

4<sup>th</sup> World Congress on

# Breast Pathology and Cancer Diagnosis

August 23-24, 2017 Toronto, Canada

## Molecular classification of breast carcinoma using manual tissue microarray: An Indian study

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Patients attending government hospitals cannot afford immunohistochemistry for prognosis and therapeutic decisions. Tissue microarray (TMA) brings down the cost of immunohistochemistry. Automated tissue array being expensive the aim of this study was to validate if manual TMA could be used in molecular classification of breast carcinoma. The study included 65 cases of histologically confirmed carcinoma breast. Manual TMA was constructed using two techniques (Kononen et. al. and Chen et. al.) and were assessed in terms of ease of preparation, microtomy, quality of sections and molecular classification of breast carcinoma. Immunohistochemistry for ER, PR, Her-2 and CK 5/6 were performed on manual TMA sections. Whole section immunohistochemistry was used as control. Both the methods were found to be easy and economical. No significant difference in the average time for TMA construction was seen between the two techniques. Sections from both methods were of optimum quality. The Chen-technique had an easier learning curve and the number of sections with all cores was higher. Mal-alignment of cores was frequently associated with Kononen-technique. The molecular distribution of carcinoma breast was: Luminal A- 40 %, Luminal B-27%, Normal breast like-5%, Basal type-17% and Her-2 positive- 11% by both the techniques. A good agreement was found between the immunohistochemistry results on routine and tissue microarray sections. It was concluded that manually created tissue microarrays could be used instead of routine whole sections for molecular classification. The decreased reagents used would have a tremendous implication in the Indian context by reducing the overall cost of immunohistochemistry.

### Biography

Usha Rani Singh completed MBBS & MD Pathology from LLRM Medical College, Meerut, India. She worked at AIIMS Delhi as Assistant Research Officer and joined University College Of Medical Sciences, Delhi in 1985. Presently she is the Director and Professor in the Department of Pathology at University College of Medical Sciences. She is the Chief of Histopathology & Autopsy department. She has more than 50 publications and won best international poster award at ASCP Conference held at Chicago in 2013. She was one of the Visiting Professor at B.P.Koirala Institute of Health Sciences, Dharan, Nepal for 3 years. She is the Supervisor & Co Supervisor for numerous MD and PhD thesis.

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