

# **LSFB ASSOCIATED TO CRBBB - 2009**

Dr. Andrés R. Pérez Riera

Hypothetical model of the sequence of ventricular activation in LSFB associated to CRBBB. The sequence of ventricular activation begins in two points:

- 1) The base of the anterolateral papillary muscle of mitral valve (ALPM) dependent on LAF in the anterior paraseptal wall, just below the attachment of ALPM (vector 1AM);
- 2) The base of the posteromedial papillary muscle of mitral valve (PMPM) dependent on LPF. It is located on the posterior paraseptal wall, about one third of the distance from apex to base (vector 1PI).

These initial vectors have opposite directions, and they annul each other with minimal predominance of vector 1PI directed backward. Next, the stimulus is heading to the middle-septal or left paraseptal region, blocked by numerous Purkinje areas of passage, thus shifting the forces to the front and the left: PAF.

Finally, via slow transseptal conduction, the activation of the blocked RV occurs, showing the CRBBB characteristics with right end conduction delay located in the right anterior quadrant.

In brief, the first portion of the QRS complex (initial 20 to 60 ms) shows the characteristics of LSFB and after the final 60 ms to 80 ms it shows the characteristics of CRBBB.

## **Electrocardiographic characterization of LSFB associated with CRBBB.**

- 1) **QRS duration  $\geq$  120 ms;**
- 2) **qR pattern or monophasic R wave in V2-V3;**
- 3) **R-V2  $>$  R V3;**
- 4) **R-V3  $\geq$  15 mm;**

- 5) R waves with great voltage and sharp-pointed in V2-V3;
- 6) R wave with the final portion of descending ramp wide;
- 7) Progressive decrease of R wave voltage from V4 to V6;
- 8) Absence of initial q wave in V5-V6;
- 9) Final S wide waves in left leads V5-V6, DI and aVL;
- 10) QRS loop in the HP round, with CW rotation and located predominantly in the left anterior quadrant;
- 11) The 10 to 20 ms initial vector heading backward.