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BRUGADA SYNDROME: A CASE REPORT

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In this Case, we describe a male patient who presented with status epilepticus and typical pattern on 12–lead electrocardiography (ECG) after resuscitation, demonstrating generalized convulsive status epilepticus as the initial manifestation of Brugada syndrome.

Clinical Case

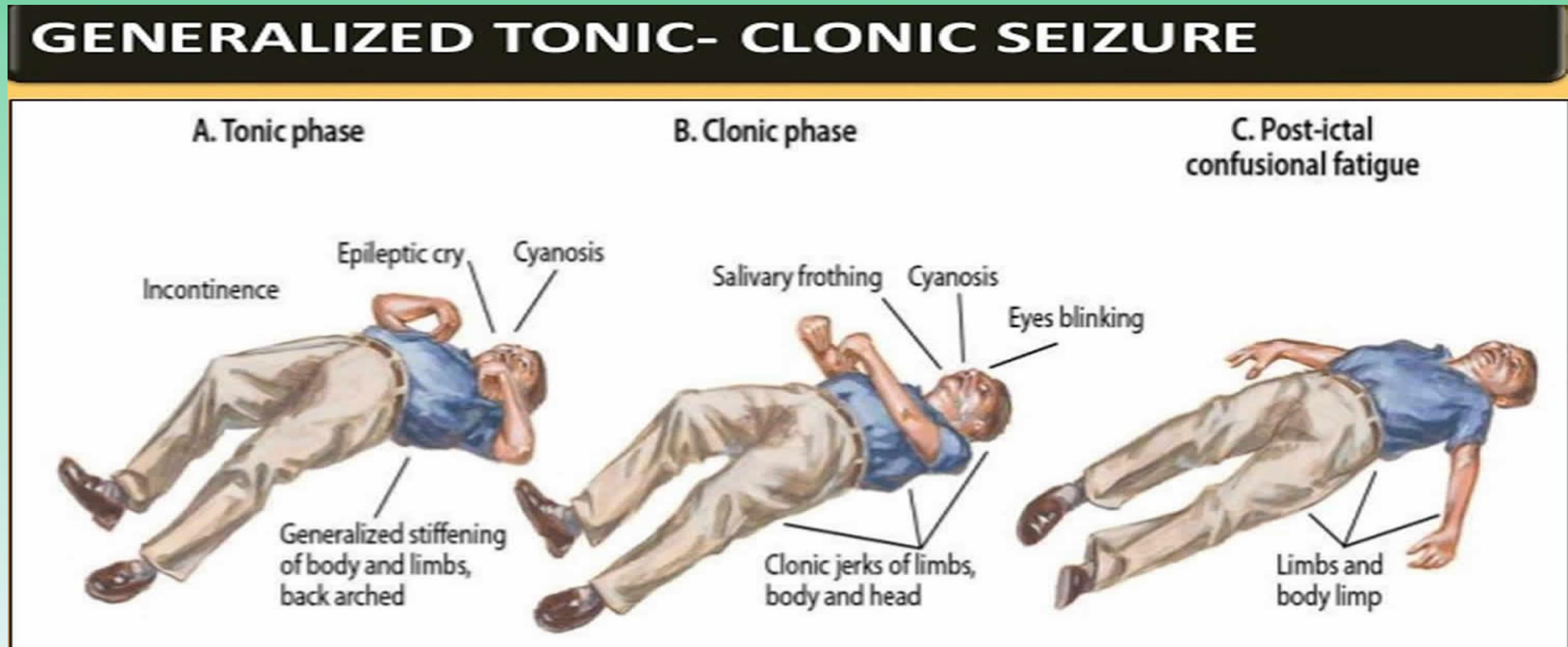
Patient Identifying data

- Age:41 years old
- Sex: male

Complaints

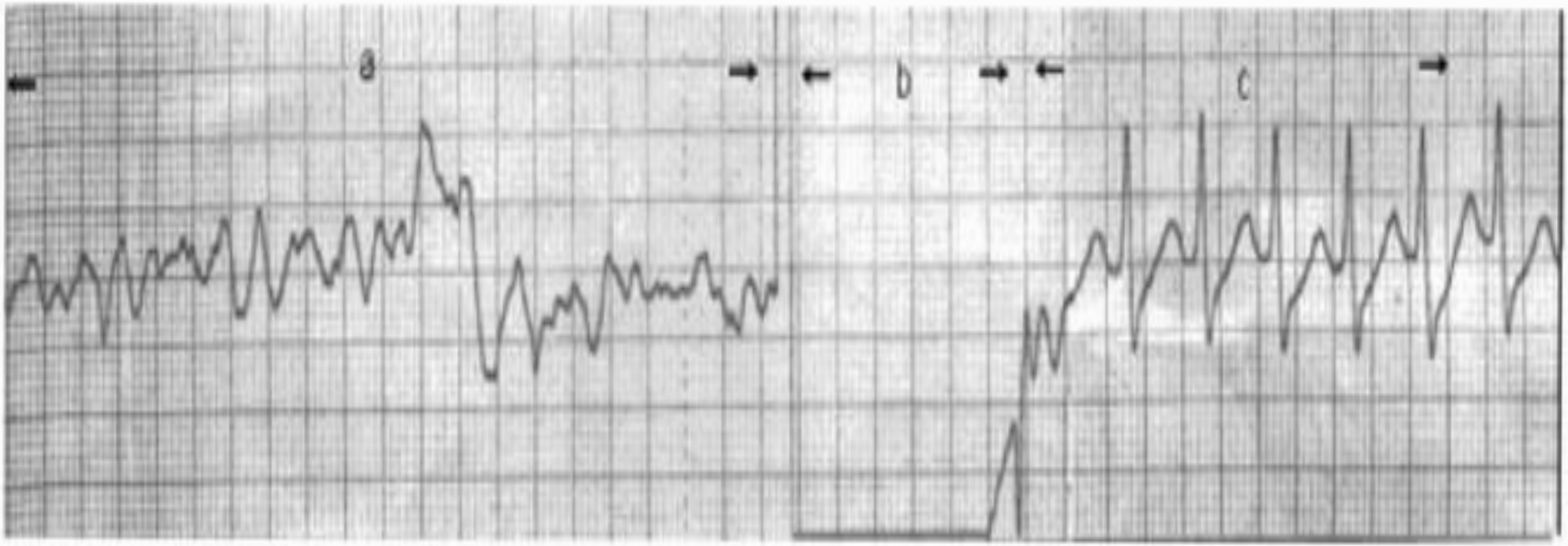
Main complaints:

•The patient was brought to the local emergency departmen t (ED) for generalized tonic-clonic movements.



History of the present disease

