When Wellens' Syndrome Meets Brugada Phenocopy

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INTRODUCTION

The main objective of this report is;

•Patient presenting with Brugada pattern ECG can have underlying wellens syndrome.

•Importance of timely recognition of ECG and Consequences in delay in urgent coronary intervention.

•This Case includes the clinical criteria and implications of Wellens' syndrome and brugada phenocopy.

CASE REPORT

53 years old male with past medical history of treated Pulmonary tuberculosis, presented with severe chest pain for one hour, started while he was working in his garden. The pain radiated to both arms associated with nausea and sweating.

He denied use of illicit substances, drugs, smoking and alcohol.
He had no family history of coronary artery disease.

Patient was pain free when he reached the hospital emergency started with antiplatelet, anti-ischemic and anticoagulant followed by serial ECGs.

Examination	Remarks
Glasgow coma scale (GCS)	15/15
Blood pressure (BP)	150/90 mmHg
Heart rate	68 Beats/minute
Respiratory rate	18 Breath/minute
Temperature	98 F
Jugular venous pressure(JVP)	Not Raised
Cardiac Examination	Normal heart sounds with no clicks, gallop or murmurs

Investigation	Remarks
Serial ECGs	Brugada pattern (Type1) in initial ECG. Wellenoid pattern followed by 10 hours serial ECG
Cardiac Markers	Negative
Coronary Angiography	Severe lesion in Proximal left anterior descending (LAD) artery.

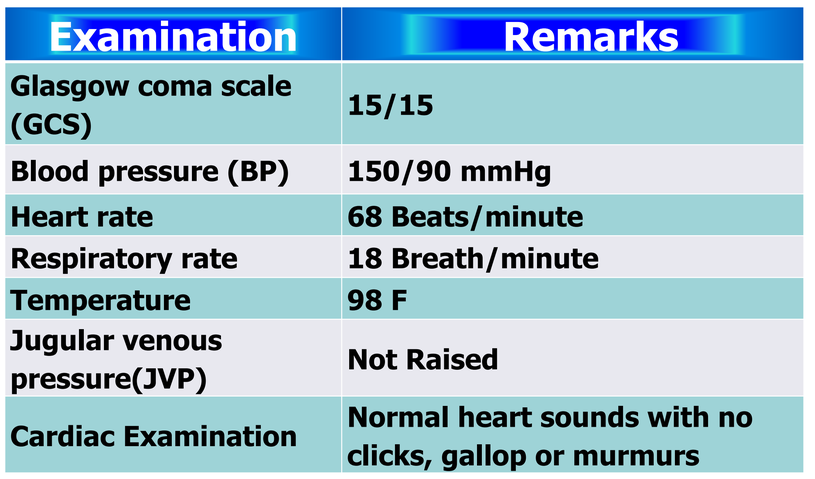


Figure 1: Initial 12 lead ECG showed ST segment elevation in leads, V1 ,V2, V3

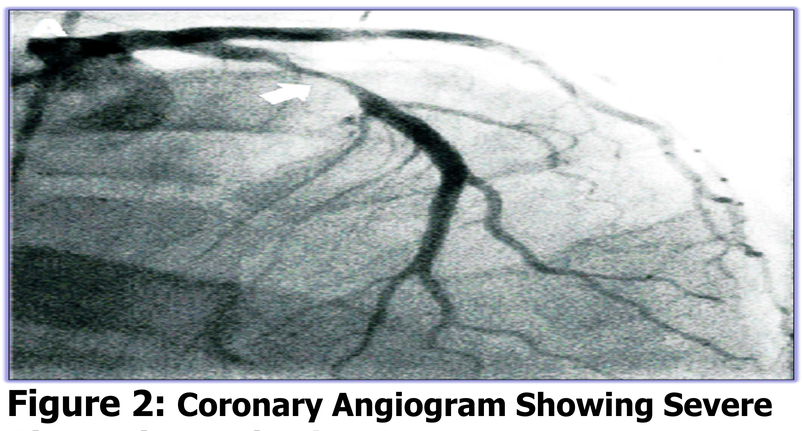


Figure 2: Coronary Angiogram Showing Severe Disease in Proximal LAD

TREATMENT

Antiplatelet medication ,
Anti- Ischemics and anticoagulants.

