Aortic pressure during human cardiac arrest. Identification of pseudo-electromechanical dissociation.

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Abstract

We measured aortic pressure during clinically apparent cardiac electromechanical dissociation (EMD). Patients with pulse pressures were designated as having pseudo-EMD; those without, as having true EMD. Of the 200 patients studied, 54 presented with EMD, and 40 others developed it during resuscitation. Of the 94 with EMD, 39 were found to have pseudo-EMD. We compared the two types of EMD for electrocardiographic duration, return of palpable pulses, and response to standard- and high-dose epinephrine. The mean resting aortic pressure was 18 +/- 11 mm Hg in patients with true EMD and 28 +/- 11 mm Hg in those with pseudo-EMD. The mean pulse pressure in patients with pseudo-EMD was 6.3 +/- 3.5 mm Hg. Patients with pseudo-EMD had a higher proportion of witnessed arrests, higher PaO2, and lower PaCO2 than patients with true EMD. Patients with pseudo-EMD had shorter QR and QRS durations than patients with true EMD. They had a better response to standard- and high-dose epinephrine than patients with true EMD. Many patients diagnosed clinically to be in EMD have mechanical cardiac activity; this should be considered when interpreting the results of cardiac arrest research.