According to his co-workers, the patient was talking to them without any app arent discomfort, before starting to exhibit tonic-clonic movements that lasted for more than half an hour before arrival to the ED. During resuscitation, VF i n ECG records (Figure 1) with seizure activities persisted until direct current (DC) shock was applied and sinus rhythm was restored. The patient was the n transferred to the intensive care unit at another hospital as soon as vital si gns were stabilized and maintain with medication.



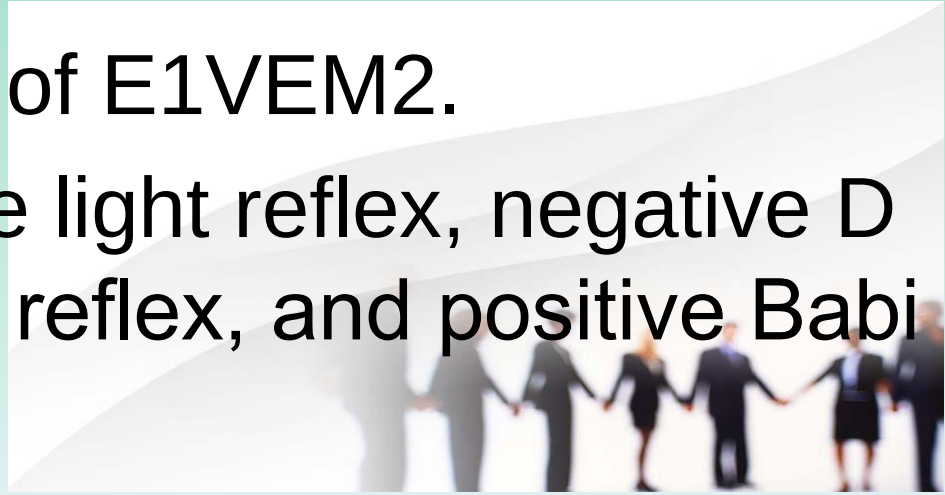
a: ECG recording during the status epilepticus showing ventr icular fibrillation.
b: Period of direct current shock.
c: Sinus rhythm was restored after direct current shock was applied.

