

### **Renal Failure after CRT Implantation**

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Background: Renal failure is a potential complication of CRT implantation. There is lack of data about CRT implantation and risk of subsequent renal failure.

Objectives: The aim of the present study was to assess the change in renal function in patients with heart failure with or without concomitant renal failure who underwent cardiac resynchronization therapy (CRT) implantation.

Methods: A retrospective study of patients (n= 178) who had undergone CRT implantation in a single center between 2004-2008. We analyzed renal function (urea/creatinine and GFR- using the modification of diet in renal disease formula (MDRD) formula prior to, 1 week and 6 months after CRT implantation.

Results: Creatinine levels and GFR did not change significantly from baseline (Cr  $1.35 \pm 0.56$  , GFR58 (44; 77) ) to 6 months(Cr  $-1.41 \pm 0.64$ , GFR- 45 (39;54)) in patients with creatinine levels above 2 mg/dl at baseline creatinine levels dropped significantly from  $2.34 \pm 0.32$  to  $2.02 \pm 0.40$  (p=0.001) at 1 week and to  $2.15 \pm 0.43$  after 6 months (p=0.047). Furthermore GFR in this group increased from 31 (24; 33) to 36 (29; 43) (p=0.035) at 1 week and to 34 (28; 39) at months (p=0.15).

Conclusions: According to our data renal function did not deteriorate in patients with renal failure who underwent CRT implantation; in fact we observed an improvement of creatinine levels and GFR s soon after the procedure that was sustained even after 6 months. Renal failure and concern of worsening renal function should not prevent implementation of CRT therapy in patients with renal failure.