method.^[5]

Conclusion

Thus, imprint cytology plays a significant role in the quick diagnosis of the lesion. It provides crisp cytological details. Cost effectiveness, rapid results and simplicity are the further criteria promoting it to be a better option when compared with other techniques such as frozen sections.

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