Life history

Patient history revealed no systemic disease or complaints of syncope, convulsion, or chest pain. No drug history or all ergic reaction and no surgery or admission records were fo und. The patient never smoked nor consumed alcohol. Ther e had been no family history of syncope, convulsion, heart d isease or sudden death

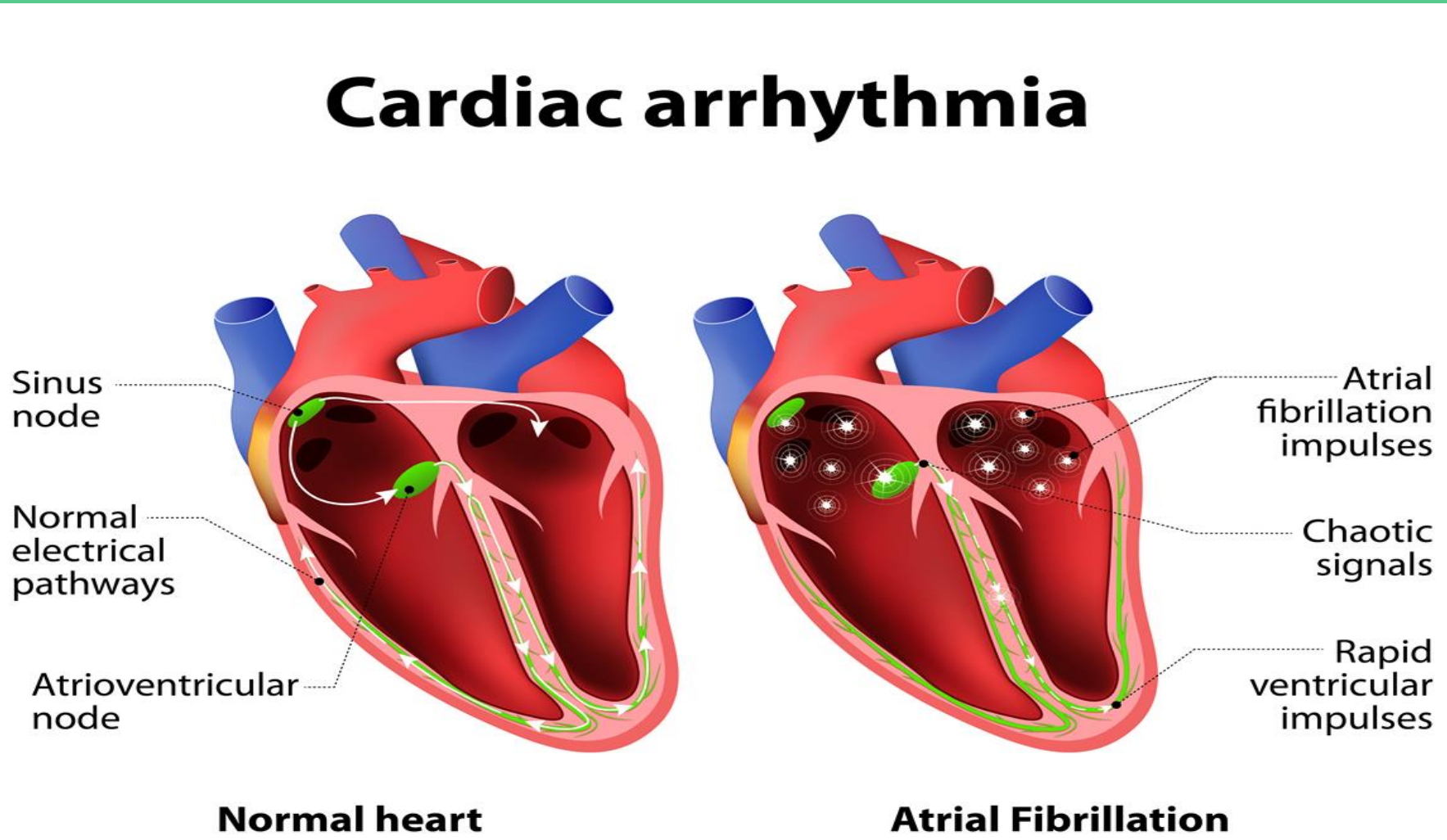
Physical examination

- No physical abnormalities were detected by clinical examinati on and blood pressure was 130/80 mmHg (on the backgroun d of antihypertensive medication) , HR 140 bpm
- Respiratory rate: no significant changes
- Auscultation: clear vesicular sound Over the lungs and present S 1 and S2 sounds.
- Abdomen without any changes
- The Glasgow Coma Scale (GCS) status of E1VEM2.
- Neurologic examination revealed positive light reflex, negative D oll’s eye sign, hyperreflexic deep tendon reflex, and positive Babi nski sign.



