

What Could Be Hidden Behind Acute Respiratory Failure Causing Emergency Intubation?

S. Gourgiotis., S. Aloizos., G. Anagnostopoulos., P. Aravosita, C. Mystakelli

Abstract

This paper describes an uncommon case of acute respiratory failure in a patient who presented with low haemoglobin rate and metabolic acidosis but with normal vital signs. He had a history of persistent atrial fibrillation, long-term therapy with coumarin anticoagulants and amiodarone, diabetes mellitus, and hypothyroidism. The patient was intubated due to severe acidosis, accumulation of lactic acid, and severe tachypnoea. During the investigation, and based on CT findings, it was thought that the patient had an upper gastrointestinal tumour. However, the results of the endoscopy were surprising. This paper outlines our comments, concerns and thoughts for an uncommon case which can present a potentially life-threatening situation for a patient. It also indicates the appropriate clinical and imaging investigation. Moreover, recommendations are given to enable a physician to offer the best possible services to a critically ill patient.

Key words: *Respiratory failure, intubation; mass; hemorrhage; stomach*

Case Description

A 78-year-old man was admitted with a 3-hour history of progressive dyspnoea and weakness. He had a background of persistent atrial fibrillation, long-term therapy with coumarin anticoagulants and amiodarone, diabetes mellitus, and hypothyroidism. He denied any nausea, vomiting, diarrhoea, abdominal pain or macroscopic blood loss. The clinical examination was unremarkable except for a non-painful, hard, bulging mass in the upper abdomen. He was haemodynamically stable but tachypnoeic with 26 breaths/min. Blood tests revealed Hct: 23.2%, Hb: 7.4g/dl, PLT: 113,000k/ml, and INR: 3.75. Blood gas results showed metabolic acidosis (pH: 7.31, PO₂: 61mmHg, PCO₂: 19mmHg, base deficit: 7mEq/L, HCO₃: 15mmol/L, Lac: 5.9mmol/L). A chest radiograph showed right-sided atelectasis.

An hour later, the patient presented respiratory fatigue (26 breaths/min) and loss of consciousness, while his blood gas results deteriorated (pH: 7.15, PO₂: 71mmHg, PCO₂: 48mmHg, Lac: 6.8mmol/L) necessitating intubation. Coronary angiography was negative for obstructive coronary disease. Chest computed tomography (CT) revealed no

evidence of pulmonary embolism. Abdominal contrast-enhanced CT identified a well-defined, oval-shaped mass originating from the body of the stomach and occupying almost the entire stomach (Figure 1 - arrow). An upper gastrointestinal tumour was suspected.

What is the diagnosis?

Rather than a tumour, the gastroscopy showed a huge

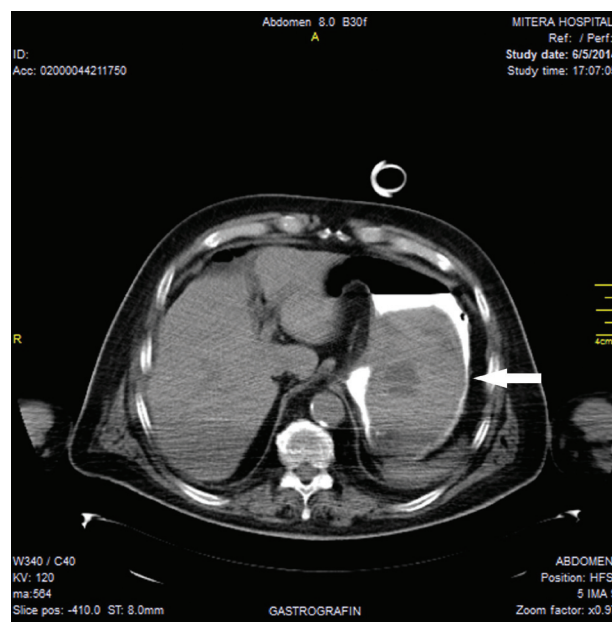


Figure 1.

