Characteristics of Surface Electrocardiogram during RV Mid Septal Pacing Compared with RV Outflow Pacing

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Aims: To reduce a risk of perforation, the RV mid septum (RVMS) may be more appropriate pacing site compared with RV outflow tract (RVOT). Our aim was to investigate whether the paced QRS complex can be useful to confirm RVMS pacing. Methods: 20 patients (77±10 years) with an implanted a permanent pacemaker were classified into 3 groups, high RVOT(N=5), low RVOT(N=7) and RVMS(N=8), using by the computed tomography. The surface 12 leads electrocardiograms were analyzed and compared among 3 groups. Results: In RVMS pacing, the QRS duration (144±12ms) and QRS transition(5.3±0.7) had no significant difference compared with those of high RVOT (154±14m s, 5.4±0.5) and low RVOT (146±9ms, 5.6±0.5). The voltage of lead of I in RVMS (0.61±0.2mV), were significantly higher than that in high RVOT(-0.21±0.27mV;P<0.001) and tended to be higher than that in low RVOT (0.23±0.19mV). The presence of a q-wave in lead of I in RVMS (4/8) and low RVOT (2/5). A RS pattern/R pattern in lead II was infrequent in RVMS (6/2) than in high RVOT (0/5) and low RVOT (3/4). Conclusion: A QRS complex in lead I and/or II may be useful to confirm a RVMS pacing.

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