

DIAGNOSE OF BLOOD CANCER USING MARKOV CHAIN MONTE-CARLO AUTOCORRELATION

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SUMMARY

Maximum probability of existence of cancer in human bodies is normally diagnosed very late, so that, it is highly cumbersome for physicians to cure. Reliability in predicting cancer at initial stage is always needed, so that curing and medical recovery is possible. In this paper, an investigation was made to diagnose the presence of blood cancer using MCMC Autocorrelation model. The MCMC procedure is used here to carry out the analysis which is most efficient on a wide range of complex Bayesian statistical models. The analysis was carried out using version 18 of SPSS AMOS software. Totally, 16 components were considered for the diagnosis from the blood samples of 750 patients. Various factors such as age, class, Lymphatics, Block of affarc, Block of lymph c, Bolck of lymph s, By pass, extravasatee, regeneration of, early uptake in, lym nodes dimin, lym nodes enlar, change in lym, defect in node, changes in node, changes in strue special forms, dislocation, exclusion of node, number of nodes in blood cancer are considered to analyze using mathematical modeling techniques. The maximum likelihood estimators (MLEs) of the parameters were derived and assessed their performance through a Monte Carlo simulation study. Based on the MCMC model and parametric study, it has been established that, if the correlation coefficient is not effectively zero, then the chances of curing of the particular person against blood cancer is possible.

Keywords and phrases: Monte Carlo Simulation; Modelling; Lag; Correlation; Cancer.

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