SUCCESSFUL TREATMENT OF COMBINATION THERAPY OF SULFAMETHOXAZOLE-TRIMETHOPRIM AND PREDNISOLONE FOR PNEUMOCYSTIS CARINII PNEUMONIA IN AN AIDS PATIENT

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Abstract: A 34-year-old Thai male was referred to our hospital for the treatment of Pneumocystis carinii pneumonia associated with acquired immunodeficiency syndrome (AIDS). Dyspnea and hypoxia were severe on admission, so combined therapy of prednisolone and sulfamethoxazole-trimethoprim was chosen for carinii pneumonia. Although anti-retrovirus therapy was not performed because the patient refused, anti-carinii pneumonia treatment was effective. Opportunistic infection in patients with AIDS has markedly declined in the past 2 years, but examination of infectious disease is needed in clinical fields of human immunodeficiency virus infection.

Key words: ST mixture, PSL, PCP, AIDS

INTRODUCTION

Recent development of anti-human immunodeficiency virus (HIV) infection treatment has reduced the morbidity and mortality of opportunistic infection (OIs) such as Pneumocystis carinii pneumonia (PCP) in acquired immunodeficiency syndrome (AIDS) patients, however, we occasionally observe OIs especially in foreign patients. Although prophylaxis for OIs are being developed, examination of infectious diseases is needed in clinical assessment of HIV infection.

We present a Thai patient with HIV infection complicated with PCP, who was successfully treated with combination therapy of sulfamethoxazole-trimethoprim (ST mixture) and prednisolone for PCP. We discuss this case and problems concerning treatment of HIV infection in Gunma.

CASE REPORT

A 34-year-old Thai male was admitted to another hospital in May 1998 due to high fever, bilateral chest pain and severe cough. An abnormal shadow was noted on chest X-p and bacterial pneumonia was suspected. Administration of antibiotics was not effective and AIDS was suspected because lymphocytopenia was noted. Anti-HIV-1,2 antibody was positive and PCR for Pneumocystis carinii was also positive.

He was referred to our hospital on June 6 for treatment of PCP. On admission, he had a 38.8°C fever, severe cough, dyspnea and interstitial shadows were noted on chest X-p (Fig. 1, left). Laboratory findings were as follows: Hb11.1g/dl, WBC5400/µl (lymphocyte 810/µl), platelet 25.4×10⁴/µl, T.P.6.8g/dl, to-Bil 0.2mg/dl, GOT 65 IU/l, GPT 36 IU/l. LDH 1155 IU/l, BUN10mg/dl, creat 0.8mg/dl, Na 133mEq/l, K 3.9mEq/l, Cl 95mEq/l, BS 77mg/dl, to-chol...
117 mg/dl. The results of serological tests were as follows: anti-HIV 1,2 Ab (+), HBsAg (−), HC Ab (−), anti-toxoplasma lgM (−), anti-cytomegalo virus lgM (−), lgG 2250 mg/dl, lgA 1080 mg/dl, lgM 244 mg/dl, CRP 10.5 mg/dl, candida Ag (+), HIV-1-RNA 1.1 × 10⁴/ml. CD4 positive cells were 61.2/µl, CD8 positive cells were 465/µl and CD4/8 ratio was 0.13. Cultivation of sputum revealed normal flora. Based on these findings, the diagnosis of AIDS complicated with PCP was made.

As hypoxia was severe as shown in Table 1 and a marked shadow of interstitial change was observed on chest X-p, prednisolone (PSL : 60 mg/day) was administered together with sulfamethoxazole-trimethoprim (ST mixture : 240 mg mixture/tablet : 12 tablet/day), which is the standard therapy for PCP. By the 7th hospital day, improvement of dyspnea, fever, cough, hypoxia and the CRP level were noted and PSL was tapered. On the 14th hospital day, marked improvement of abnormal shadows on chest X-p was confirmed as shown in Fig. 1 (right). He was discharged on June 22.

Throughout hospitalization, he did not accept any medication for HIV infection due to economic problems and he planned to return to Thailand to receive further medication.

### DISCUSSION

PCP is a common infection in AIDS patients and was previously a lethal complication of HIV infection. However, recent progress in the treatment of HIV infection has markedly reduced the morbidity and mortality of PCP in AIDS patients.

After the development of combination chemotherapy containing a protease inhibitor for retroviral infection, the mortality in AIDS patients marked declined. The administration of targeted prophylaxis for AIDS-related OIs, including PCP, has also contributed to the recent decrease in mortality among patients with AIDS.

Effective treatment for HIV infection usually consists of a combination of antiretrovirus chemotherapy and prophylaxis for OIs. In the present case, CD4+ lymphocytopenia and PCP were severe as indicated by severe hypoxia on admission, however, anti-HIV therapy was not performed because the patient refused and he requested treatment for PCP only. A good outcome was not expected initially, but the combination of ST mixture and PSL was effective for PCP. PSL administration may have been effective for immediate improvement of respiratory disturbance because ST mixture is slow-acting compared to PSL.

The most prominent feature of HIV infection is the progression of immunodeficiency and the use of immunosuppressive drugs such as PSL for various complications is sometimes not indicated. However, the administration of such drugs should be considered in some cases. For example, it was reported that steroid therapy for interstitial pneumonitis in HIV infection was very effective.

As mentioned above, the frequency of PCP in patients with HIV infection is declining in industrialized countries such as the United States and Japan.

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Table 1. Change in blood gas analysis.

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<td>mmol/l</td>
</tr>
</tbody>
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Fig.1. Chest X-p on admission (left) and on day 14 (right). Marked improvements of interstitial and patchy shadows are observed.
Presently, we seldom encounter PCP in Japanese patients with HIV infection due to appropriate prophylaxis for Ols. However, the risk of Ols in HIV infection has not decreased in world-wide as reported in a study of African patients\(^5\), so careful medical examination and treatment of infectious disease must be performed especially in Gunma due to potential risk of Ols in foreign patients with HIV infection.

**REFERENCES**


