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Case Report

Vulgar Psoriasis and Chronic Hepatitis C: Dramatic Improvement Under Direct Acting Antivirals

Baklouti Raoua*, Gueddiche Arwa, Aissaoui Firas, Ben Abdelwahed Mahdi, Mejda Zakhama, Bouhlel Wided, Loghmeri Hichem, Ben Chaaben Nabil and Safer Laila

Department of Gastroenterology, University of Monastir, Tunisia

***Corresponding Author:** Baklouti Raoua, Department of Gastroenterology, University of Monastir, Tunisia.

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Abstract

Introduction: Psoriasis is a chronic, inflammatory disease affecting 2 - 3% of the worldwide population, and it may associated with chronic hepatitis C. The management of this condition is challenging because of the risk of viral reactivation under immunosuppressive treatment or the aggravation of psoriasis by pegylated biotherapy. Actually, there is Less data about The safety and efficacy of direct acting antivirals agents in psoriasis patients with hepatitis C virus infection

Case Report: We report the case of a patient followed for chronic hepatitis C with dramatic improvement of psoriatic lesions under antiviral treatment.

Conclusion: The long term safety and efficacy of direct acting antivirals agents in psoriasis patients with hepatitis C virus infection are not established at present. Therefore, additional studies should be conducted to clarify the safety of DAA in these patients.

Keywords: *Psoriasis; Chronic Hepatitis C; Direct Acting Antivirals Agents*

Introduction

The combination of chronic hepatitis C and psoriasis poses a real therapeutic problem and is a real challenge for the gastrologist. Indeed, the use of the different therapeutic classes is limited because of the risk of viral reactivation under immunosuppressive treatment or the aggravation of psoriasis by pegylated bitherapy. We report the case of a patient followed for chronic hepatitis C with dramatic improvement of psoriatic lesions under antiviral treatment

Case Report

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Observation

In September 2014, a 45 year-old man with a 15 year history of refractory psoriasis was referred to us. He was infected with the hepatitis C virus (HCV), genotype 1a, by an unknown route of transmission. His laboratory results were as follows: aspartate aminotransferase 3N, alanine aminotransferase 2N total bilirubin 12 Ml/L, alkaline phosphatase 110 U/L, gamma-glutamyl transferase 17 U/L, and whole blood count was normal. the HCV RNA level was determined as 1,4 million IU/mL First-line combined treatment with pegylated interferon (IFN)-α and ribavirin was not possible because of the risk of worsening the psoriasis lesions. Therefore, the patient has been treated with ledipasvir 90 mg/sofosbuvir 400 mg (Ledipasvir®) orally once a day since late June 2016. While HCV RNA serum level decreased

rapidly and continuously to 20 IU/ml, approximately one month after introducing the antiviral treatment. the viral load was undetectable at the twelfth week of treatment. The skin lesions started to resolve gradually soon after initiation of ledipasvir-sofosbuvir therapy. There was a dramatic improvement in psoriatic lesions at the end of treatment with a complete resolution of the erythroderma only 4 weeks after the introduction of the antiviral treatment

Discussion

The association between hepatitis C and psoriasis was first noted in 1995 by Yamamoto., *et al* [1]. While the prevalence of psoriasis in hepatitis C patients has not been shown to be significantly increased [2]. It is suggested that hepatitis C virus infection itself may trigger late-onset of psoriasis vulgaris via tumour necrosis factor (TNF)-α, which acts as a common mediator in both diseases [3]. In detail, Psoriasis is a chronic inflammatory disease mainly involving the skin and joints, mediated by pro-inflammatory cytokine tumor necrosis factor (TNF)-α. In hepatitis C, continuous inflammation mediated by TNF-α leads to liver cirrhosis and diabetes mellitus. Hence, psoriasis and hepatitis C have pathophysiological factors in common [3].

Because of its antiviral and immune modulator characteristics, peginterferon alfa (peg-IFN-α) was the standard treatment option for chronic hepatitis C [4]. However, interferons (IFN) cause significant side effects on various organs and systems. They may cause dermatological side effects such as psoriasis, eczema, alopecia, which limits its use for patients with such diseases. Several observations indicate a direct relationship between IFN-α and the development of psoriatic lesions, as the cytokine is transiently produced by plasmacytoid pre-dendritic cells at very early stages of plaque development [5].

Currently, direct acting antivirals (DAA) are recommended as first-line treatment for chronic hepatitis C [6]. Patients infected with HCV genotype 1 can be treated with the fixed dose combination of sofosbuvir (400 mg) and ledipasvir (90 mg) administered once a day [6]. Sofosbuvir is an inhibitor of the HCV NS5B RNA-dependent RNA polymerase, which acts as a chain terminator, whereas ledipasvir is an NS5A inhibitor. Its exact mechanism of action is unknown, but is suggested the inhibition of hyperphosphorylation of NS5A, which seems to be required for viral production [7].

The most common adverse events of this treatment are fatigue, headache, insomnia, and nausea. A skin rash, with no further characterization, is reported in up to 7% of treated patients [8]. The first 2 cases of occurrence of plaque-type psoriasis in 2 patients with hepatitis C treated with ledipasvir/sofosbuvir (Harvoni®) has been reported recently [9]. But criteria for likelihood of a causal relationship between drug exposure and the reported adverse events, according to the World Health Organization (WHO) Uppsala Monitoring centre guidance for classifying drug reactions [10], are not completely fulfilled. We report the first case, to the best of our knowledge, of improvement of plaque-type psoriasis in patient with hepatitis C treated with ledipasvir/sofosbuvir. A study published in 2016 has shown that the cutaneous levels of inflammatory genes in hepatitis C positive psoriatic patients are higher than the levels in patients with only psoriasis. The increased cutaneous levels of cathelicidin, TLR9 and IFNc of HCV-positive psoriatic patients as compared to HCV-negative psoriatics suggest that HCV infection may predispose patients to developing psoriasis [11]. In our case, the disappearance of psoriatic lesions after the negativation of the viral load is in favor of this theory.

Conclusion

The long term safety and efficacy of direct acting antivirals agents in psoriasis patients with hepatitis C virus infection are not established at present. Therefore, additional studies should be conducted to clarify the safety of DAA in these patients.

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Conflict of Interest

We declare that there is no conflict of interest.

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