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Received 6 Oct 2014; Accepted 13 Nov 2014

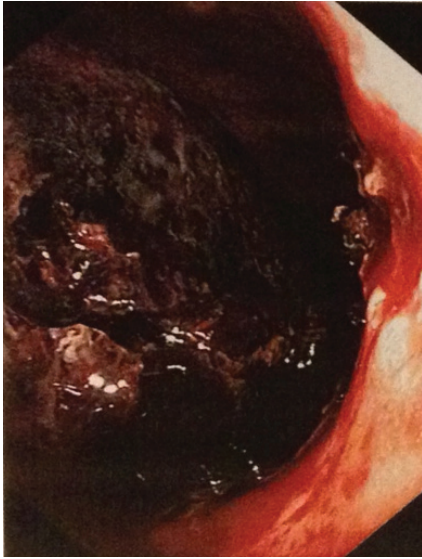


Figure 1.

thrombus adhered to an ulcer at the antrum (Figure 2). The thrombus was washed, the blood was sucked, and biopsies from the ulcer area were taken; neither active haemorrhage nor pyloric stenosis was observed. The biopsies were negative for malignancy. The patient had an uneventful recovery; six months later, he remains in good health.

We hypothesized that the patient had suffered the haemorrhagic process for many days. He had an unknown gastric ulcer and was on long-term therapy with coumarin anticoagulants due to persistent atrial fibrillation. In all probability, he suffered from low but consecutive blood loss; this fact did not cause acute haemorrhagic shock and hypotension. However, the prolonged loss caused a decrease in cardiac output and O₂ delivery to the peripheral tissues [1]. It has been proven that haemorrhaged patients exhibit decreased pH, PCO₂, BE, and HCO₃ with a simultaneous increase in lactate [2]. Furthermore, hypoperfusion results in an oxygen deficit, anaerobic metabolism, and accumulation of lactic acid. The acid load causes a base deficit in order to keep pH within normal range. Thus, the accumulated lactic acid and the resultant base

deficit reflect hypoperfusion and metabolic acidosis. The major physiological effect of metabolic acidosis includes pulmonary vasoconstriction [3], which could explain our patient's acute respiratory failure and need for emergency intubation.

Our patient denied any haematemesis and/or melena. Although he had lost a large amount of blood in a long-term period, he had not observed macroscopic blood loss. Unfortunately, we cannot give any plausible explanation other than the question of delay in gastric emptying due to diabetes mellitus and hypothyroidism [4]. However, this theory cannot justify the absence of haematemesis. Thus, our question "Why did the patient not present either haematemesis or melena although he suffered from a severe bleeding ulcer of the antrum and had lost a large amount of blood?" remains unanswered.

Informed Consent

Written informed consent was obtained from the patient.

Conflict of Interest

There is no conflict of interest.

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Τι θα Μπορούσε να Κρύβεται Πίσω από ένα Περιστατικό με Οξεία Αναπνευστική Ανεπάρκεια που Οδήγησε σε Επείγουσα Διασωλήνωση;

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Περίληψη

Περιγράφουμε μία ασυνήθιστη περίπτωση οξείας αναπνευστικής ανεπάρκειας σε ασθενή ο οποίος εισήχθη με χαμηλή αιμοσφαιρίνη και μεταβολική οξέωση, αλλά με φυσιολογικά ζωτικά σημεία. Από το ιστορικό του, ανέφερε κολπική μαρμαρυγή υπό μακροχρόνια θεραπεία με κουμαρινικά και αμιοδαρόνη, σακχαρώδη διαβήτη και υποθυρεοειδισμό. Ο ασθενής διασωληνώθηκε λόγω σοβαρής οξέωσης, αύξησης του γαλακτικού οξέος και σοβαρής ταχύπνοιας. Κατά τη διάρκεια του απεικονιστικού ελέγχου και σύμφωνα με τα ευρήματα της αξονικής τομογραφίας, δόθηκε η εντύπωση ότι ο ασθενής είχε όγκο στο ανώτερο γαστρεντερικό σωλήνα. Όμως η γαστροσκόπηση μας εξέπληξε. Περιγράφουμε τις ανησυχίες και τις σκέψεις μας για μία ασυνήθιστη περίπτωση που μπορεί να οδηγήσει σε μία κατάσταση απειλητική για τη ζωή του ασθενούς. Αναφέρουμε επίσης τον κατάλληλο κλινικό και απεικονιστικό έλεγχο που μας οδήγησε στη διάγνωση. Επιπλέον, την εκπαίδευση που θα πρέπει να λάβει ένας γιατρός αλλά και τις σκέψεις που θα τον οδηγήσουν στη σωστή διάγνωση αλλά και την έγκαιρη αντιμετώπιση βαρέως πασχόντων ασθενών.

Λέξεις κλειδιά: Αναπνευστική ανεπάρκεια, διασωλήνωση, μάζα, αιμορραγία, στόμαχος

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