Preliminary diagnosis

- Arrythmia
- Hypoxic encephalopathy



Plan of investigation

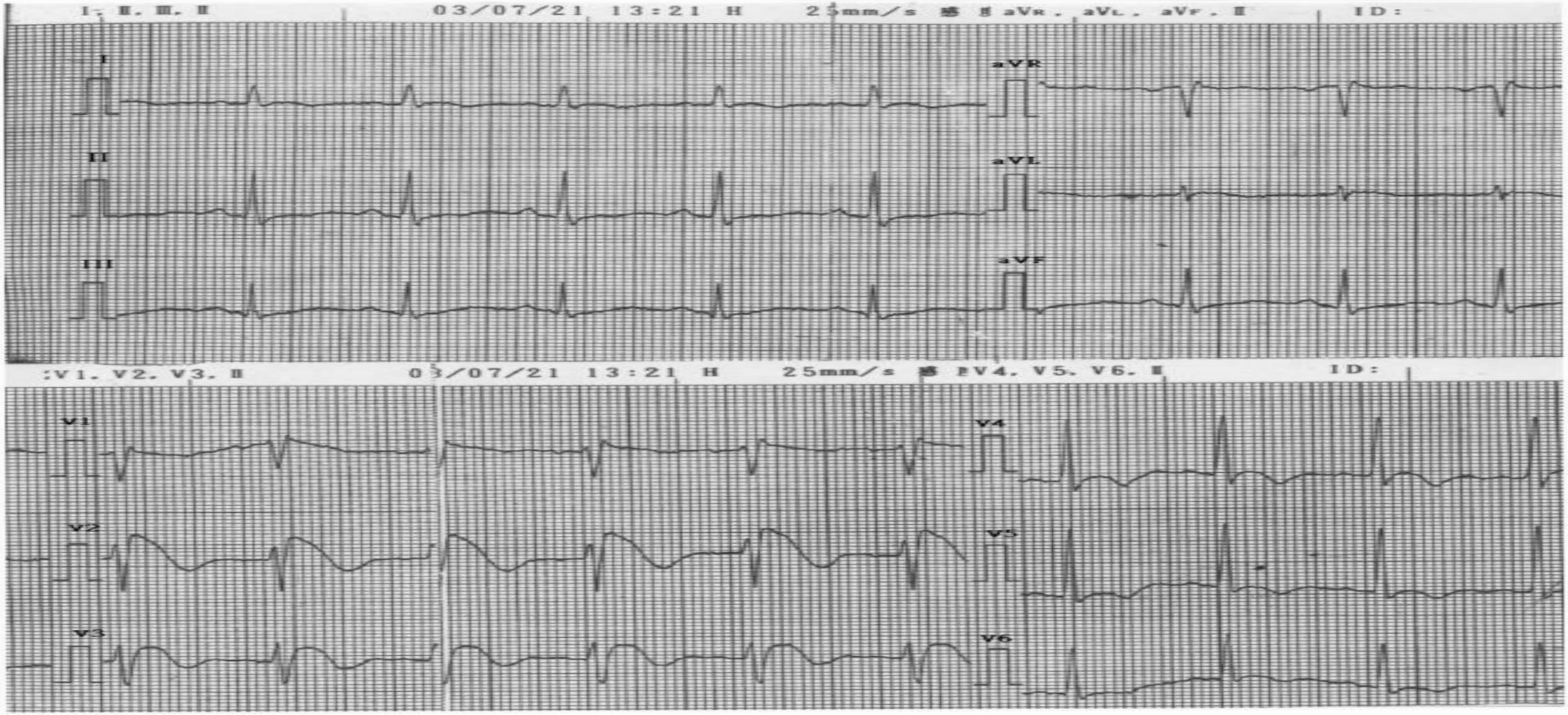
- Minimum investigation:
  - –Complete blood count
  - –Biochemical Blood analysis (Troponin I, CK-MB)
  - –ECG
  - –Xray
  - –CT
  - –EchoCG
  - – Electroencephalography

Blood & Biochemical test

The complete blood count and chemistry panel were within referenc e ranges, except for glutamate-oxalacetate transaminase and gluta mate-pyruvate transaminase, which were 94 IU/L and 136 IU/L, resp ectively. Creatinine phosphokinase and creatinine phosphokinase is oenzyme MB were 378 IU/L and 65 IU/L,respectively. Troponin I wa s initially 0.123 ng/mL and subsequently peaked at 0.995 ng/mL.

