

## 9<sup>th</sup> Global Summit and Expo on **Vaccines & Vaccination**

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### **The provocative issue of tumor genomic heterogeneity in immunotherapy**

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While it has always been presumed that neoplasia is a consequence of somatic cell mutations, only in the last few years, the magnitude and diversity of these mutations has been elucidated by modern DNA sequencing technology. Immunotherapy is the premier biological approach to targeted therapy. Target therapies require targets. In this case, the targets are tumor specific or associated antigens, the proteins expressed from these somatic cell mutations. While the immunotherapeutic approach to eliminating cancer was launched with the assumption that cancer cells were homogeneous, the recent genomic understanding of tumor cells indicates that there is both inter and intra-tumoral heterogeneity. This presentation will discuss the consequences of this new knowledge of tumor cell biology to the immunotherapeutic approach to treating cancer. What is more, this presentation will discuss the translational development of an active specific immunotherapeutic approach from preclinical to beneficial clinical benefits.

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### **Association of high risk human papilloma virus genotypes with oral squamous cell carcinoma among Pakistani patients**

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In Pakistan, oropharyngeal cancer is the second leading malignancy attributed to the extensive use of smokeless tobacco products. In many studies, the high risk genotypes of HPV are proven to play a key role in Oral Squamous Cell Carcinoma (OSCC). There is a considerable diversity in the epidemiology of high risk HPV genotypes in different countries. The objective of this study was to find out the association between high-risk HPV genotype in oral rinse of patients with OSCC and pre malignant oral lesions. In this case-control study, 200 samples of oral rinse were analyzed by PCR. A significant association between HPV and OSCC was found (OR=3.14, 95% CI=1.6750-5.8969, P value=0.0004). There was positive association between presence of both HPV 16/18 and OSCC but it was not significant possibly due to small sample size (OR=3.2381, 95% CI=0.8208-12.7752, P value=0.0934). As a result of these findings, HPV and predominant genotypes 16 and 18 may be associated with the development of OSCC in Pakistan.

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