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ORATHAI CHANNUMSIN : THE USE OF LIPID ASSOCIATED SIALIC ACID  
(LASA) IN DETECTION OF LARYNGEAL CANCERS. THESIS ADVISORS : VIPA  
BOONKITTICHAROEN Ph.D.,BOONCHU KULAPADITHAROM M.D.46p ISBN 974-  
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Lipid-associated sialic acid (LASA) and total sialic acid (TSA) are interesting tumor markers because of aberrant glycosylation expressed in glycosphingolipids and glycoproteins in malignant cells. In this study, LASA, TSA and LASA/TSA were determined for sera of 20 laryngeal cancer patients, 33 patients with nonmalignant diseases and 30 normal subjects. The cutoff levels for LASA, TSA and LASA/TSA as determined from ROC curves were 8.5 mg/dl, 80 mg/dl and 0.14 respectively. The sensitivity for LASA was 70%, TSA 45% and LASA/TSA 75%. Specificity was more or less the same (i.e. LASA 71.4%, TSA 79.4%, LASA/TSA 74.6%). Although LASA and LASA/TSA were more sensitive than TSA, the difference was not statistically significant. The three assays had low positive predictive values (0.409-0.484). High true negative rate brought about high negative predictive values (i.e. LASA 0.882, TSA 0.820 and LASA/TSA 0.904). Low ganglioside expression might be the cause of false negative findings in LASA and TSA. Drop in glycoprotein against the elevation of gangliosides was the additional cause for false negative in TSA. In conclusion, LASA and LASA/TSA appeared to be reliable assays for detection of laryngeal cancer.