
Etanercept Therapy for Psoriasis in a Patient with Concomitant Hepatitis C and Liver Transplant

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We report a case of a 49 year-old male who had undergone liver transplant due to hepatitis C, Laennec's cirrhosis, and hepatocellular carcinoma, and was treated with etanercept for recalcitrant generalized psoriasis.

Clearance of psoriasis was achieved without any adverse effects or complications of his current conditions.

Key words: Hepatitis C, Psoriasis, Etanercept, Liver transplant

Etanercept is a recombinant fully human dimeric fusion protein consisting of the extracellular ligand-binding portion of the human 75 kilodalton (p75) tumor necrosis factor (TNF) receptor linked to the Fc region of IgG1. It binds to circulating TNF- α , thus inhibiting TNF from interacting with cell surface receptors. TNF is a pro-inflammatory cytokine produced by macrophages and other cells in response to injury and infection. It plays a central role in the pathogenesis of many inflammatory diseases, for which TNF antagonist are important tools. Etanercept is currently FDA approved for the treatment of psoriasis (1), psoriatic arthritis (2), rheumatoid arthritis (RA) (3), juvenile RA (4), and ankylosing spondylitis (5). Only one case of solid organ transplant was found in the literature where etanercept was used for the treatment of tumor necrosis factor receptor-associated periodic syndrome (TRAPS) in a renal transplant patient with improvement of condition and no complications (6). We report a case of recalcitrant generalized psoriasis in a patient with concomitant hepatitis C and liver transplant, who was treated successfully with etanercept.

time, but was discontinued due to worsening of psoriasis. The patient developed a hepatocellular carcinoma with progressive deterioration, for which an allograft liver transplant was performed. He presented to our clinics one year after liver transplant with severe exacerbation of psoriasis, involving 30% of body surface area (BSA), unresponsive to topical steroids, and worsening of psoriatic arthritis. At that moment, he was taking oral tacrolimus, mycophenolate mofetil, prednisone, amlodipine besylate (Norvasc), ursodiol, Kayaxelate, folic acid, multivitamins, and oral acyclovir due to a history of herpes keratitis six months prior to the evaluation. Liver enzymes were elevated, with an aspartate aminotransferase (AST) level of 92 U/L and alanine aminotransferase (ALT) of 85 U/L. The viral count for hepatitis C was 822.5 million IU/ml. History of recent renal dysfunction required dosing adjustment of tacrolimus. He presented with mild alteration of renal function, blood urea nitrogen (BUN) of 25mg/dL and serum creatinine of 1.4mg/dL. Among the treatment options considered for his exacerbated psoriasis, methorexate, acitretin, and cyclosporine were not indicated because of his hepatic condition, and phototherapy was not feasible due to the distance from the clinic to his home. Etanercept, which can be self-administered subcutaneously twice weekly by the patient, seemed as the best alternative in this case. Upon physical examination, there were no signs of infection. The complete blood count (CBC) only presented mild leucopenia of 3.0, without alteration of cell differential, and urinalysis was within normal limits. A chest X-ray showed no abnormalities. He was evaluated by the hepatology service which agreed with the treatment. The patient was started on etanercept 25 mg twice weekly, and after six weeks of treatment, marked improvement was observed. At the end of the three month period, complete clearance was achieved including complete improvement of the psoriatic arthritis. All laboratory results remained stable, with no worsening of liver function (AST = 68,

Case Report

This is a 49 year old male with a history of psoriasis, psoriatic arthritis, chronic hepatitis C for thirteen years, and alcohol abuse with consequent Laennec's cirrhosis. He was treated with interferon- α for a short period of

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AST = 66) and a decrease in viral count for hepatitis C (1.3 million IU/ml). Currently, the patient has been on etanercept for five months. No opportunistic infections have been identified and no herpes keratitis exacerbation has occurred.

Discussion

Etanercept is a competitive inhibitor of TNF- α which has been shown to be effective in the treatment of psoriasis and psoriatic arthritis. The most common side effect seen in the psoriatic population taking etanercept has been injection site reactions. There is no increase in the incidence of infections compared with placebo, although there have been several reports of infections caused by intracellular organisms, such as *Mycobacterium tuberculosis*, *Listeria monocytogenes*, and *Mycobacterium avium intracellulare* (7-8). Careful monitoring should be employed when patients with predisposing underlying conditions or taking any immunosuppressive treatment are started on etanercept. Our patient presented a history of allogeneic liver transplant taking multiple immunosuppressive drugs. With close monitoring of his condition, etanercept was administered for five months without any adverse effect. To our knowledge, this is the first case report of the use of etanercept in a liver transplant patient.

The patient also presented with hepatitis C. After treatment with etanercept, we did not observe any worsening of his laboratory parameters. This observation agrees with prior studies in which no significant alteration of liver function tests were seen (9-10) and a better virologic response was achieved (10). Others have also reported that the use of etanercept for psoriasis in these patients allows re-instatement of interferon- α for hepatitis C (10). These patients achieved a decrease in viral load, suffered fewer interferon-related side effects, demonstrated decreased fibrosis on liver biopsy, and improved liver function results when etanercept was added to interferon alpha and ribavirin (10).

In conclusion, we report a case of etanercept treatment for severe psoriasis in a patient with allograft liver transplant, taking multiple immunosuppressive drugs, and concomitant hepatitis C. During close follow up, no opportunistic infections or worsening of his underlying conditions were seen. The patient has complete clearance of his psoriasis and psoriatic arthritis. Etanercept seems to be effective and may be used safely in patients

with psoriasis and concomitant hepatitis C. The use of etanercept in liver transplant patients under close follow up may be an alternative for the treatment of those patients who also suffer severe psoriasis. Additional studies are required to determine the long-term safety of etanercept in patients with psoriasis and liver transplant.

Resumen

Se presenta un caso de un paciente varón de 49 años de edad que recibió un trasplante de hígado a causa de cirrosis hepática como consecuencia de una hepatitis C y carcinoma hepatocelular. El paciente fue tratado con etanercept debido a psoriasis generalizada y recalcitrante. La psoriasis mostró un aclaramiento total sin efectos adversos ni complicaciones en sus otros padecimientos.

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