

## **Brugada syndrome – does it always need ICD?**

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### **ABSTRACT**

A 72-year-old patient presented to Emergency department due to fever and fatigue with onset 24 hours before. Following clinical examination and paraclinical investigations, he was diagnosed with urinary sepsis and was admitted to the ITU. ECG on admission showed Brugada type I pattern (prominent coved ST-segment elevation displaying J-point amplitude, followed by negative T wave in precordial leads V1-V3)<sup>1</sup>. The patient was treated with iv fluids, antibiotics and antipyretic medications. Monitoring did not reveal any life-threatening arrhythmias. ECG changes completely resolved within the first day of admission.

### **INTRODUCTION**

Brugada syndrome (BS) is an ECG abnormality with a high incidence of SCD in patients with structurally normal heart. Brugada syndrome is generally considered a disorder involving young

male adults, with arrhythmias occurring usually at the age of 40, with SCD typically occurring during sleep<sup>2</sup>. Brugada syndrome is definitely diagnosed when the patient presents with type 1 ECG changes and at least one of the following clinical criteria: syncope, seizures, nocturnal agonal respiration, documented VT/VF, family history of SCD or ECG type1 in family members<sup>1</sup>.

The only effective treatment, to reduce the risk of SCD in Brugada syndrome is the implantable cardioverter defibrillator (ICD), therefore it is recommended that patients with documented VT or successfully resuscitated from VF and patients who present with a spontaneous type 1 ECG and a history of syncope, should be implanted an ICD<sup>3</sup>.

### **CASE REPORT**

A 72-year-old male presented to A&E Department, complaining of fatigue, chills and fever following prostate biopsy, due to hypertrophy, 24 hours earlier. He was a non-smoker and was not drinking alcohol.

He did not report any history of loss of consciousness or any other medical problems.

On physical examination, the RR was 15/min, the SpO<sub>2</sub> 97% on room air, BP 130/70 mm Hg, pulse 78/min regular and body temperature 38°C.

Clinical examination was unremarkable. ECG was in sinus rhythm, with ST segment elevation in leads V<sub>1</sub>-V<sub>3</sub>. (Fig 2-3). Chest X-Ray was normal.

FBC and biochemical blood tests were normal. The urine test showed high WBC and urine culture was positive for Escherichia Coli.

The result of the prostate biopsy was negative for malignancy.

Echocardiography demonstrated normal left ventricular wall thickness, normal dimensions of both the left and the right cardiac chambers, normal systolic function and no valve pathology, or pericardial fluid (Fig 1).

On admission, the patient was given antipyretics, IV Ceftriaxone and IV fluids. ECG changes resolved within 24 hours, with normalization of body temperature (Fig 4).

## **DISCUSSION**

Brugada syndrome has been analysed in various international studies<sup>4-6</sup>. The mean age of sudden cardiac death is 40, with two age cut offs (16 and 70 years), that might be important for decision-making. The patient aged more than 70 years old seem to represent a lower-risk group than younger patients. The prevalence of arrhythmic events in the elderly population seems to be significantly lower than in the paediatric population (1.5% vs 4.3% respectively)<sup>6</sup>. Based on this we assumed, that

since the arrhythmic risk is low in the elderly and since no guidelines are available yet to address this issue, the patient could be managed conservatively.

## **CONCLUSION**

At present, there are no guidelines for an age limit at which ICD should be placed. The results of recent studies show that the arrhythmic risk in patients with Brugada syndrome over the age of 70, is rare and this supports the decision for conservative management of our patient, who was asymptomatic and without any history of arrhythmias.

## **REFERENCES**

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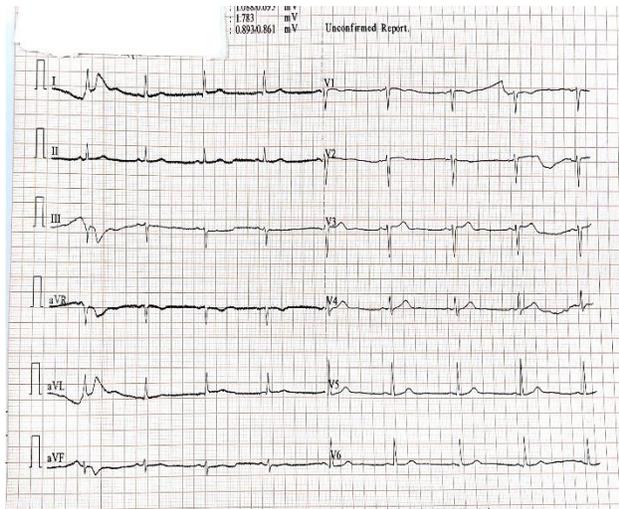


Fig 4, ECG after antipyretic medication