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VASOSPASTIC ANGINA AND EARLY REPOLARIZATION INDUCED POLYMORPHIC VENTRICULAR TACHYCARDIA – A CHANCE FOR TREATMENT SUCCESS?

DŁAWICA NACZYNIOSKURCZOWA I WCZESNA REPOLARYZACJA
INDUKUJĄCA POLIMORFICZNY CZĘSTOSKURCZ KOMOROWY
– SZANSA NA SUKCES LECZENIA?

Summary

We describe a case of Vasospastic angina and early repolarisation syndrome, which induced polymorphic Ventricular tachycardia episodes. Surprisingly, the angina episodes disappeared only after atrial arrhythmias treatment and percutaneous atrial fibrillation ablation.

Key words: early repolarization syndrome, vasospastic angina, polymorphic ventricular tachycardia

Streszczenie

Zespół wczesnej repolaryzacji wraz z towarzyszącą dławicą Prinzmetala może indukować napady polimorficznego częstoskurczu komorowego. W opisanym przypadku epizody dławicy ustąpiły dopiero po leczeniu współwystępujących arytmii przedsionkowych i przezskórnej ablacji migotania przedsionków.

Słowa kluczowe: zespół wczesnej repolaryzacji, dławica Prinzmetala, polimorficzny częstoskurcz komorowy

Early repolarization syndrome is associated with high risk of cardiac arrest. Atrial arrhythmias and exercise may induce changes in repolarization and J wave pattern in inferolateral leads morphology inducing polymorphic ventricular tachycardia (PVT) in response to myocardial ischaemia. Vasospastic angina episodes

may occur during atrial flutter and fibrillation episodes. Successful supraventricular arrhythmia treatment may occur an effective resolution of angina episodes and implantable cardioverter-defibrillator interventions. We present an unexpected additional effect of cryoballoon pulmonary veins ablation in a highly symptomatic pa-

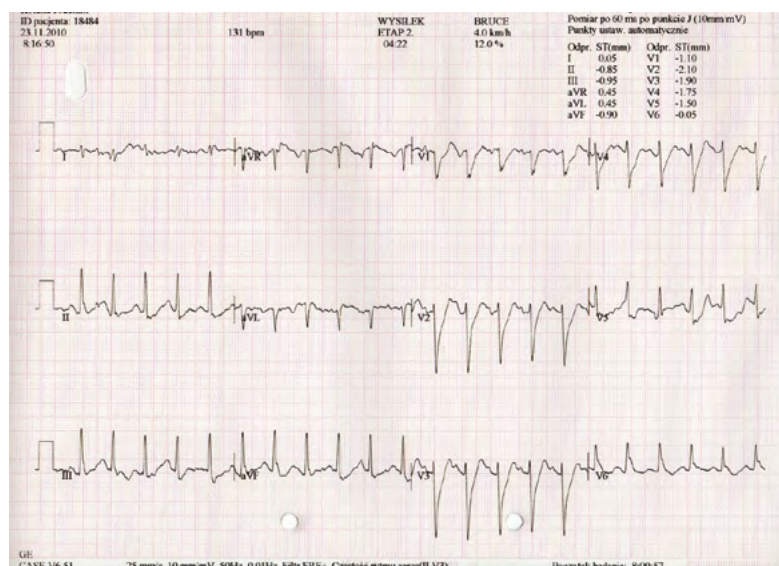


Fig 1 . Stress electrocardiogram revealing repolarisation changes in inferolateral leads

tient with Prinzmetal's angina and polymorphic ventricular tachycardias induced upon atrial arrhythmias and exercise with J wave pattern in infero-lateral leads in electrocardiography. The patient was ineffectively treated pharmacologically for 10 years and occurred asymptomatic after atrial ablations.

Case report

60 year old patient survived the first cardiac arrest in 2010 due to polymorphic ventricular tachycardia (PVT). He was diagnosed with vasospastic angina and J-point elevation ≥ 0.1 mV in all inferior and lateral leads [Fig1]. An exercise test revealed J wave changes and consecu-



Fig 2. Recurrent torsade de pointes preceded by repolarization changes, especially visible in inferolateral leads during sinus tachycardia upon stress test



Fig 3. Right coronary artery with ostial spasm of the vessel on the left and no spasm on the right

