We report here the discovery of three infections or coinfections at the same time in a young male patient who was hospitalized for abdominal pain. This case report is the first manifestation of AIDS in this patient.

### Case Report

A 31-year-old homeless man with severe cachexia presented with abdominal pain for 2 hours prior to admission. During the preceding 3 years, he had several sexual contacts in addition to a history of IV drug addiction. He had previously been in good health. He was unaware of any family history of immunodeficiency disorder or infectious disease. He had a history of night sweats and a 12 kg weight loss in a period of three months. For the preceding 3 weeks, he had suffered from mild dyspnea. He was afebrile (Temperature: 36.5°C) and his pulse and respiratory rates were 88 and 26 per minute, respectively.

### Physical examination and para-clinical data

A physical examination showed diffuse abdominal tenderness. Neither peripheral lymphadenopathy nor hepatosplenomegaly was detected. Auscultation of the heart revealed normal sounds. Diffuse rales were heard in a chest examination. An examination of the oral cavity, pharynx, larynx, salivary glands and skin was unremarkable. A neurological examination showed bilateral normal ankle-tendon reflexes, and sensory and motor exams were normal. A chest X-ray showed a diffuse miliary pattern. Sonography revealed several para-aortic lesions of varying size, which were consistent with lymphoma. Laboratory data showed leukopenia [white blood cells: 1200/mL, lymphocytes: 26%; polymorphonuclear leukocytes (PMN): 68%], normocytic anemia [Haemoglobin (Hb): 115 g/L], first hour erythrocyte sedimentation rate (ESR) was 76 mm/h, C-reactive protein (CRP) was 40 mg/L (normal, <5 mg/L), lactate dehydrogenase (LDH) and alkaline phosphatase were not high (400 IU/L; and 250 IU/L, respectively), and alanine amino-transferase (ALT) and aspartate amino-transferase (AST) levels were in the normal range (45 and 40 IU/L, respectively). Blood cultures remained sterile. Several other work-ups were all unremarkable.

### Outcome

The patient continued to have abdominal pain and tenderness after admission, while no source of acute abdominal pain was identified. Diagnostic laparotomy was performed for the multiple para-aortic lymph nodes and they were removed for histopathological examination. Unfortunately, the patient developed respiratory arrest and died in the operating room. The cadaver was shifted to Legal Medicine Organization of Fars and an autopsy was performed 24 hours after death to determine the exact cause of death.

### Autopsy findings

Multiple para-aortic lymphadenopathy was identified, and the diameter of the largest lymph node was 25 mm. Gross examination of the lungs showed diffuse congestion and patches of consolidation. The liver and spleen were grossly unremarkable with a normal size. The central nervous system, heart, gastrointestinal tract, kidneys, bladder and all other organs showed no significant changes. Microscopic examination of the lungs showed a predominantly mononuclear inflammatory infiltrate in conjunction with edema and hyperplasia of the alveolar epithelium. A characteristic intra-nuclear CMV inclusion body was detected (Figure 1). The immunoperoxidase technique using monoclonal antibody (Clone DKG9 + CCH2, Dako, Denmark) confirmed the diagnosis of CMV infection. Examination of the enlarged lymph nodes showed diffuse replacement of nodal architecture by foamy, large and plump macrophages.
The cytoplasm of these macrophages contained large amounts of a diastase resistant Periodic Acid Schiff (PAS) positive material due to the presence of bacilliform bodies. Acid fast stain showed macrophages containing innumerable organisms (Figure 2). CMV intra-nuclear inclusions were also detected in these lymph nodes (Figure 3). No fungi or bacteria were identified in any of other organs. Examination of other organs showed no specific changes, either grossly or microscopically.

Discussion and Conclusions

We report here the discovery of 3 infections or coinfections at the same time in a young male patient who was hospitalized for abdominal pain. Although ongoing medical progress has allowed a large number of patients with HIV infection to survive despite profound immunosuppression, multiple unusual pathogens in AIDS patients can be complex. Recurrent and polymicrobial infections are frequently observed in HIV-infected patients, but coinfection is rarely reported. In a study on various opportunistic agents in HIV-positive persons, co-infection by Cryptococcus neoformans together with Mycobacterium avium-intracellulare was found when a CD4-positive lymphocyte count was as low as 3-20/µL. Edmonson et al. reported histopathological and clinical findings of bacillary angiomatosis involving the palpebral conjunctiva with concomitant infection by CMV and mycobacteria species in a patient with AIDS. Rovely et al. reported an AIDS patient with a primary clinical presentation suggestive of bacillary angiomatosis. On clinical work-up, MAC and CMV were found in cutaneous lesions. Bernit et al. described Bartonella quintana and Mycobacterium tuberculosis coinfection in an HIV-infected patient with lymphadenitis. CMV and MAC were isolated from HIV patients and an association of CMV and atypical mycobacteria was found in cutaneous lesions of AIDS patients, but concurrent lymph node involvement of CMV and MAC has not been reported yet. To the best of our knowledge, this is the first report of simultaneous lymph node coinfection of CMV and MAC in AIDS and an unusual presentation of this coinfection as acute abdomen. It is important to consider the possibility of complex infections in immunocompromised individuals and to search for multiple agents in biopsy specimens in such patients.

HIV typically enters through mucosal epithelia. The subsequent pathogenetic events and clinical manifestations of this infection can be divided into three phases: i) an acute retroviral syndrome, ii) a chronic long term phase, and iii) AIDS. Acute retroviral syndrome develops in 40-60% of individuals who acquire a primary infection. This phase typically occurs 3 to 6 weeks after infection and clinically is associated with nonspecific symptoms resembling a flu-like syndrome. During chronic phase few or no clinical manifestations of the HIV infection are present. After a variable period serious opportunistic infections, secondary neoplasms or clinical neuropsychiatric disease emerge and the patient is said to have developed AIDS. This disease can be diagnosed in every these phases. This case report is the first manifestation of AIDS in this patient.

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