Hubungan kriteria hipertrofi ventrikel kanan secara elektrokardiografi dengan kejadian sindrom curah jantung rendah pasca total koreksi tetralogi fallot = Relation of eletrocardiography for critera for right ventricle hypertrophy with low cardiac output syndrome after total correction tetralogy of fallot

Mohammad Rijal Alaydrus, author

Abstrak

[ABSTRAK
Hipertrofi ventrikel kanan (HVKa) pada tetralogy fallot (TF) merupakan suatu respon adaptif akibat dari peningkatan tekanan di ventrikel kanan (VKa) dan hipoksia. HVKa yang berat vektor jantung akan mengarah ke kanan-posterior dapat menyebabkan gelombang S yang dalam di sadapan V6. Sementara itu pasien TF yang lama tidak dikoreksi akan mengalami paparan tekanan berlebih dan sianosis yang lebih lama juga, yang dapat menyebabkan perubahan-perubahan di tingkat seluler kardiomiosit yang pada akhirnya menyebabkan disfungsi VKa, dan sindrom curah jantung rendah (SCJR). Walaupun angka kesintasan pasca operasi baik, tapi perburukan SCJR dapat mengakibatkan kematian. Saat ini belum jelas bagaimana hubungan antara gelombang S di V6 dengan luaran total koreksi TF khususnya kejadian SCJR.
Metode
Penelitian dengan metode potong lintang. Subyek penelitian adalah TF yang menjalani total koreksi selama tahun 2013 sebanyak 150 pasien, 35 diantaranya dikeluarkan dari penelitian karena tidak memenuhi kriteri inklusi. Subyek dibagi menjadi 2 kelompok yaitu kelompok subyek dengan temuan kriteria S di V6 dan subyek yang untuk melihat hubungan temuan kriteria tersebut dengan variabel dasar. Kemudian dilakukan analisis bifariat terhadap kejadian SCJR, variabel dengan nilai p < 0.25 di masukkan dalam analisa multivariat. Nilai p< 0.05 dianggap bermakna.
Hasil
Usia yang lebih muda, saturasi dan hematokrit yang lebih tinggi ditemukan pada kelompok subyek memenuhi kriteria gelombang S di V6. Kemudian, usia yag lebih muda, saturasi yang tinggi, kriteria gelombang R di aVR, kriteria gelombang S di I dan kriteria gelombang S di V6 berhubungan dengan kejadian SCJR. Analisis multivariat kriteria gelombang S di V6 berhubungan dengan kejadian SCJR dengan OR 3.2, interval kepercayaan 95% 1.2 - 8.5 dan nilai p=0.02
Kesimpulan
Kriteria EKG gelombang S di sadapan V6 untuk diagnosis HVKa berhubungan dengan kejadian SCJR pasca total koreksi pasien TF.
<hr>
ABSTRACT
Tetralogy of Fallot (TOF) is a common cyanotic congenital heart disease. Right ventricular hypertrophy (RVH) is an adaptive response due to pressure overload and hypoxia in right ventricle (RV); it can be manifested as tall R wave in right precordial leads. This is due to changing direction of cardiac-vector to right In severe RVH, the cardiac vector rotated to right posterior causing deep S wave in V6. Uncorrected TF will expossed to prolong pressure overload and hypoxia, it can caused changes in cardiomyocite that can

leads to RV dysfunction, low cardiac output syndrom (LCOS), and arrhythmias. Although the post operation survival rate was quite good, but worsening LCOS could increase mortality. In present time, the association between S wave in V6 and postoperative TOF outcomes, especially LCOS, has not been explained.

Methods

This is a cross sectional study. 150 TOF patients underwent total correction in 2013 included in this study. 35 patients who didn?t meet the inclusion criteria were excluded. Subjects divided in 2 groups: (1) patients who meets S in V6 criteria, and (2) control subjects as baseline characteristic. Bivariate analysis was done for incidence of LCOS, the variable with P<0.25 included in multivariate analysis. The significant value was p<0.5.

Results

Multivariate analysis showed S wave in V6 correlated with the incidence of LCOS with odds ratio 3.2, CI 95% (1.2-8.5), p=0.02.

Conclusion

The ECG findings S wave in V6 leads to diagnose RVH correlated with incidence of LCOS in post total correction TOF. An S wave criterion in V6 of RVH patients? OR was 3.2 to predicts LCOS;Tetralogy of Fallot (TOF) is a common cyanotic congenital heart disease. Right ventricular hypertrophy (RVH) is an adaptive response due to pressure overload and hypoxia in right ventricle (RV); it can be manifested as tall R wave in right precordial leads. This is due to changing direction of cardiac-vector to right In severe RVH, the cardiac vector rotated to right posterior causing deep S wave in V6. Uncorrected TF will expossed to prolong pressure overload and hypoxia, it can caused changes in cardiomyocite that can leads to RV dysfunction, low cardiac output syndrom (LCOS), and arrhythmias. Although the post operation survival rate was quite good, but worsening LCOS could increase mortality. In present time, the association between S wave in V6 and postoperative TOF outcomes, especially LCOS, has not been explained.