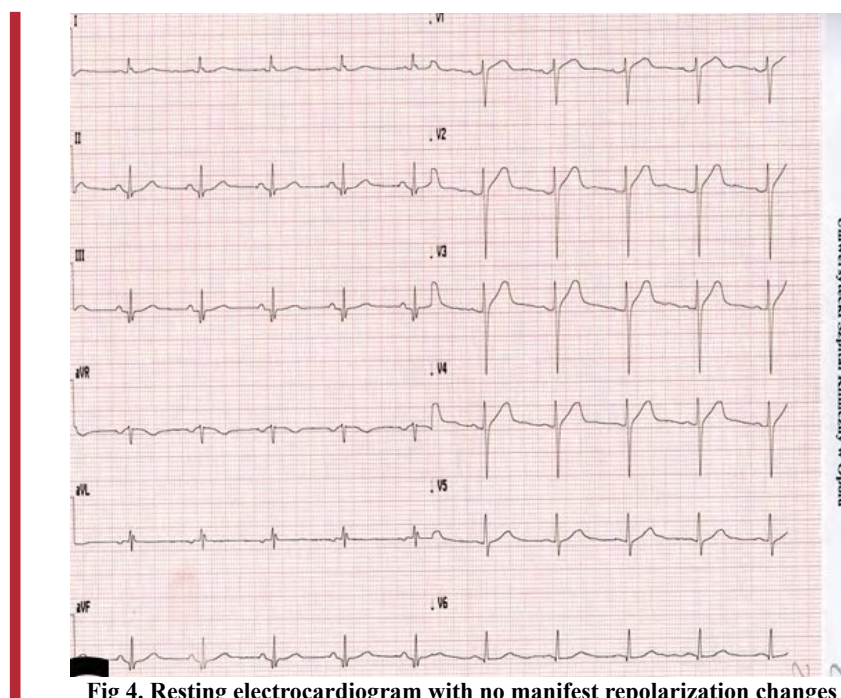


Fig 4. Resting electrocardiogram with no manifest repolarization changes

tive PVT induction pattern. The patient was treated with quinidine, amiodarone, calcium channel blockers, implantable double chamber cardioverter-defibrillator (ICD). The angiography executed during one of the acute coronary syndromes with concomitant shocks proceeded by chest pain presented right coronary artery spasm [Fig 3]. Further pharmacological changes were unsuccessful. Cavotricuspid radiofrequency ablation was also performed due to documented right atrium isthmus dependent atrial flutter. Nevertheless, all the procedures were ineffective in diminishing ischemia signs, multiple episodes of vasospastic angina and PVT. The man was coming back with myocardial ischaemia, atrial tachycardias with inadequate ICD interventions, concomitant cardiac arrests and frequent adequate therapies for further 7 years. We have noted that fatal ventricular incidents were also proceeded with atrial arrhythmias. Additionally, atrial fibrillation has appeared, and cryoballoon pulmonary veins isolation was performed. Periprocedural pulmonary venography revealed a common left trunk, happily,

a complete bidirectional conduction block between both right pulmonary veins, and a common left trunk and the left atrium was achieved. Fig 4 presents a 12 leads electrocardiogram after the cryoballoon procedure. 3 years long observation revealed no angina episodes, and no atrial fibrillation nor ventricular tachycardias. The patient requires no amiodarone now, and is regularly followed in ambulatory clinic with no ventricular episodes recorded in implantable cardioverter-defibrillator.

Conclusion

The cryoablation is an effective method of atrial fibrillation treatment. In a case of early repolarization syndrome with high incidence of ventricular arrhythmias it occurred efficacious in regression of vasospastic angina and PVT. Implantation of an ICD and many pharmacological attempts could not solve the problem. The effective treatment of atrial tachycardias prevented not only episodes of mild arrhythmias, but also ischemic events and lethal ventricular arrhythmias.

Komentarz redakcyjny

Oskar Kowalski

Opisany przypadek pacjenta ma szczególną wartość. Po pierwsze – z reguły wiemy mniej o chorobach rzadkich. Prowadzić to może do zaniechania wykorzystania wszystkich dostępnych metod terapeutycznych. Po drugie – kardiologia dziś to oczywiście możliwość poprawy rokowania w zakresie długości życia. Ale nie wolno ograniczać się tylko do tego. Drugim elementem jest poprawa komfortu i jakości życia pacjenta. W opisanym przypadku implantacja defibrylatora pozwoliła zabezpieczyć życie pacjenta, ale dopiero ablacja migotania przedsionków w rzeczywistości pozwoliła na zmniejszenie dokuczliwości choroby.

Warto przeczytać i warto o tym pamiętać, nie tylko u chorych z zespołem wczesnej repolaryzacji.

The described case of the patient has a special value. First of all – as a rule, we know less about rare diseases. This may lead to the abandonment of all available therapeutic methods. Secondly – cardiology today is, of course, the opportunity to improve the prognosis in terms of life expectancy. But you can not restrict your healing activities only to this one. The second element is the improvement of the patient's comfort and quality of life. In the described case, implantation of the defibrillator made it possible to protect the patient's life, but the ablation of atrial fibrillation in fact allowed to reduce the annoyance of the disease. It is worth reading and it is worth remembering, not only in patients with early repolarization syndrome.