Predicting Renal Failure Progression in Chronic Kidney Disease Using Integrated Intelligent Fuzzy Expert System

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Abstract:Chronic kidney disease(CKD)is a covert disease.Accurate prediction of CKD progression over time is necessary for reducing its costs and mortality rates.The present study proposes an adaptive neuro fuzzy inference system(ANFIS)for predicting the renal failure time frame of CKD based on real clinical data. This study used 10-year clinical records of newly diagnosed CKD patients. .The threshold value of 15cc/kg/min/1.73m2 of glomerular filtration rate(GFR)was used as the marker of renal failure. ATakagi-Sugeno type ANFIS model was used to predict GFR values.Variables of age, sex, weight, underlying diseases, diastolic blood pressure, creatinine, calcium, phosphorus, uricacid, urinary protein and GFR were initially ed for the predicting model. The results shows that:Weight, diastolic blood pressure, diabetes mellit use as underlying disease, and current GFR(

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