

## 서맥을 동반한 심방세동 환자들의 심장재동기화치료 결과

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**목적:** 심장재동기화치료(CRT)는 QRS 간격 연장을 동반한 중등도 이상의 심부전 환자의 증상을 호전시키고 사망률을 낮춘다. 하지만 심방세동 환자들에게 심장재동기화(CRT)치료가 동율동 환자들에게서의 치료와 비견할만큼 효과적이지는 않다는 사실은 아직 불분명하다. 본 연구는 전기적 비동기화(electrical dyssynchrony) 서맥을 동반한 심방세동 환자에서 심장재동기화 치료 효과를 분석한 것이다. **대상 및 방법:** 2010년 3월부터 2015년 12월까지 심장재동기화치료를 처음 시행한 환자들을 후향적으로 분석하였다. 심장재동기화치료 시행 6개월 후, 심방세동군(서맥을 동반한 심방세동환자, n=17)과 동율동군(동율동 심부전 환자, n=88)의 심조음과상 재형성(remodeling)의 호전여부를 평가하였다. 또한 NYHA 분류상의 변화, QRS간격 및 심인성사망, 심장이식, 심부전 관련 입원을 포함한 장기간의 다양한 임상적 결과를 비교하였다. **결과:** 평균연령은  $63.5 \pm 13.0$  세였으며, 61%는 남자로, 두 군간의 환자들의 특성은 차이를 보이지 않았다. 심방세동군은 동율동군과 비교하여 심조음과상 유사한 정도의 심기능향상을 보였다. (좌심실 수축말기용적,  $19.3 \pm 27.3\%$  versus  $19.3 \pm 24.4\%$ ,  $P=1.00$ ; 좌심실 박출율의 증가비율,  $65.3 \pm 55.5\%$  versus  $44.9 \pm 56.8\%$ ;  $P=0.25$ ). 심조음과상 좌심실수축말용적(LVESV)이 30%이상 감소한 비율은 실험군에서 33.3%, 대조군에서 30.6%였다 ( $p=1.00$ ). NYHA 분류상의 변화 ( $p=0.61$ ), QRS 간격( $p=0.46$ ), 장기간의 임상적 결과(35.3% versus 23.9%; hazard ratio, 1.7; 95% confidence interval, 0.69 to 4.29;  $P=0.25$ )도 의미있는 차이를 보이지 않았다. **결론:** 서맥을 동반한 심방세동 환자들과 동율동 환자들에게 심장재동기화 치료의 효과는 심조음과상의 심장기능향상, QRS 간격, 장기간의 임상적 결과에서 의미있는 차이를 보이지 않았다. 이번 연구는 서맥을 동반한 심방세동 환자에게도 심장재동기화 치료가 이득을 줄 수 있다는 점을 시사한다.

## A case of infective endocarditis involving tricuspid valve leaflet and Lead of CRT

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**Introduction:** Infective endocarditis (IE) related to pacemaker leads is a rare complication with reported incidence rate of about 0.5%. Furthermore, cardiac resynchronization therapy (CRT) lead removal due to IE are extremely rare and can be serious due to deterioration of cardiac function. We present a unique case of a patient with removal of CRT lead due to IE involving tricuspid valve leaflet and lead of CRT. **Case presentation:** An 81-year-old female was transferred from a primary clinic after seeing no improvement despite treatment for fever and generalized weakness. Patient had a history of severe heart failure accompanied by LBBB and was discharged after CRT procedure 4 months ago. Her symptoms improved after procedure, and she has since been followed up on an outpatient basis. She also underwent vertebroplasty for a spinal disease accompanied by back pain as well as wire fixation of radial fracture sustained during a fall. Upon blood culture, MRSA was detected. Chest and abdominal CT was performed to identify etiology, but none was found. On echocardiogram, the left ventricular ejection fraction had improved from 30% prior to the procedure to 47%, and previously observed dyssynchrony was also improved. Also, a 18x13mm vegetation was observed in the septal leaflet of the tricuspid valve that was attached to the right ventricular lead and moving synchronously with the leaflet (Figure 1-A,B). A large vegetation adjacent to a valve in a patient with IE accompanied by bacteraemia would, by principle, require a surgical removal of the vegetation via open thoracotomy. However, due to the patient's advanced age and poor systemic condition, the patient and family opted against the surgery. Therefore, a decision was made to remove the CRT device and leads, treat with antibiotics, and monitor for progress (Figure 1-C). On repeat echocardiogram after the procedure, the previously observed vegetation was no longer seen (Figure 1-D), and dyssynchrony due to LBBB as well as decreased left ventricular ejection fraction of 37% were observed. Patient received antibiotics and heart failure medications during admission and was discharged upon negative finding of bacteremia.