ECG

- Conclusion : Sinus Trachycardia. V1-V3 RSR' pattern and S T Segment elevation

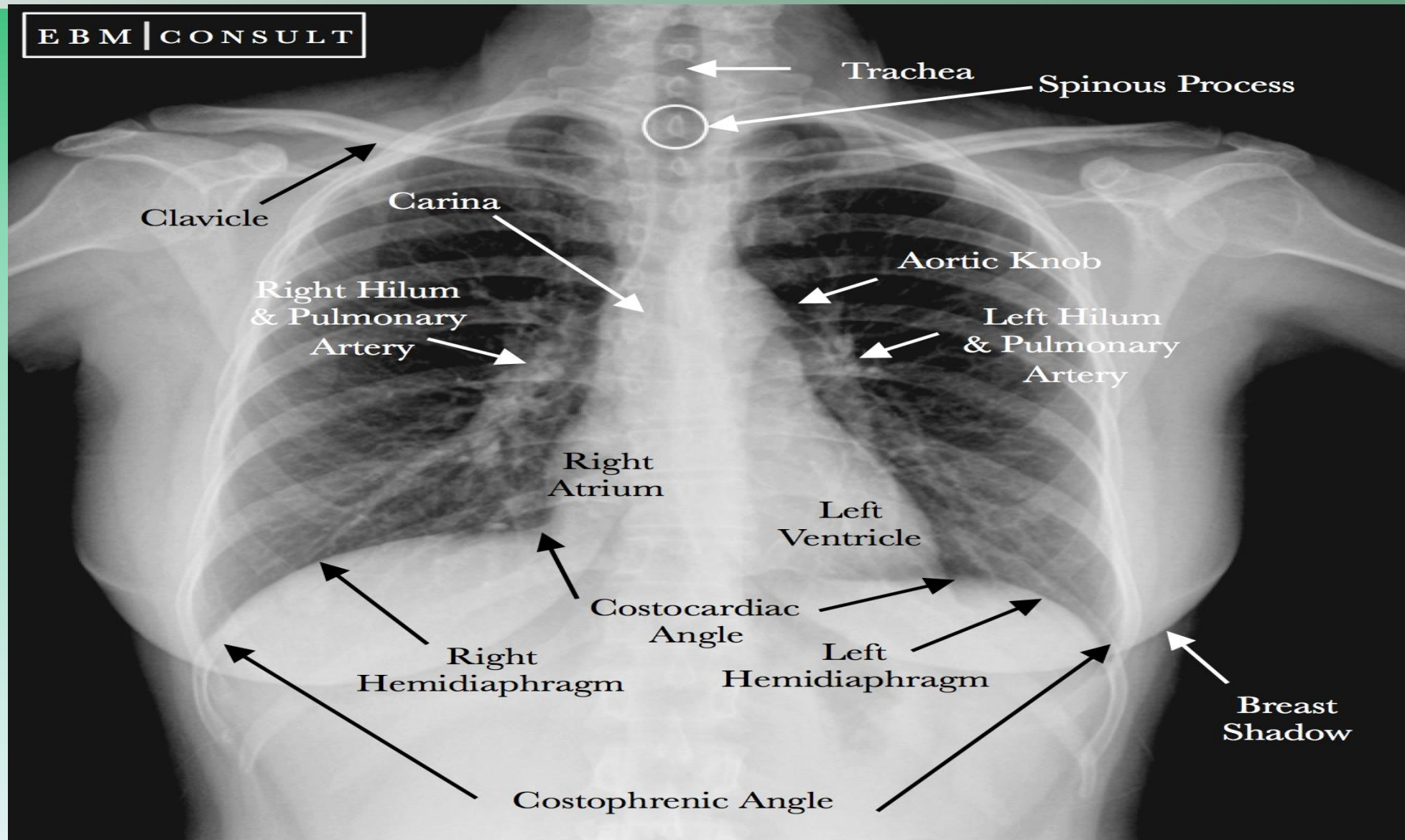


EchoCG

Normal

Chest Xray

- No cardiopulmonary abnormality

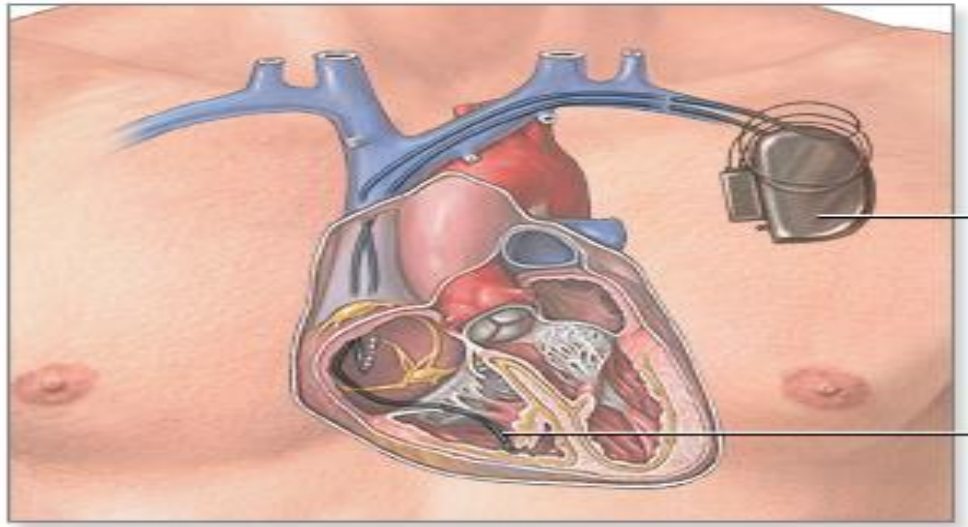


Clinical Diagnosis

- Main disease: Brugada Syndrome
- Concomitant diseases: Hypoxic encephalopathy

Treatment

- Supportive treatment was arranged for the patient, including tracheostomy, stress ulceration prevention and rehabilitation.
- Follow up plan: Holter monitoring, repeat Xray and labs, and serial ECGs
