

ACUTE CORONARY SYNDROME - de WINTER SYNDROME



“Jeanne Hebuterne (In Front of a Door)”, oil on canvas, 1919, Amedeo Modigliani.

One of Modigliani's many paintings of Jeanne Hebuterne reproduced in "Le Silence Eternel" dates from their last months together. She is sitting on a stool in front of a door in a corner of the room. Her swollen stomach is hidden under an opaque black skirt and a kind of scarf or stole is wrapped around her shoulders. The theme is heavily red, from the vivid crimson of the bodice to the vermilion wall paint and door to the reddish browns of the wooden stool and blackish browns of the floor. Her skin tones, which are pinkish in earlier paintings, have been drained into a sallow, uniform yellow. The boldly stressed silhouette, annotated in black, gives a feeling of foreboding, even menace, to what should have been an occasion to celebrate by the father-to-be. However, if one theorizes that perhaps Modigliani is making a reference to the idea of alchemical transformation, far from being an anomaly, takes on an interesting new dimension. It can be read as a clue to unlock the mystery of Jeanne Hebuterne's death.

In alchemical symbolism the colors red and black signify stages in the process of transfiguration. Joseph Campbell writes, "Black is the colour of the first stage, the nigredo, in which the substance to be transformed must first be broken down into a prima materia, or primordial mass...Red, on the other hand, signifies the third stage, the rubedo, or reddening, which is the spiritual goal of the entire alchemical opus: gold is produced as the direct product of the fusion of the opposites sulfur and mercury, or Sol and Luna". It is tempting to think that Modigliani had convinced Jeanne that death was as easy as walking through a door and that it would lead to their reunion in a higher sphere. Ortiz de Zarate writes that after Modigliani died he went to see Jeanne, who said calmly, "Oh! I know that he's dead. But I also know that he'll soon be living for me". If there was a secret pact one would expect each of them to have left a coded message, and they did! Modigliani's portrait, as read symbolically with a door behind it, would seem to suggest death and rebirth. Hers is full of significantly similar colour symbolism and only the message differs slightly. The watercolours by Jeanne which Chantal Quenneville said she found when she went to the apartment after Jeanne's death have recently been made public, thanks to Luc Prunet. These are four lightly sketched works telling the story in comic-book sequence. But their purpose is anything but frivolous; Restellini calls them Hebuterne's last will and testament.

The first is a drawing of an interior. A table covered with a blue cloth stands before a fireplace with a mirror above it. There is an empty wine decanter on the table, a glass, and in recognition of one of Jeanne's major interests, a volume of sheet music labeled "Les Chansons". Restellini believes the watercolor describes the Hebuterne apartment at the moment when Jeanne and Modigliani met. Andre has left for the war, and there is a tiny but unmistakable picture of him in uniform on the mantelpiece. Restellini finds death foreshadowed in the fact that the clock is painted black and the inky fireplace opening is reflected in miniature, on the wine decanter's surface. The colors are, however, pretty pastels: blue, apple-green, gold, and off-white. The second watercolor recalls their stay in Nice with Eudoxie. It could be lunchtime. The couple are seated at a table facing the viewer; Eudoxie, in profile, sits opposite. The color scheme includes blues and blueish-greens, but red has entered the theme in the form of a skirt, red wine, some background flowers and her mother's reddish-brown dress. So has black. Modigliani's jacket and tie are black and the sockets of his eyes are painted black. Her hand is placed protectively over his and to the right of her plate is a black knife. "There is even a black -and-white cat at her feet. Presentiment can be no clearer than this; Restellini writes, "More and more, death is making its presence felt".

In the third painting a naked girl with long tresses is asleep in a single bed. Her features have been left unpainted but the reference is clear enough, as is the figure all in black that stands

at the open doorway. It could represent Maldoror or perhaps a priest, or simply a personification of Death. The themes of black and red, in the visitor's clothing, the mat on the floor, and the crimson towel hanging over the door, make the meaning clear. In the fourth and final frame the heroine, on her red bed and white sheets, having thrust a dagger into her heart, lies head downward, her russet hair streaming behind her. The dripping dagger, the scarlet skirt, the vermilion blood, even her necklace and bracelet, repeat the overwhelming theme. Only the skirt that covers her unborn child retains its traces of green, hemmed around in black. Her intentions could not be more specific. The only issue left was exactly how and when”.

