Isorhythmic Loss Capture TPM Masquerading as 1 : 1 Pacing Capture

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Introduction : Temporary pacemaker (TPM) as a modality that proved to be very useful for TAVB as a bridge to definite therapy or during wash out period of some drugs. At times, a good placement of TPM does not ensure a stable pacing over time. A prudent observation skill is still needed to identify non capture.

Methods : N/A.

Result : A 53-year-old-man referred to our centre for total AV block (TAVB) and was already on TPM from the referring centre. (Figure 1A) His initial ECG, when arrived, showed recovery of TAVB, and was then scheduled for permanent pacemaker (PPM) implantation. (Figure 1B) During night before procedure, his TAVB recurs and 1 : 1 pacing by TPM was reported to EP team. (Figure 1C) Some clues for non-capture in the tracing are: (1) The distance between pacing spike and QRS is quite far, favouring non ventricle capture; (2) the p wave is not captured, excluding atrial capture by TPM; (3) on closer look, the pacing to pacing intervals were fixed and the R-R intervals were also fixed, but with different intervals. (Figure 1C) A long ECG strip was achieved during spontaneous recovery of TAVB showing a failure to sense and failure to capture. (Figure 1D)

Conclusion : TPM placement intravenously has been proved beneficial, but the nature of the lead makes it vulnerable for movement and thus risking a non-functional TPM. The management of symptomatic bradycardia is not ended by placing a TPM. However, it has to be kept prudent and be followed up to maintain TPM quality.