Elektrogram Venasentral: semprit-larutan garam mempertajam diagnosis aritmia

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Abstrak

Tujuan. Memperjelas gelombang P untuk mempertajam diagnosis aritmia, menggunakan semprit-larutan garam (SLG) sebagai konektor/konduktor elektrode eksplorasi guna merekam elektrogram venasentral (EGV), pada pasien pascabedah jantung terbuka.

Tempat. Unit perawatan intensif bedah pada Pusat Kesehatan Jantung Nasional. Subyek. Pasien pascabedah jantung terbuka yang telah dipasangi elektrode epikardial-atrium-kanan dan kateter venasentral.

Metode. Kateter venasentral setiap pasien dihubungkan dengan semprit kacalogam 20 ml hydrosalphyngograph-Riester yang berisi larutan NaCl 3% (sempritlarutan garam). Elektrogram atrial (EGA), EGV (SLG) dan elektrokardiogram (EKG) konvensional sandapan dada, direkam secara simultan menggunakan alat elektrokardiograf 3-saluran (V1-2-3). Dua dokter terpisah mengukur tingginya gelombang atrial/P dan 2 kardiolog terpisah membuat diagnosis aritmia. Jika terjadi perbedaan diagnosis aritmia, seorang kardiolog lain bertindak sebagai validator. Dengan titik potong tinggi gelombang (peak to peak) 0,5 mm, EGV (SLG) dan EKG dibandingkan dengan EGA sebagai baku emas.

Hasil. Studi populasi yang terdiri dari 192 pasien berturutan pascabedah jantung terbuka dari Juli 1995 sampai Maret 1997 (n = 1997 pasien). Dalam mendeteksi adanya gelombang P berdasarkan EGA sebagai baku emas, EGV (p = 0,5) lebih sensitif (sensitivitas = 98,9%) dibandingkan dengan EKG konvensional (p = 0,001; sensitivitas = 84,2%), terjadi peningkatan sensitivitas sebesar 14,7% (98,9% - 84,2%). Pada diagnosis aritmia, EGV (SLG) lebih sensitif dari EKG (0,995; 98,7% dibandingkan 0,001; 78,5%), terjadi peningkatan sensitivitas sebesar 20,2% (98,7% - 78,5%).

Kesimpulan. EGV (SLG) memperjelas gelombang P dan meningkatkan sensitivitas deteksi aritmia pascabedah jantung terbuka.
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Objectives. To enhance P waves in order to improve the diagnosis of arrhythmia, central venous electrogram (CVEG) using salt-solution syringe procedure, as a potential (connector/conductor) exploring lead, was performed in patients who underwent open heart surgery.

Setting. Surgical Intensive Care Unit of the National Cardiac Center

Subjects. After open heart surgery patients in whom the epicardial-right-atrial wire electrode and central venous catheter were installed.

Methods. The central venous catheter from each patient was connected with a 20-ml hydrosaiphyngograph-Riester glass-metal syringe containing 3% NaCl solution (salt-solution syringe). Atrial electrogram (AEG), CVEG using salt-solution syringe procedure, and conventional chest lead ECG were recorded simultaneously using 3-channel (V1-2-3) electrocardiograph machine. Two doctors who were blinded in manner analyzed the recorded atrial (P) waves and 2 cardiologist confirmed the diagnosis of arrhythmia from all patients. If a different diagnosis occurred, the other cardiologist would act as validator. With the cut-off point of 0.5 mm, identification of peak to peak P waves in CEVG using salt-solution syringe and ECG were compared with AEG as a gold standard.

Results. The study population consisted of 192 cosecutive patients after open heart surgery from July 1995 to March 1997 (n = 1997 patients). In detecting the presence of P wave, comparing to-the AEG as a gold standard, CVEG using salt-solution syringe procedure (p = 0.5) is more sensitive (sensitivity = 98.9%) than conventional ECG (p = 0.001; sensitivity = 84.2%), increases the sensitivity by 14.7% (98.9% - 84.2%). In the diagnosis of arrhythmia, CVEG using salt solution syringe procedure is more sensitive than ECG (0.995; 98.7% vs 0.001; 78.5%), increases the sensitivity by 20,2% (98.7% - 78.5%).

Conclusions. CVEG using salt-solution syringe procedure significantly amplifies P waves and improves the sensitivity in detecting arrhythmia after open heart surgery.;Objectives. To enhance P waves in order to improve the diagnosis of arrhythmia, central venous electrogram (CVEG) using salt-solution syringe procedure, as a potential (connector/conductor) exploring lead, was performed in patients who underwent open heart surgery.