Meryle Secrest, “Modigliani, a life”, Scribe Melbourne, 2011.

Amedeo Modigliani was the quintessential Bohemian avant-garde Artist of the Parisian district of Montparnasse. His reputation was as a desperately poor hashish addict and alcoholic, who drank himself to death at the tragically young age of just thirty six years. With this persona, naturally, the value of his works, little understood during his lifetime, suddenly soared after his death. Today an original Modigliani of impeccable provenance can change hands for tens of millions of dollars.

His recent biographer, Meryle Secrest however convincingly refutes the stereotypical picture of Modigliani that arose soon after his death. He lived with a terrible secret and great fear of one of the ultimate stigmatizations of the Nineteenth and early Twentieth centuries - tuberculosis. Difficult as it is for modern sensibilities to understand, tuberculosis was greatly feared. It was a certain death sentence that cut down the young in their prime. To be diagnosed with it - meant a short existence of living death. Modigliani died of tuberculous meningitis. He could not tell anyone he had it - apart from his beloved wife Jeanne Hebuterne. He wore elaborate scarves to hide the tuberculous lymph nodes of his neck. His hashish habit was not attained from any inherent defect in his personality as many would have had it at the turn of the century - but rather from a desperate attempt to hide his intractable cough - a sure sign of the dreaded disease. His alcohol addiction was the result of this inner anguish, knowing that he would soon die. Secrest gives a most touching description of the last months of his life. Jeanne is pregnant with his child and these should have been the happiest days of their lives. Instead both knew that there was no future for them - only death. Modigliani's works take on a melancholy specter of great sadness. Jeanne also knew her time was limited. There was no joy in their lives. She could not, and would not, live without her husband. The day after Amedeo died, she threw herself off the sixth floor of her apartment, killing both herself and her unborn child. Meryle Secrest convincingly argues that the signs of the impending double tragedy were depicted by Jeanne Hebuterne in a series of small watercolors she produced just before her death. Fascinatingly she also points out that Amedeo's last portrait of his wife contains many allusions to impending doom, based on the symbolism apparent in its coloring. Modigliani was well versed in the great Symbolist genre of the late Nineteenth century. Amedeo and Jeanne knew they had no future life together, but they took comfort in the thought of reunion of their family after death and they could very well have left vital clues to those able to understand the sad symbolism of their Art.

We need always be vigilant for the earliest signs of impending tragedy. In our patients who present with ACS, one of the more hidden symbols of doom we should be aware of is the de Winter pattern of the ECG.

ACUTE CORONARY SYNDROME - de WINTER SYNDROME

Introduction

The **de Winter ECG pattern** is a relatively uncommon ACS, but is very important to recognize.

It should be considered as an **anterior STEMI equivalent** that presents **without obvious ST segment elevation**.

Its signifies an acute proximal LAD artery occlusion.

In contrast to Wellen's syndrome patients present with chest pain, making the presentation even more acute.

Key diagnostic features are **chest pain** with the ECG occurrence in the **precordial leads** of:

- **ST depression**

And

- **Peaked T waves**

The de Winter ECG pattern is seen in about **2%** of **acute LAD occlusions**.

This syndrome is under recognized by clinicians, with consequent increased morbidity and mortality.

Some authors propose that the de Winter pattern should be considered a “STEMI equivalent”, and that patients with **chest pain** and a **de Winter ECG pattern** should receive emergent reperfusion therapy with PCI or thrombolysis.

See also separate documents on:

- **Acute Coronary Syndrome - Wellens Syndrome**
- **Acute Coronary Syndrome - Left Main Coronary Artery Critical Stenosis**
- **Acute Coronary Syndrome - T Waves Upright in V1**

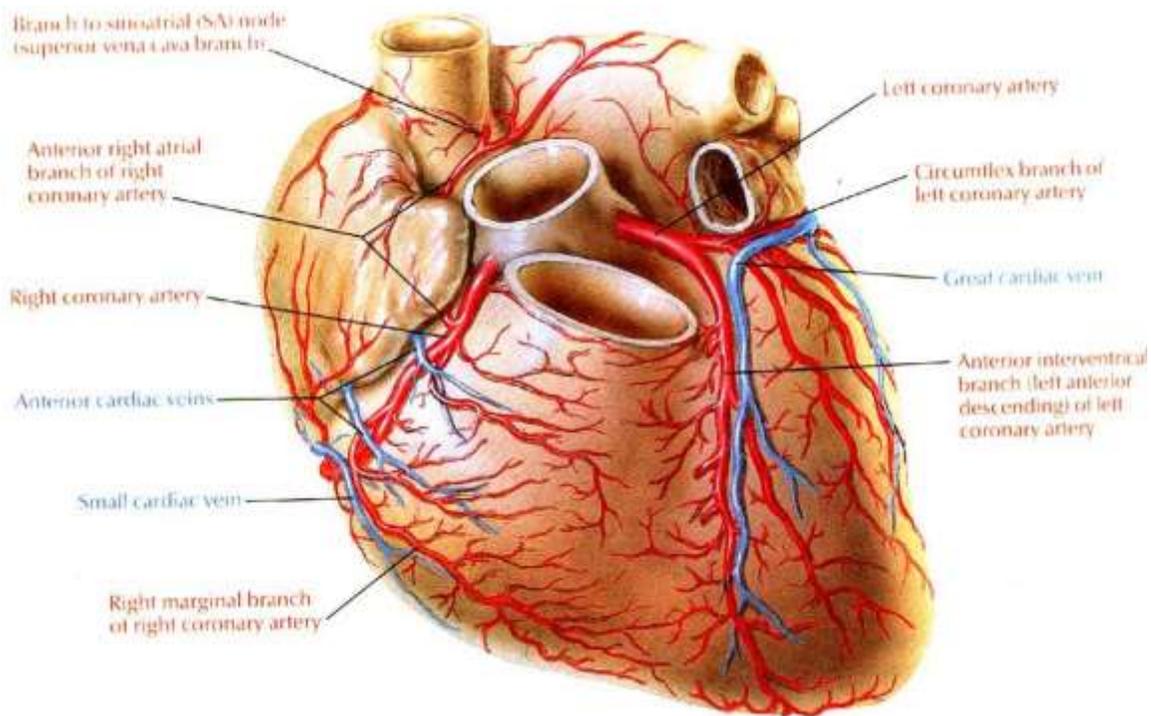
History

The de Winter ECG pattern was first reported in a 2008 case series by de Winter and Wellens, who observed this ECG pattern in 30 out of 1532 patients (2 %) with acute LAD occlusions. ¹

Pathophysiology

The exact electrophysiological explanation of the observed ECG pattern is unknown.

Anatomy



Clinical Assessment

Patients present with **chest pain**, (as opposed to Wellen's syndrome where patients typically present pain free, having had their pain some time earlier).

Compared to the classic STEMI pattern, patients who present with the de Winter syndrome tend to:

- Be younger
- Be male
- Have a relatively higher incidence of hypercholesterolemia

Investigations

ECG:

Original reports of the de Winter pattern suggested that the ECG did not change or evolve until the culprit artery had been opened.

Since then, however cases have been reported where the de Winter pattern evolved from, or evolved to a "classic" anterior STEMI pattern.

The precise **diagnostic criteria** for the de Winter Syndrome are:

- Upsloping ST segment depression (> 1 mm) at the J-point in the precordial leads.
 - ♥ Most commonly seen in V2-4
- Tall, prominent, symmetric upright (“hyperacute” or “rocketing”) T waves in the precordial leads.
 - ♥ The ascending limb of the T wave commencing below the isoelectric baseline.
- Absence of ST elevation in the precordial leads.
- ST segment elevation (0.5 mm - 1 mm) in aVR.
- “Normal” STEMI morphology may precede *or* follow the de Winter pattern.



Classic de Winter T wave pattern - note the ST depression at the J point followed by a tall upright symmetrical hyperacute T wave, with the ascending limb of the T wave commencing below the isoelectric baseline.

Echocardiography

If doubt exists about the nature of the chest pain, an echocardiogram can confirm anterior left ventricular dyskinesia and assist in the decision for urgent coronary angiography.

Management

When a patient presents with chest pain, and has CVS risk factors, the de Winter pattern should be looked for.

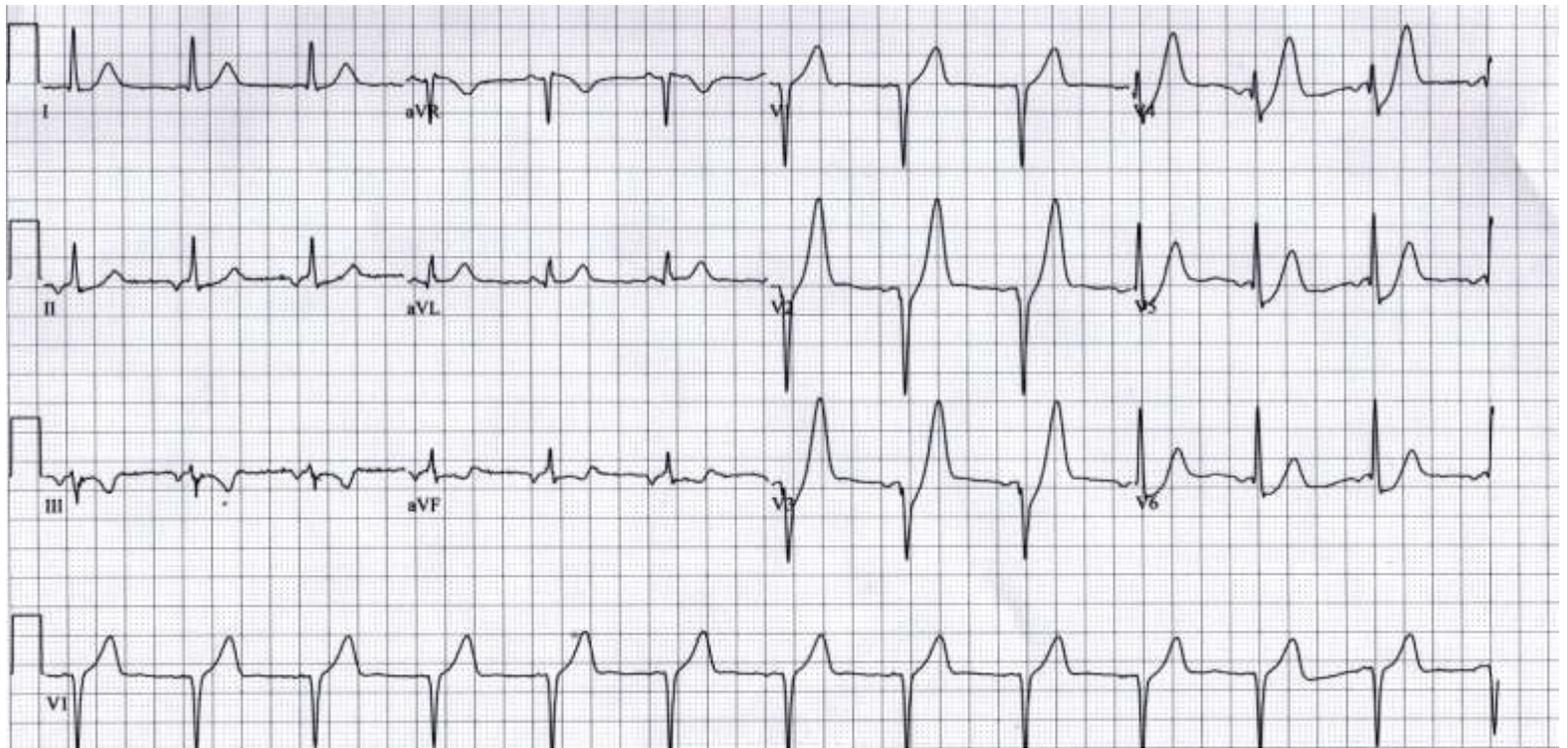
Some authors say this pattern should be treated as a STEMI equivalent.

Disposition:

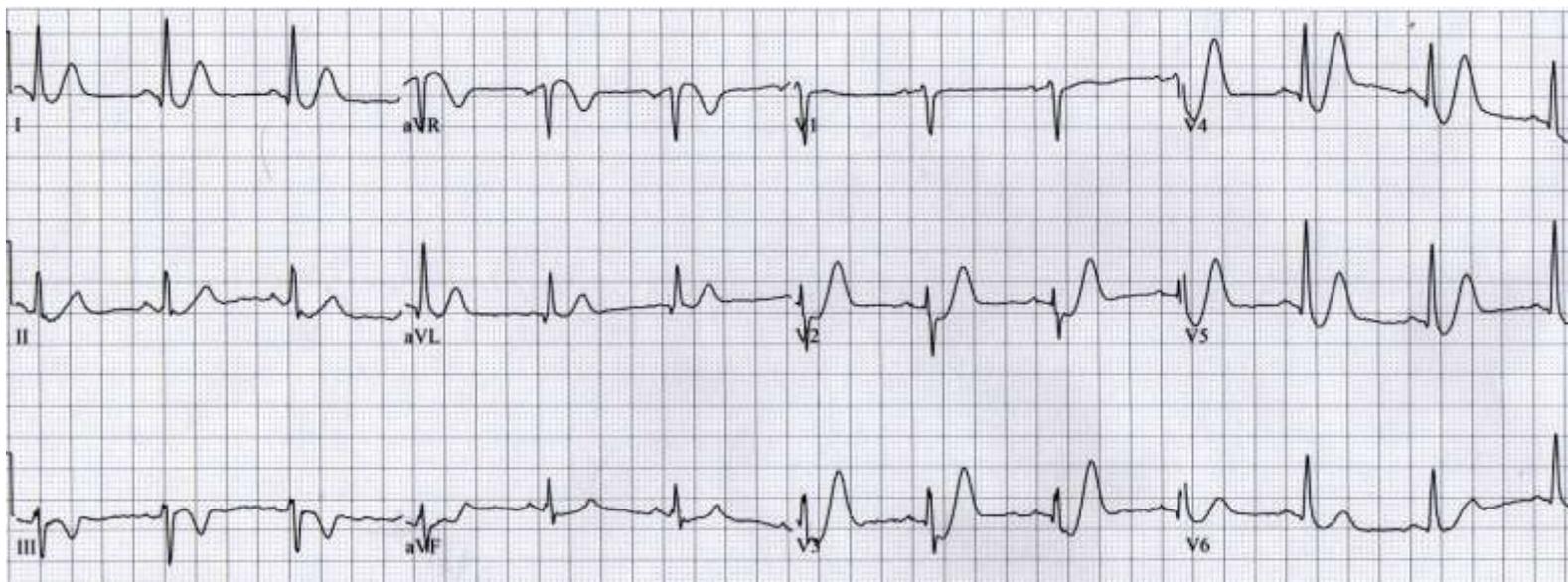
Patients should be urgently referred to the interventionist cardiologist.

They should have urgent angiography, (even more so than in the case of Wellen's syndrome, who may have angiography within a day or so).²

