Objective To investigate the incidence of anaemia and renal dysfunction in severe chronic heart failure (CHF) patients and
analyse the relationship among anaemia, RF and CHF and assess the impact of Hb on the prognosis on CHF patients.

Methods This study selected hospitalised NYHA III- and IV-class severe CHF patients in the Department of Cardiology of the First Hospital of Jilin University (from 1 January 2008 to 31 December 2009). 1160 patients were selected and follow-up investigations were recorded.

Results (1) NYHA III and IV levels the incidence of anaemia was 10.77% and 20.63% (p<0.05); (2) the median GFR of NYHA III and IV level was 104.82 ml/min·1.73/m² and 94.8 ml/min·1.73/m² (p<0.05), and further analysis shows that NYHA IV class patients with GFR<60 ml/min·1.73/m² accounted for 20.00%, and NYHA III class accounted for 8.46%. (3) the incidence ratio of anaemia is 48.84% when GFR<60 ml/min·1.73/m², and 10.53% for GFR >60 ml/min·1.73/m². (4) Follow-up investigation were carried out on the 1160 CHF patients hospitalised for 15 months to 21 months. By the end of follow-up investigations, except the missing patients, the total mortality was 26.42%. The remaining patients were divided into anaemia group and non-anaemic group. The mortality in anaemia group was 56.10% (p<0.05), and the non-anaemia group was 20.98%. (5) The Logistic regression analysis of risk factors for hospital death carried out for the CHF patients with age, Hb concentration, cardiac function, GFR as the covariates, showed that Hb concentration is an independent predictor of mortality for CHF patients.

Conclusion Heart failure, renal failure and anaemia are closely inter-related. The mortality of CHF patients with anaemia is higher, and Hb concentration is an independent predictor of mortality in CHF patients.