عنوان مقاله:

Prediction of Survival and Metastasis in Breast Cancer using Machine learning Classifiers

محل انتشار:

پنجمین کنگره بین المللی سرطان (سال: 1400)

تعداد صفحات اصل مقاله: 1

نویسندگان:

S Sohrabi - *Shahid Beheshti University of Medical Sciences, Department of Medical Informatics, Tehran, Iran*

A Atashi - *Department of E-Health, Virtual School, Tehran University of Medical Sciences, Tehran, Iran c Medical Informatics Department, Breast Cancer Research Center, Motamed cancer institute (ACECR), Tehran, Iran*

خلاصه مقاله:

Introduction: Distant organ tumor dissemination is a major cause of breast cancer-related deaths. The majority of BC-related deaths result from unsuccessful treatment of metastases; therefore, it is important to develop therapies that prevent dissemination of tumor cells at an early stage. Materials and Methods: The database used in this paper is provided by Tehran university of Motamed Cancer Institute (MCI) breast cancer research center. It contains of ۷۸۳۴ records of breast cancer patients clinical and risk factors data. There were ۱۶۰۵ patients (۲۰.۵%) with breast cancers (malignant) metastasis and the remaining ۶۲۲۹ patients (۷۹.۵%) without breast cancers metastasis.in addition ۳۰.۴% of patients were death status, alive patients were ۷۹.۶% SVM and Navebasyan, C۵ models were developed using ۲۰ fields (risk factor) of the database. The present study divided the data into ۱۰ folds where ۱ fold for testing and ۹ folds for training as a way of validating the ۱۰-fold crossover validation. Ultimately, the comparison of the models was made based on sensitivity, specificity, accuracy indicators. Results: The result were shown SVM model accuracy, Nave Bayesian Sensitivity and C۵ Specificity were better than another models in survival Status. In metastasis Status shown Nave Bayesian Accuracy, C۵ Sensitivity and SVM Specificity were better than another models in metastasis Status. Conclusion: Based on these findings, the machine learning algorism using decision three, SVM and Nave Bayesian classifiers predicted that ۹۳.۷۱% of the tumor presented at stage IV, indicating that the tumors can spread to .the other region of the body. And SVM predicted with Accuracy ۹۷.۴۵% of breast cancer patient have survival

کلمات کلیدی:

Breast Cancer, datamining, metastasis, survival

لینک ثابت مقاله در پایگاه سیویلیکا: