A case of recurrent and progressive respiratory failure

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Introduction: Patients presenting with dyspnea are common. Often times, patients carry previously anchored diagnoses, such as COPD, as a cause of their pulmonary symptoms. It is important, however, to perform a thorough history and physical examination in order to consider less common causes of dyspnea, such as in the case of this patient who was diagnosed with amyotrophic lateral sclerosis (ALS). The typical course for this disease process includes progressive limb and bulbar muscular weakness with eventual involvement of the respiratory musculature, ultimately leading to respiratory failure - the most frequent cause of death in ALS within 2 to 5 years of diagnosis.

Case description: A 68-year-old woman presented to the hospital with recurrent episodes of dyspnea and carbon dioxide retention. She has a history of type II diabetes, hyperlipidemia, hypertension, cervical spondylosis, and chronic obstructive pulmonary disease (COPD) requiring home oxygen therapy. Her medications included the following COPD regimen: short acting anticholinergic/beta agonist inhaler, mucolytic, steroid, long acting beta agonist nebulizers, and a Trilogy adaptive servo-ventilation device for nighttime breathing assistance. In the ED, workup showed pH 7.34, pCO2 95mmHg, and HCO3 of 50mmHg; chest x-ray was significant for mild hyperexpansion. On examination, she had mild proximal upper extremity weakness, bilateral thenar atrophy, and a nasal voice. She was in the ICU for 24-48 hours for intensive positive pressure therapy because of her severe carbon dioxide retention.

Results and conclusions: Bedside pulmonary function testing was consistent with a restrictive process, and she was diagnosed with obesity hypoventilation. However, her BMI was only 39, and given her history of weakness and thenar atrophy, we were concerned for a neurologic process. Neurology found fibrillations with insertion and prominent fasciculations within the proximal right upper limb muscles on needle electromyography. Ultrasound examination with phrenic nerve stimulation showed reduced recruitment of large, complex motor unit potentials in both hemidiaphragms and intercostal muscles. With this constellation of symptoms, ALS was diagnosed. Other possible diagnoses were ruled out with neuroimaging, serologic, and cerebrospinal fluid studies.

Take-home message: Progressive dyspnea as the major presenting symptom of ALS is exceedingly rare, occurring in less than 1% according to literature. It is important to keep ALS in the differential diagnosis in patients who present with progressive dyspnea and restrictive lung disease on pulmonary function testing because this diagnosis has significant prognostic difference compared to other entities such as obesity hypoventilation syndrome.

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Macrophage activation syndrome in a Case of dermatomyositis overlapping syndrome with systemic lupus erythematosus: A case report

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Introduction: Macrophage activation syndrome (MAS) is a rare but aggressive life-threatening auto-immune disease. It is characterized by fever, rash, splenomegaly, blood cytopenia, hypertriglyceridemia, high ferritin levels, liver insufficiency, coagulopathy and neurologic involvement. Persistent activation of inflammatory cells like macrophages, natural killer cells and cytotoxic lymphocytes can lead to a cytokine storm and multi organ damage. MAS is usually triggered by rheumatologic diseases and rarely in the presentation of a new connective disease like systemic lupus erythematosus (SLE). In addition to MAS, the auto-immune conditions of SLE can be associated with different overlapping syndromes notably dermatomyositis.

Case description: We present a 31-year-old male from a Latin-American background without pre-existent conditions who presented complaints of sore throat, joint pain, fever and fatigue. He quickly developed a pancytopenia with increased liver and pancreatic enzymes. In the process of the investigation, he was treated with antibiotics and admitted intubated to the intensive care unit for a severe pneumonia.

Result and conclusion: We proceeded with a bone marrow biopsy which detected an active MAS. Regarding his muscle weakness, we also revealed an inflammatory myositis on a quadriiceps muscle biopsy. Further discovery of positive auto-antibodies (ANA and anti-DNA) showed the presence of a LED. We successfully treated his different auto-immune complications with high doses of prednisone, and intravenously immunoglobulins. After 2 months of his admission and 12 days passed in the intensive care unit, the patient returned home with minimal sequelae with a long term immunosuppressive treatment of prednisone, mycophenolate mofetil and hydroxychloroquine.

Take-home message: The early identification of the cause of MAS is crucial for the accurate management of this disease and preventing further multi organ complications. SLE has remains a complex condition that can present its first manifestations in a broad spectrum of auto-immune diseases.

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Gastrointestinal metastases from breast cancer: A case report

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Background: Breast cancer is the most common type of cancer in women nowadays. According to published major studies, the most common sites of metastases of breast cancer are bone, lung, liver and brain. However, it can also metastasize rarely to the gastrointestinal tract. Among the different subtypes of breast cancer, gastrointestinal spread has been associated to infiltrating lobular carcinoma. We present a case of perforated acute diverticulitis that underwent surgery, in which the pathological exam informed of colonic metastasis of lobular breast carcinoma.

