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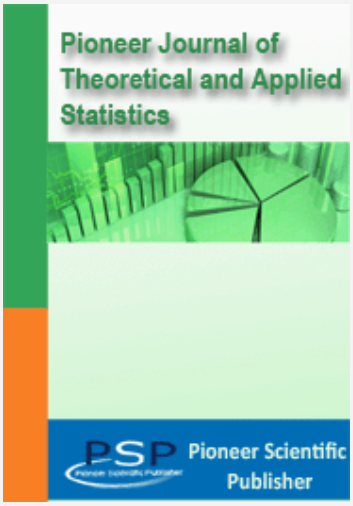

ER BETA EXPRESSION IMPROVES PREDICTED SURVIVAL OF EARLY STAGE LUNG CANCER

Evgeny Martinenko, Marianna Pensky, Melvyn Tockman and Tatyana Zhukov

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Abstract

This paper presents a mathematical model for predicting survival of lung cancer patients within a 4 year period from the date of diagnosis. As predicting variables we used clinical and biomarker data, specifically, MUC1 and Estrogen Receptor (ER-). This pilot study successfully constructed a model which predicts 4 year survival of lung cancer patients with 78% accuracy for males and 83% accuracy for females. We also confirmed that inclusion of MUC1 and ER biomarker data increases the accuracy of prediction by about 5% for males and 10% for females. Indeed, both sexes are affected by estrogen-related biomarkers. However, limited sample size precludes quantifying a differential gender effect for males and females.

Keywords and phrases: survival, model selection, biomarker data.