

Metabolic changes when treating hypothyrosis

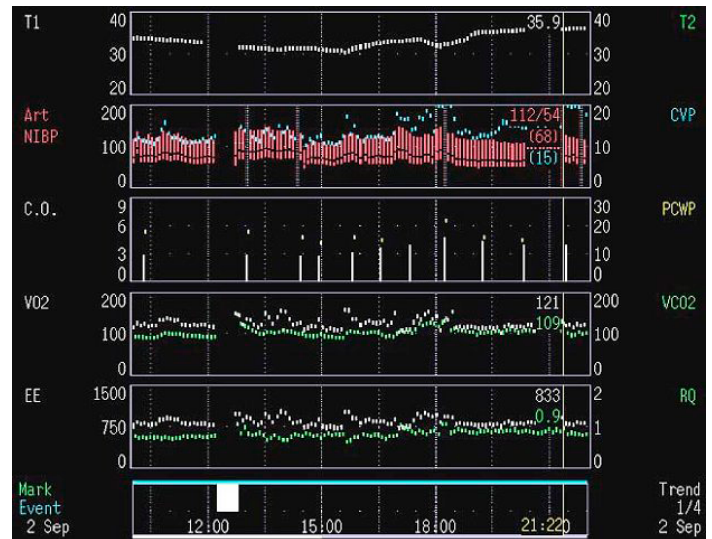
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CASE HISTORY

A 62-year old female was transferred to the ICU with circulatory insufficiency. She had been suffering from lethargy, malaise and bowel dysfunction for several months and hypothyrosis had been diagnosed. Thyroxin substitution had been started two weeks prior to her ICU admission.

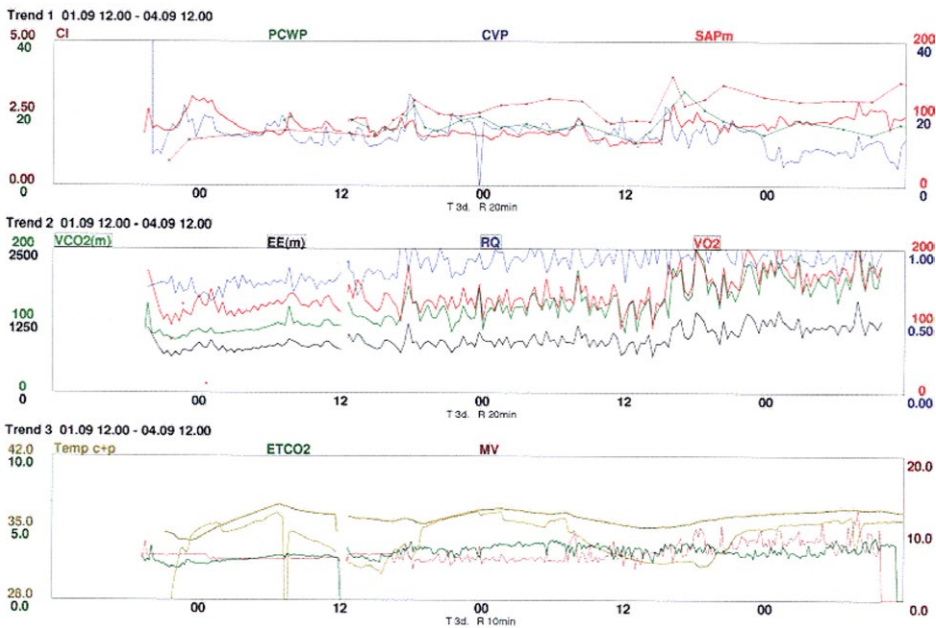
CASE REPORT

On admission she had an enlarged cardiac and mediastinal silhouette on her chest X-ray and severe bowel distension in her abdominal X-ray. She was unconscious and in respiratory insufficiency and was intubated. Invasive cannulation revealed a severely low cardiac output state with metabolic acidosis. She was hypothermic. Transesophageal ECHO revealed excessive pericardial fluid and pericardiocentesis was performed. She required dobutamine for inadequate CO but remained in a low cardiac output state. Indirect calorimetry revealed a hypothermic (low VO_2 , VCO_2 and EE) state.





Subsequently hypothyrotic coma was diagnosed and an infusion of L-thyroxin was started (02.09.99 at 11.30 hours). Within a few hours of the levothyroxin infusion her cardiac output rose reversing the low cardiac output state. Similarly the hypometabolic state responded favorably to the thyroxin infusion as RQ, VO_2 and VCO_2 rose. Within four days she regained consciousness and made a full recovery.



CONCLUSIONS

In this case monitoring revealed hypothermia, hypometabolism and a low cardiac output state—all suggestive of a hypothyrotic coma. Following levothyroxin infusion her hemodynamic and metabolic state recovered.

Imagination at work

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