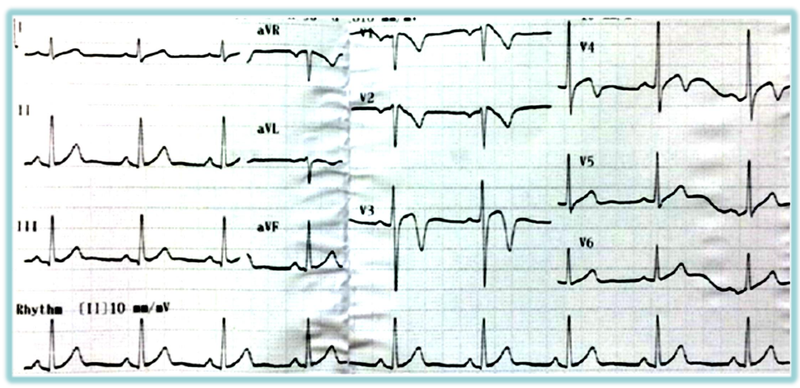


Figure 3: ECG done after 10 hours showed ST elevation in lead V3 and V4 with prominent Biphasic T wave consistent with ischemia (wellenoid pattern)

RESULTS

- Patient underwent Coronary angiography which showed severe proximal LAD stenosis (Figure 3)
- Brugada pattern came out to be Brugada phenocopy seen in V1 and V2.
- PCI to LAD was done (Figure 4) with Drug eluting stent (DES)
- Rechecked ECG taken after PCI to LAD(Figure 5)

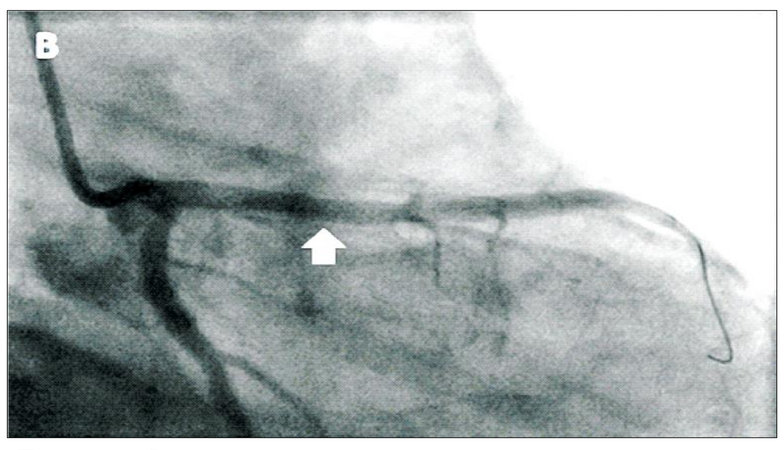


Figure 4 : After Placing Stent in Proximal LAD



Figure 5: ECG taken after PCI to proximal Left anterior descending artery

DISCUSSION

- Wellens' Syndrome, 1ST described in 1982 by professor Hein J.J.
- Wellens syndrome and Brugada like ECG pattern rarely present together in ischemic heart disease.
- Criteria include anginal chest pain, less than twice the upper limit of normal in cardiac biomarkers .
- Type A Wellens' comprises 25% of cases and has biphasic T waves in lead V2 and V3.
- 75% are Type B Wellens syndrome, which is deeply inverted, symmetrical T waves predominantly in V2 and V3.
- According to data, 75% of non vascularized patients will progress to acute anterior wall MI within 1 week, if left un treated
- Proper recognition and time management for wellens' is impaired.

CONCLUSION

- Ischemic changes can be confused with Brugada pattern.
- History and recognition of the ECG findings is important for proper management and emergent intervention to avoid large anterior wall MI.
- Coronary angiogram should be performed to rule out the coronary artery disease.
- Definitive treatment for wellens syndrome typically involves percutaneous coronary intervention (PCI) to relieve the occlusion.

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