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Intraoperative frozen section and imprint cytology of breast lesions: A comparative study

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Introduction: Frozen section is a vital technique used in diagnosis of breast lesions in agreement with imprint cytology. It helps surgeons to take an immediate therapeutic decision, possibly sparing the patient a second operation and reducing hospitalization cost. Frozen section in association imprint cytology has high degree of accuracy (varying from 94-98%).

Aim: Aim of this study is to evaluate usefulness of intraoperative frozen section for various breast lesions and to compare its diagnostic yield with that of imprint cytology and paraffin sections

Setting: All surgically operated breast lesions were submitted intraoperatively to the histopathology and cytology department, MGM Medical College and Hospital, Aurangabad during a period of July 2014 to June 2016 (23 months)

Subjects: 50 Indian female patients admitted to surgery ward at MGM Medical College and Hospital, Aurangabad because of breast lesion and who had subsequent excision of their breast lesion.

Materials & Method: Touch imprint cytology smears were made from cut surface of specimen submitted followed by staining with rapid PAP and subsequent frozen sections were made using Yorco Cryostat. The frozen sections were stained immediately with rapid H & E. Remaining specimens were submitted for gold standard paraffin sections.

Results: There were 35 benign and 15 malignant lesions. There were two cases of significant discrepancies between frozen section, imprint cytology and gold standard histopathology.

Conclusion: Our finding suggests that frozen section in agreement with imprint cytology gives correct diagnosis in 96% of cases examined. It is very useful in evaluating margins also. Imprint cytology is cost effective over frozen section. Frozen section has few demerits like freezing artifacts. Correlation with clinical, radiological and gross findings is necessary. Permanent paraffin sections however are still a gold standard.

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Vitamin D deficiency and its effect on hematopoietic stem cell transplant recipient

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Vitamin D plays an important role in calcium metabolism and homeostasis. In addition to its role in calcium metabolism, vitamin D plays an important role as immunomodulator. Vitamin D receptor (VDR) is expressed on many cells including T, B and natural killer (NK). Vitamin D modulates both innate and adaptive immune response. Recently, vitamin D deficiency is linked to cancer, autoimmune diseases and graft versus host disease (GVHD). This study investigated the effect of vitamin D deficiency in 104 children who underwent hematopoietic stem cell transplant (HSCT) from 2012 to 2015. Vitamin D level was measured prior to HSCT and serial measurements after HSCT on days 30, 60, 100 and 365 days. We observed that low vitamin level below 30 ng/ml is strongly associated with increased risk of relapse and decrease survival at day 100-post hematopoietic stem cell transplantation (HSCT) $p=0.04$. Also, we observed a strong correlation between low vitamin D level and infections including fungal and CMV reactivation post HSCT $p=0.004$. To conclude, vitamin D plays an important role as immunomodulator; its deficiency may impact the outcome of patient undergoing HSCT. Optimizing nutritional supplementation is very important before transplantation and continues after HSCT.

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