- Surgical: implantable cardioverter-defibrillator (ICD) implantation

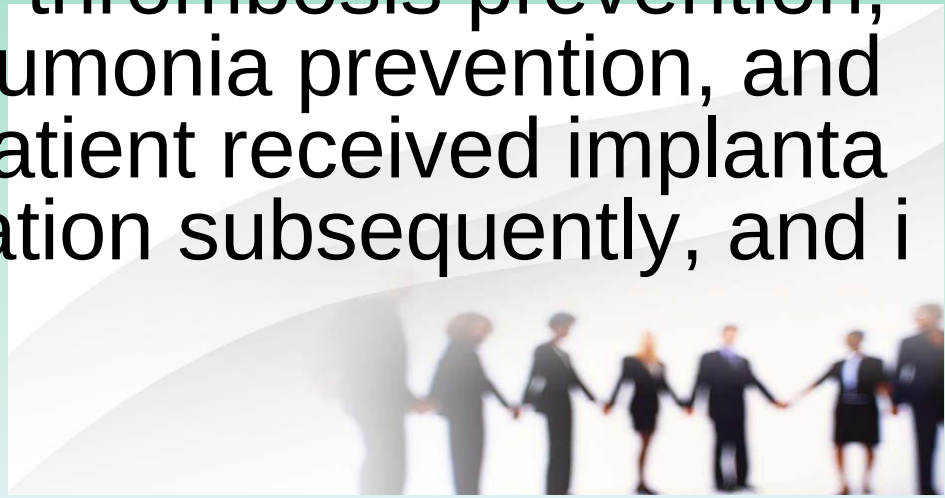


An implantable cardioverter-defibrillator (ICD) detects a rapid heartbeat coming from the bottom of the heart

Follow up

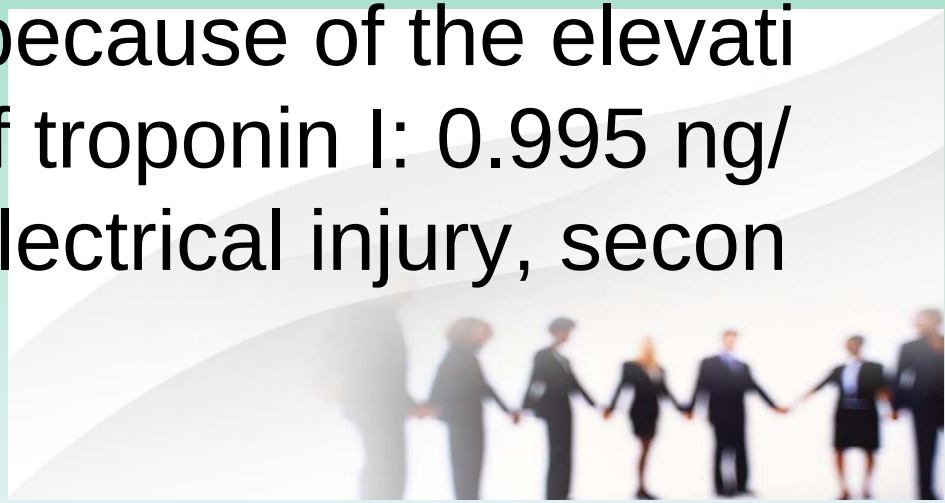
Three weeks later, Physical examination was entirely normal. Laboratory evaluations remained within reference ranges. Repeat chest plain film rev ealed no active cardiopulmonary lesions. Serial ECGs continued to show RSR’ pattern with ST-segment elevation in V1 through V3. There were no other abnormalities on Holter monitoring