Methods

This is a cross sectional study. 150 TOF patients underwent total correction in 2013 included in this study. 35 patients who didn’t meet the inclusion criteria were excluded. Subjects divided in 2 groups: (1) patients who meets S in V6 criteria, and (2) control subjects as baseline characteristic. Bivariate analysis was done for incidence of LCOS, the variable with P<0.25 included in multivariate analysis. The significant value was p<0.5.

Results

Multivariate analysis showed S wave in V6 correlated with the incidence of LCOS with odds ratio 3.2, CI 95% (1.2-8.5), p=0.02.

Conclusion

The ECG findings S wave in V6 leads to diagnose RVH correlated with incidence of LCOS in post total correction TOF. An S wave criterion in V6 of RVH patients’ OR was 3.2 to predicts LCOS;Tetralogy of Fallot (TOF) is a common cyanotic congenital heart disease. Right ventricular hypertrophy (RVH) is an adaptive response due to pressure overload and hypoxia in right ventricle (RV); it can be manifested as tall R wave in right precordial leads. This is due to changing direction of cardiac-vector to right In severe RVH, the cardiac vector rotated to right posterior causing deep S wave in V6. Uncorrected TF will expossed to prolong pressure overload and hypoxia, it can caused changes in cardiomyocite that can leads to RV dysfunction, low cardiac output syndrom (LCOS), and arrhythmias. Although the post operation survival rate was quite good, but worsening LCOS could increase mortality. In present time, the association between

S wave in V6 and postoperative TOF outcomes, especially LCOS, has not been explained.

Methods

This is a cross sectional study. 150 TOF patients underwent total correction in 2013 included in this study. 35 patients who didn't meet the inclusion criteria were excluded. Subjects divided in 2 groups: (1) patients who meets S in V6 criteria, and (2) control subjects as baseline characteristic. Bivariate analysis was done for incidence of LCOS, the variable with P<0.25 included in multivariate analysis. The significant value was p<0.5.

Results

Multivariate analysis showed S wave in V6 correlated with the incidence of LCOS with odds ratio 3.2, CI 95% (1.2-8.5), p=0.02.

Conclusion

The ECG findings S wave in V6 leads to diagnose RVH correlated with incidence of LCOS in post total correction TOF. An S wave criterion in V6 of RVH patients' OR was 3.2 to predicts LCOS;Tetralogy of Fallot (TOF) is a common cyanotic congenital heart disease. Right ventricular hypertrophy (RVH) is an adaptive response due to pressure overload and hypoxia in right ventricle (RV); it can be manifested as tall R wave in right precordial leads. This is due to changing direction of cardiac-vector to right In severe RVH, the cardiac vector rotated to right posterior causing deep S wave in V6. Uncorrected TF will expossed to prolong pressure overload and hypoxia, it can caused changes in cardiomyocite that can leads to RV dysfunction, low cardiac output syndrom (LCOS), and arrhythmias. Although the post operation survival rate was quite good, but worsening LCOS could increase mortality. In present time, the association between S wave in V6 and postoperative TOF outcomes, especially LCOS, has not been explained.

Methods

This is a cross sectional study. 150 TOF patients underwent total correction in 2013 included in this study. 35 patients who didn't meet the inclusion criteria were excluded. Subjects divided in 2 groups: (1) patients who meets S in V6 criteria, and (2) control subjects as baseline characteristic. Bivariate analysis was done for incidence of LCOS, the variable with P<0.25 included in multivariate analysis. The significant value was p<0.5.

Results

Multivariate analysis showed S wave in V6 correlated with the incidence of LCOS with odds ratio 3.2, CI 95% (1.2-8.5), p=0.02.

Conclusion

The ECG findings S wave in V6 leads to diagnose RVH correlated with incidence of LCOS in post total correction TOF. An S wave criterion in V6 of RVH patients' OR was 3.2 to predicts LCOS, Tetralogy of Fallot (TOF) is a common cyanotic congenital heart disease. Right ventricular hypertrophy (RVH) is an adaptive response due to pressure overload and hypoxia in right ventricle (RV); it can be manifested as tall R wave in right precordial leads. This is due to changing direction of cardiac-vector to right In severe RVH, the cardiac vector rotated to right posterior causing deep S wave in V6. Uncorrected TF will expossed to prolong pressure overload and hypoxia, it can caused changes in cardiomyocite that can leads to RV dysfunction, low cardiac output syndrom (LCOS), and arrhythmias. Although the post operation survival rate was quite good, but worsening LCOS could increase mortality. In present time, the association between S wave in V6 and postoperative TOF outcomes, especially LCOS, has not been explained.

Methods

This is a cross sectional study. 150 TOF patients underwent total correction in 2013 included in this study. 35 patients who didn’t meet the inclusion criteria were excluded. Subjects divided in 2 groups: (1) patients who meets S in V6 criteria, and (2) control subjects as baseline characteristic. Bivariate analysis was done for incidence of LCOS, the variable with P<0.25 included in multivariate analysis. The significant value was p<0.5.

Results

Multivariate analysis showed S wave in V6 correlated with the incidence of LCOS with odds ratio 3.2, CI 95% (1.2-8.5), p=0.02.

Conclusion

The ECG findings S wave in V6 leads to diagnose RVH correlated with incidence of LCOS in post total correction TOF. An S wave criterion in V6 of RVH patients’ OR was 3.2 to predicts LCOS]