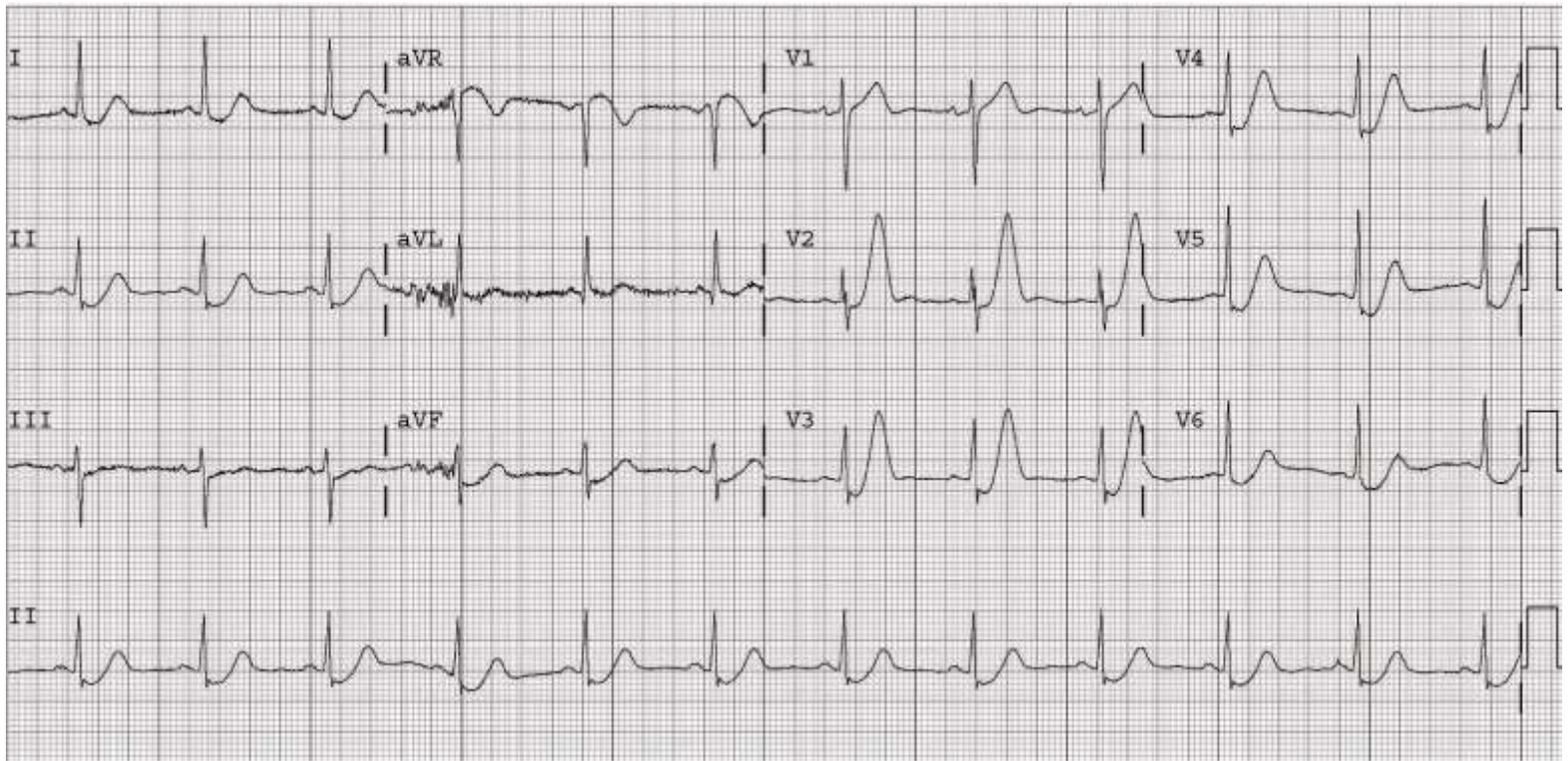
Appendix 1



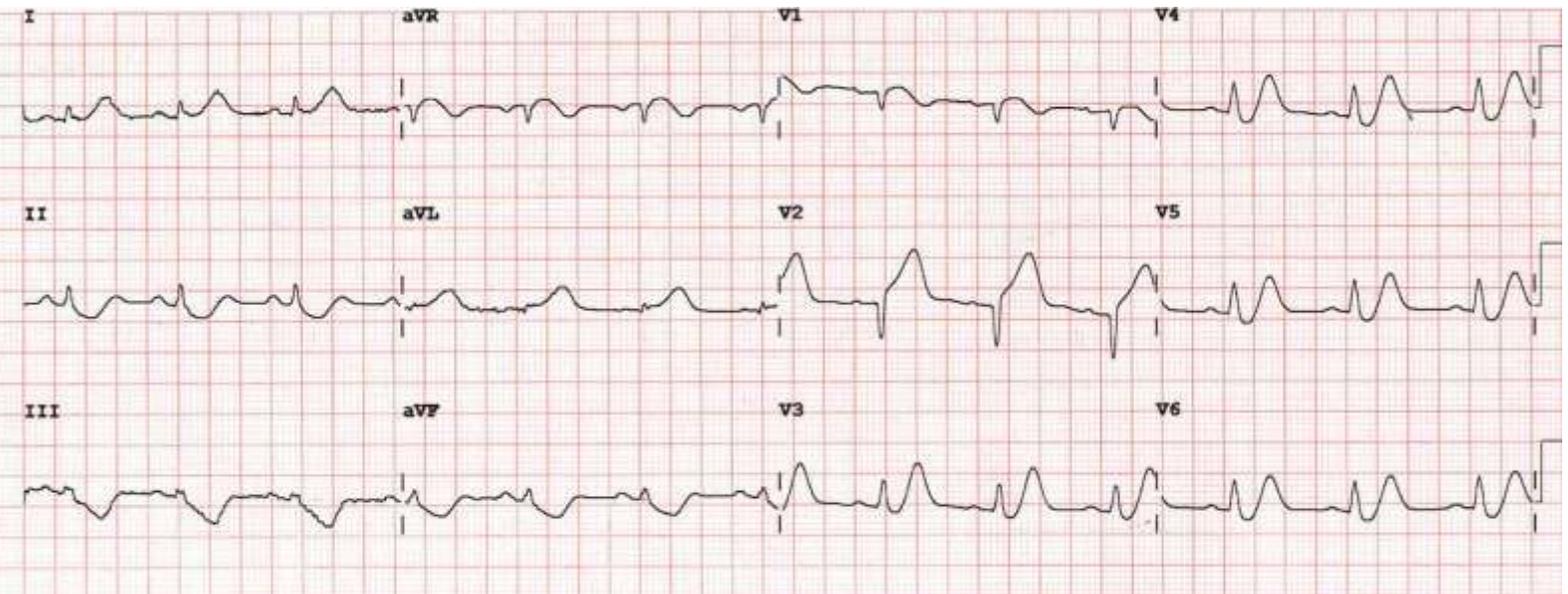
Example of de Winter's syndrome: There is upsloping ST depression in the precordial leads (> 1 mm at the J point). Peaked anterior T waves (V2-6), with the ascending limb of the T wave commencing below the isoelectric baseline. Subtle ST elevation in aVR > 0.5 mm



Example of de Winter's syndrome: Upsloping ST depression in the precordial leads (> 1 mm at J point). Peaked anterior T waves (V2-6), with the ascending limb of the T wave commencing below the isoelectric baseline. Subtle ST elevation in aVR > 0.5 mm



Example of de Winter's syndrome: Upsloping ST depression ($> 1\text{mm}$ at J-point) in the precordial leads V2-6, plus leads I & II. Peaked anterior T waves, with the ascending limb of the T wave commencing below the isoelectric baseline. ST elevation in aVR $> 0.5\text{ mm}$.



Example of de Winter's syndrome with STEMI: Here there are de Winter's T waves combined with features of an anterior STEMI. On angiography, the patient had an acute proximal LAD occlusion. There is upsloping ST depression and peaked T waves (De Winter's T waves) in V3-6. ST elevation in the septal (V1-2) and high lateral leads (I & aVL) with inferior reciprocal change, consistent with an LAD occlusion proximal to the 1st diagonal. (Dr Jennifer Davidson, Liverpool Hospital NSW).

References

1. de Winter R, Verouden N, Wellens H, Wilde A. A new ECG sign of proximal LAD occlusion. N Engl J Med 2008; 359: 2071-3.
2. Rokos I, French W, Mattu A, et al. Appropriate cardiac cath lab activation: optimizing electrocardiogram interpretation and clinical decision-making for acute ST-elevation myocardial infarction. Am Heart J 2010; 160:995 - 1003.
3. ECG examples from: "De Winter's T Waves", in Life in the Fast Lane Website.

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Acknowledgements:

Dr Gary Campaign.

October 2014.