The patient continued in rehabilitation programs, which included p assive range of motion, pressure sore and thrombosis prevention, oral hygiene education and aspiration pneumonia prevention, and contracture prevention by orthoses. The patient received implanta ble cardioverter-defibrillator (ICD) implantation subsequently, and i s currently doing well.



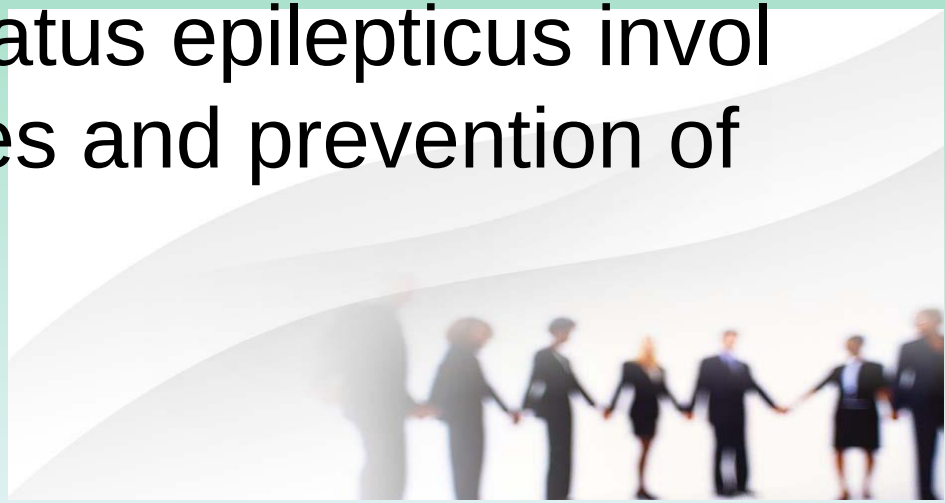
Conclusion

In the present case, the patient had been in perfect health w hen he suddenly presented in status epilepticus. ECG on ar rival revealed ventricular fibrillation, and sequential series re vealed Brugada-type patterns. These signs, combined with normal echocardiogram, were supportive evidence for the di agnosis of Brugada syndrome. Although we cannot exclude the possibility of myocardial infarction because of the elevati on in cardiac enzyme (the peak level of troponin I: 0.995 ng/ mL), this was most likely the result of electrical injury, secon dary to DC Shock.