Case report: A 78-year-old woman, with medical history of high blood pressure, diabetes and left mastectomy performed 14 years ago for infiltrating lobular carcinoma (Stage T2N2M0), with positive estrogen receptors. Oncological controls showed pleural and bone progression in the last year, so hormonal therapy was indicated. She was admitted to the emergency department due to 72 hours of left lower-quadrant abdominal pain associated with constipation and nausea. On examination she presented tenderness and a palpable mass in the left lower quadrant. Blood tests showed an increased leukocyte count of 13.5x10^3/L with neutrophilia, a CRP of 356mg/L and high lactate levels (4.5mmol/L). An abdominal computed tomography (CT) scan showed a left inguinal abscess (6x8x7cm) communicating with an inflammatory mass involving the sigmoid colon, as well as extensive bone metastases, not visualized in previous CTs. An emergency Hartmann’s procedure was performed. The post-operative period was uneventful. The pathological report of the surgical specimen informed of infiltration in multiple diverticula by a carcinoma, with morphological pattern and immunohistochemistry compatible with a lobular breast carcinoma. The patient was derived to the Department of Oncology to continue follow-up and hormonal therapy.
Conclusions: Gastrointestinal breast metastases are uncommon, however, we should consider this diagnosis in patients with tumoral progression presenting with abdominal symptoms. Metastatic patients should receive medical treatment, reserving surgery for complications like obstruction or perforation, as in the case presented.

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Physical plasma in palliative cancer care: Introduction and perspectives

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Background: Patients suffering from advanced head and neck tumors frequently suffer from superinfected chronic wounds caused by necrotic tissue due to progressive tumor growth, weak systemic and local immunological response and various accompanying illnesses. Due to strong wound vulnerability, local antiseptic wound care of microbial contaminated tumor areas is frequently complicated by bleeding, pain and patient dissatisfaction. As Cold Atmospheric Plasma (CAP) has been proven to be anti-microbial and anti-cancerous, CAP could occupy an important role in palliative cancer care.

Material and methods: After a curably intended surgical cancer treatment of a well-differentiated squamous cell carcinoma of the left cheek at the beginning of 2015, the 51-year-old patient noticed a rapidly progressive swelling on the left neck in June. CT scan indicated a large contrast enhancing mass, which was suspected to be tumor recurrence. Operative findings revealed inoperability due to infiltrating the vascular wall of the external carotid. After a palliative intended combined radio-chemotherapy, the tumor was characterized by progressive growth with exulceration. Due to the vulnerability of the extended bacterially contaminated wound and the underlying carotid artery, wound care was difficult. Since October, a supportive palliative cancer treatment using CAP has been started with the patients’ written consent. The exulcerative tumor growth region received treatment with the kINPenMED (Neoplas GmbH, Greifswald, Germany) for near 5 minutes in a meandering manner. Plasma treatment was continued to be performed every 3 days. Wound care was implemented in conjunction with an antiseptic wound dressing.

Results: The superinfected necrotic tumor areas appeared to be clean of bacterial colonization which led to decrease of wound odour, too. Upon CAP therapy a partial tumor mass reduction were observed. The ulcerated tumor area has been reduced to one-quarter of its original size. The underlying carotid artery is still intact and ultrasound investigation revealed a regular blood flow. Histological examinations revealed an increased amount of apoptotic tumor cells and a local increase of immune defense. Furthermore, a desmoplastic reaction of the conjunctive tissue represented by a higher proliferation rate of fibroblasts could be depicted. No plasma relevant systemic side effects have occurred.

Conclusion: By a sufficient reduction of bacterial colonization, decrease of inflammation, wound vulnerability and algesia, CAP constitutes an innovative and valuable treatment option in palliative cancer care. Local tumor mass reduction is an unexpected and promising response during CAP treatment and has to be further examined.

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Return to Pre-Injury Level of Sport in an Elite Age-Group Triathlete after Non-Operative Treatment of Combined Complete Obturator Internus and Partial Hamstring Tendon Tears

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Introduction: Proximal hamstring tendon tears are uncommon injuries. Currently there is no consensus on what constitutes optimum management but the literature demonstrates a recent trend towards surgical management. Several authors have demonstrated less long-term disability and better return to sporting activity with surgical treatment when compared to non-operative treatment. However, these reports have focused on complete tears and there is a dearth of evidence to guide management of partial tears particularly in the high performance athlete.

Complete tear of the obturator internus tendon has rarely been described in the literature and has not been reported in combination with proximal hamstring tendon pathology.

Case description: A 58-year-old female elite age-group triathlete presented with an acute on chronic exacerbation of increasing right buttock pain that had reduced her mobility such that she was unable to continue sports participation or walk unaided. Examination revealed ischial tuberosity tenderness, reduced hamstring strength and pain on hip extension. Magnetic resonance imaging revealed a 25% partial thickness tear of the conjointed hamstring tendon and complete tear of the obturator internus. In the absence of a history of trauma and no underlying osseous abnormality, the aetiology of the injury was presumed to be related to overuse and her high training load.

Results and conclusions: Surgical management was considered due to the considerable disability and duration of symptoms. However, repair of the partial tear would require conversion to a full tear to repair the deep fibres and surgical management of obturator internus rupture has not previously been described.

Ultrasound guided steroid injection to the ischial tuberosity and physiotherapy was performed as lower risk initial options. The patient experienced immediate relief of symptoms, and this improvement is maintained at latest follow-up (12 months). There was no significant difference between the pre-injury and latest SF36 and proximal hamstring questionnaire scores and she has returned to the pre-injury level of long distance cycling but has been unable to return to running.

Take-home message: This case report describes an injury pattern not previously described (complete rupture of obturator internus and partial tear of hamstring tendons). This case report is therefore important in demonstrating that this injury pattern can allow return to non-impact pre-injury level of sport when treated non-operatively.

The case report also has broader applicability to isolated partial hamstring tendon ruptures, which occur more frequently, but have a limited evidence base to guide management. This report highlights that despite an increasing trend towards surgical management of hamstring tendon tears, patients with partial tears treated with injection and physiotherapy have the potential to return to athletic performance.

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