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ANOREXIA NERVOSA COMPLICATED BY PANCYTOPENIA AND SEPSIS

I. Michaux¹, M. Lambert², Ph. Hantson¹

To the Editor:

A significant correlation between BMI and white blood cell count (WBC) has clearly been established in anorexic patients, with an increased risk of infections in case of low BMI (<12) and neutropenia (<1500/mm³) (1).

We report the case of a 18-year old man, with a 2-year history of anorexia nervosa, who developed septic shock, ARDS, severe bone marrow depression and persistent catabolic state. The patient was admitted for a rapid weight loss (-11%) in 2 months (admission weight: 38kg, BMI: 14.8). Haematological work-up revealed: haemoglobin 12.5g/dl, WBC 4910/mm³ with 4280/mm³ neutrophils, platelet count 50000/mm³. Three days later he developed a septic shock with bilateral hypoxemic pneumonia requiring mechanical ventilation (*Morganella Morganii* in bronchoalveolar lavage and blood cultures). On admission in ICU, pancytopenia (Hb:8.2g/dl, leucocytes:270/mm³, neutrophils:190/mm³, platelets:6000/mm³) was found. Because of the persistence of severe hypoxemia (paO₂=40 mmHg for FiO₂=1)

and bilateral lung infiltrates after eleven days of antibiotherapy, corticotherapy (3 mg/kg methylprednisolone (2) with rapid decrease of dose) was instituted, resulting in a rapid improvement of the respiratory status and the chest x-ray(2). Leuconeutropenia resolved in 2 days but thrombocytopenia persisted for 10 days. Weaning from mechanical ventilation succeeded only after 35 days of ventilation. The patient was discharged from the ICU on day 43 and from the hospital on day 90 (weight at discharge:37 kg).

The origin of the pancytopenia remains unclear. Was it related to anorexia nervosa, in which bone marrow dysfunction has been classically described, or to the sepsis? In our case, the origin was probably the sepsis; indeed WBC was normal on initial admission and quickly normalised after transfer to ICU (on day 2 in ICU: WBC was 3900/mm³ and neutrophils 3530/mm³). However, severe neutropenia in anorexia nervosa with very low BMI increases the risk for infection (relative risk with neutrophils<1500/mm³=15) and in case of sepsis is associated with a higher mortality rate(1,3).

Refeeding this patient was also very difficult. Enteral way could indeed not be used because of persistent gastroparesy (even with prokinetics) and constipation. Gastric emptying is slowed down in ICU patients (sedation, morphine,...) but this phenomenon is increased in anorectic patients because of gastric dysrhythmia, impaired antral contractility and delayed gastric emptying for solids(4). Therefore the parenteral way was exclusively used.

The evolution was furthermore characterised by the persistence of a hypercatabolic state with muscle atrophy and nitrogen in-out balance continuously negative despite increased protein (1g/kg/j→4g/kg/j) and caloric supply (18 cal/kg/j→47 cal/kg/j), adapted according to

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indirect calorimetry (960kcal(79% from theoretical basal metabolic rate)→1560kcal(126%)). This hypercatabolic state is partly explained by the corticotherapy but also by the disproportionate energy supply required to gain weight during refeeding in anorexic patients(5).

In conclusion, the occurrence of sepsis with severe neutropenia remains a life-threatening complication in anorexia nervosa whatever the origin of neutropenia. Management of these patients is problematic because of a persistent hypercatabolic state and difficulties to feed them via the digestive tract, complications worsened by anorexia itself.

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