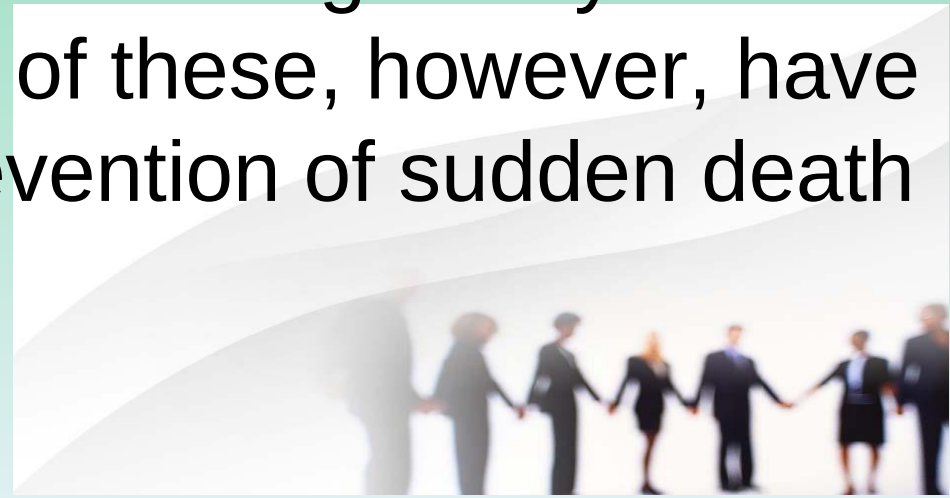
Conclusion

Classically, patients with Brugada syndrome generally have no evident systemic diseases in their past history. All too oft en, syncope or sudden cardiac death is the only symptom in these patients. In some cases, sudden death is the first sym ptom of the disease [7]. To our knowledge, this case is the fi rst that demonstrates status epilepticus as the initial sympto m of Brugada syndrome. Therapy of status epilepticus invol ves management of precipitating causes and prevention of seizure recurrence.



Conclusion

At present, ICD implantation is the most effective method in sympt omatic patients with Brugada syndrome [4,9].However, controvers y exists in the treatment of asymptomatic patients. Asymptomatic patients should undergo electrophysiologic study, and if inducible, ICD implantation is recommended [9]. Agents that boost the calciu m current, such as isoproterenol, and some class IA agents, such asquinidine and tedisamil, have been shown to be effective in nor malizing ST-segment elevation in patients with Brugada syndrome , and in controlling electrical storms. None of these, however, have demonstrated long-term efficacy in the prevention of sudden death .



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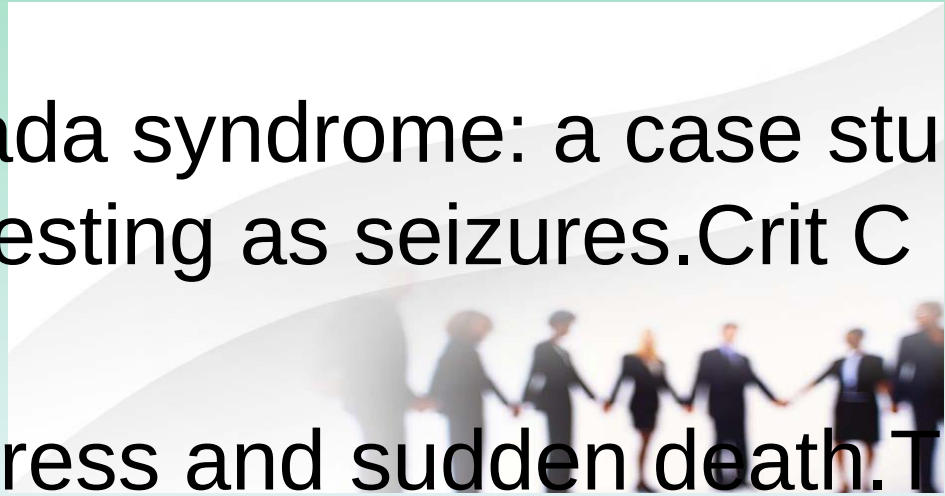

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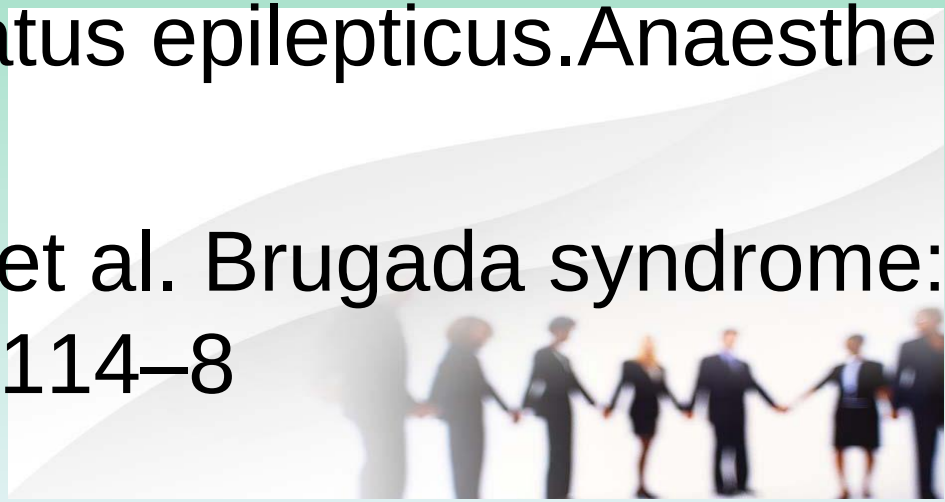

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