Unraveling the presence of sialoglycoconjugate specific antibodies in the serum samples of non-small cell lung cancer patients

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A berrant glycosylation, in particular, alterations in sialylation status of glycans is a characteristic feature of cancer cells. Earlier studies in our laboratory have shown the presence of disease specific sialoglycoconjugate in Non-Small Cell Lung Cancer (NSCLC) cell lines. However, little progress has been made in the identification of disease specific antibodies (a potential alternative marker in diagnosis) against these glycoconjugates. Thus, in the present study an attempt was made to assess the status of the disease associated sialoglycoconjugate specific antibodies in the serum samples of NSCLC patients (IgGp) and healthy individuals (IgGc). It was observed that the level of fetuin (broad spectrum sialoglycoconjugate) specific IgG was significantly higher than fetuin specific IgM and IgA in both the cases. The presence of fetuin/ganglioside specific IgG was higher in control samples as compared to NSCLC patients as assessed by ELISA. Further, the purification of IgGp and IgGc was carried out by subjecting the pooled sera to Protein A Sepharose CL-4B column, separately. Purified IgGc showed significantly high specificity to fetuin as well as ganglioside as compared to IgGp. The interaction of IgGp and IgGc was also checked with the cells/membrane proteins of NSCLC cell lines via ELISA, Western blotting & Immunocytochemistry. Both IgGp and IgGc interacted with the bands of ~91 kDa and ~76 kDa whereas IgGp also interacted with bands of ~66 kDa and ~45 kDa. The finding of the present study suggest that IgGp antibody may have the potential to serve as a unique probe for the detailed investigation of disease associated sialoglycoconjugates on NSCLC cells.

Biography
Kiranjeet Kaur has completed her PhD from Panjab University, India in 2014. She is currently working as research assistant. She has published more than 10 papers in reputed journals and serving as an Editorial Board Member of repute.

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