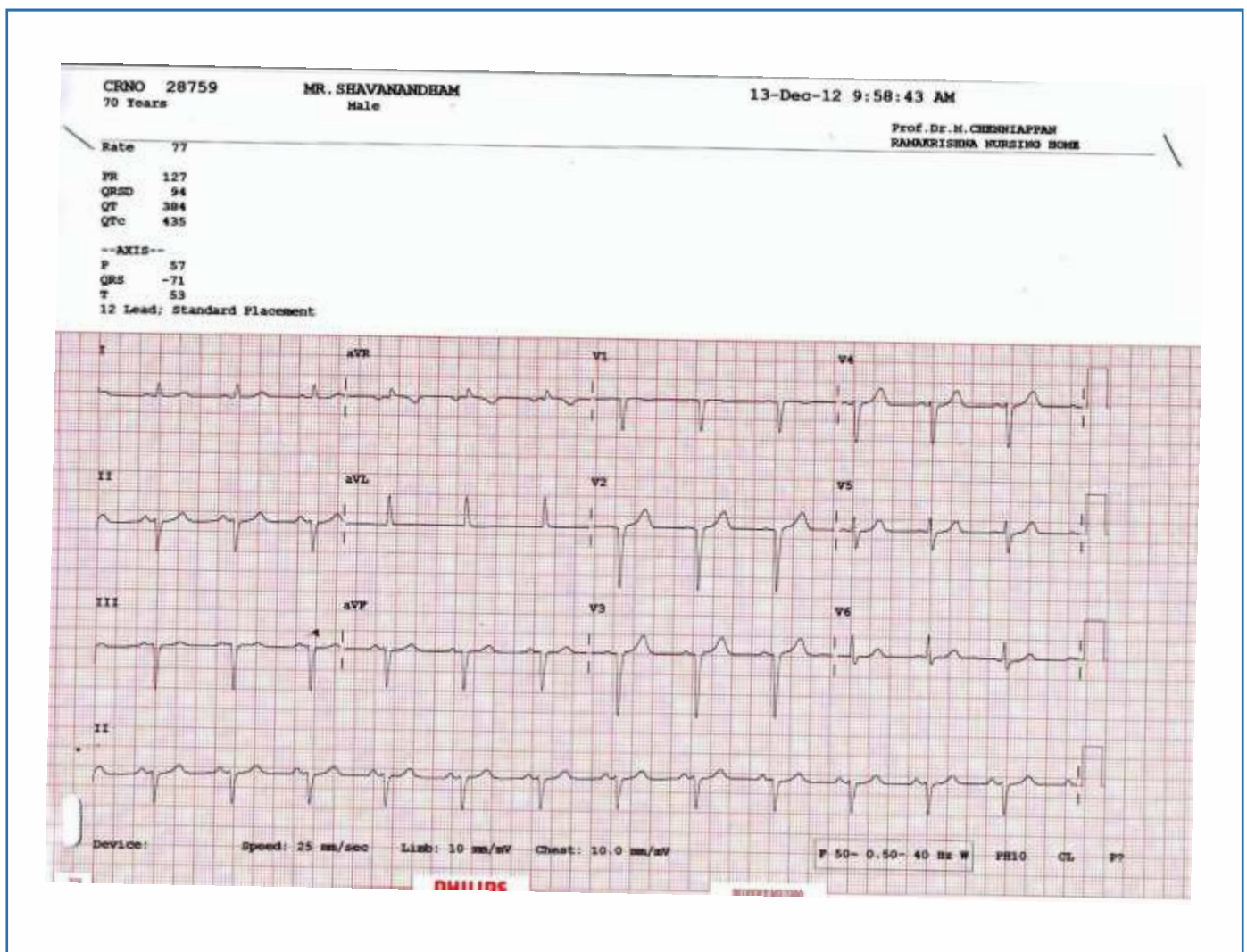


## ECG Excursions

Ecg No.5 : This is the routine ECG of 70 y old patient



### Questions :

1. What are the ECG findings?
2. What are the practical implications?

### ANSWERS TO ECG 5 OF ECG EXCURSION

1. The ECG shows non progression of R wave in V1-V4. Non progression of R wave or poor prognosis of R wave in chest leads is a vague term. It is not a diagnosis but a pattern. In normal individuals R increase in voltage from V1-V4. Depace criteria to diagnose poor R wave progression is that in 1mv standardization the R in V3 in equal or less than 3mm it is considered poor R wave progression. The other criteria are that R in V1 is less than V2, R in V2 is less than R in V3 and R in V3 is less than V4. With this criterion this ECG shows poor prognosis of R wave.

The second step is to identify what has caused poor R wave progression. Apart from Anterior MI, there are about dozen causes of poor R wave prognosis.

2. In this patient the non-progression is due to chest wall abnormality of pectus excavatum. If you see the ECG alone without looking at the chest of the patient you will miss the diagnosis That's why this clue is given.

3. Now let us undergo the ECG signs produced by pectus excavatum which is posterior depression of sternum and costal cartilages. This results in compression and leftward displacement of heart. The common ECG changes are non-specific ST T changes and poor prognosis of R in V1-V4 which with mimic CAD. In addition to this many ECG changes such as incomplete blockade of His, VPDs and MVP in more than 90% of cases may be present. When poor R progression is present, record ECGs one space above or below depending upon the condition to rule out organic causes. In obesity, ascites and pregnancy it is one space above and in tall lean individuals and emphysema it is one space below. If R wave progresses in repositioned leads, it is unlikely due to organic causes such as AWWMI.



**Pectus excavatum of this patient**

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