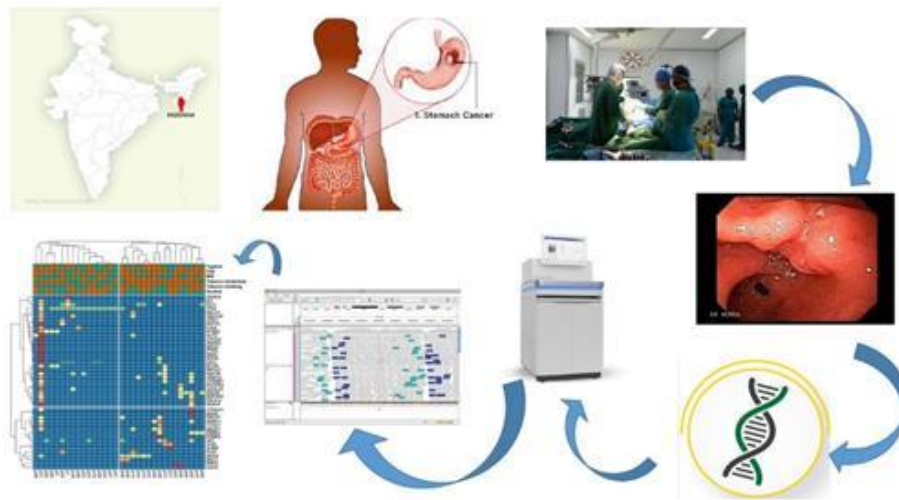


Identification of recurrent somatic mutations in gastric adenocarcinoma in Mizo population of Northeast India

The scientists at DBT's National Institute of Biomedical Genomics (NIBMG) are collaborating with Mizoram University, Mizoram State Cancer Institute and Civil Hospital Aizawl to identify recurrent somatic mutations in gastric cancer in Mizo population. Team have identified genes most frequently mutated among these patients.



Briefly, most patients exhibited mutations in *TP53*, followed by in *FAT4*, *APC* and *RNF3* genes. The patients harbouring somatic non-silent mutations in our gene panel (n=32) formed two clusters. Patients belonging to cluster 1 predominantly harboured mutations in *TP53* and *PTPRC*, while those in cluster 2 harbour deactivating mutation and amplifications in *ERBB2* and other genes. Team also found increased number of EBV infection in patients of cluster #2. Based on the results, team is developing a gene panel for identification of somatic mutations in gastric cancer in Mizo population which will be able to provide clinicians with information that can help improve targeted treatment and management of gastric cancer patients.

Currently, Gastric cancer (GC) is the fourth most common malignancy in the world. It remains one of the most common cancer types in East Asia. Since, GC causes very few symptoms in its early development, and diagnosis is usually made after the tumour reaches an advanced stage. Moreover, even after surgical removal of gastric tumor, many patients experience disease recurrence and death within a few months to years. Mizoram, an ethnically and linguistically distinct region, is also known for the highest incidence of gastric cancer. In Mizoram, unique diet and lifestyle factors might significantly contribute to the enhanced gastric cancer risk, with greater risk being associated with enhanced consumption

of tobacco infused water, high salt and smoked food and fermented meat. Identifying mutations may be helpful in developing a genetic screening protocol for gastric cancer for Mizo population. This might result in early diagnosis and better treatment and outcome.

Link: <https://www.nibmg.ac.in/?q=content/am1-research>

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