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Somsri Wiwanitkit, Viroj Wiwanitkit*

Alopecia Due to Hepatitis Virus Infections (Hepatitis B and Hepatitis C)

Hepatit Virüsü Enfeksiyonlarına (Hepatit B ve Hepatit C) Bağlı Alopesi

Abstract

Alopecia is an important problem in medical trichology. Sometimes, alopecia can be due to complicated etiologies including infections. In this article, the details of alopecia due to some important hepatitis viral infections (hepatitis B and hepatitis C) were specifically focused.

Key words: Alopecia, infection, hepatitis, problem, trichology, virus

Özet

Alopesi medical trikolojide önemli bir problemdir. Bazen enfeksiyonları da içeren karışık etiyolojilere bağlıdır. Bu makalede bazı önemli hepatit virüsü enfeksiyonlarına (hepatit B ve hepatit C) bağlı alopesinin detaylarının özellikle üzerinde durulmuştur.

Anahtar kelimeler: Alopesi, enfeksiyon, hepatit, problem, saç bilimi, virüs

Introduction to Alopecia

Alopecia is an important condition in dermatology. By definition, alopecia can be simple clarified as an abnormal condition presenting with excessive hair loss (1,2). The hair loss might be partial or total. The problem of alopecia is an important concern in trichology. Generally, alopecia is usually due to the problem of hair and skin at the site with alopecia (3). The problem can be due to several local problems (Table 1). However, alopecia sometimes can be due to complicated etiologies which are usually systemic problems. The good examples are infection, neoplasm and metabolic diseases. In this article, the authors will present the details of alopecia due to some important viral hepatitis (hepatitis B and hepatitis C). Special focus is made on diagnosis and treatment.

Alopecia in Hepatitis Virus Infection: Clinical Presentation

Hepatitis virus is the name of important group of viruses that causes the pathology to liver and mainly attack liver cell. There are several kinds of hepatitis viruses including hepatitis A virus, hepatitis B virus, hepatitis C virus, etc. Mainly, hepatitis virus infection usually manifests with fever and hepatic presentations (especially for jaundice and increased level of liver enzymes). However, the alopecia can be a possible manifestation of hepatitis virus infection. The widely mentioned hepatitis virus infection that can manifest alopecia is hepatitis C virus infection. Indeed, some cutaneous manifestations, especially for lichen planus are frequently seen in the patients infected with hepatitis C virus (4). According to a recent study by Maticic et al. in Slovenia, the prevalence of pruritus, dry skin and alopecia was higher in the patients with hepatitis C virus infection comparing to healthy controls (4). The prevalence of alopecia among the cases with hepatitis C virus in this study was about 9.9% (4). According to another report by Podányi et al., alopecia was also mentioned as one of the important skin disorders among the patients with hepatitis C virus infections (5). The proposed mechanism inducing alopecia in the patients with hepatitis C virus infection is the trigger of the immunologic processes via CD8 + cytotoxic T lymphocytes (5). This process is believed to lead to alopecia and other dermatological manifestations (such as palpable purpura, urticaria, prurigo, lichen ruber planus and vitiligo (5). However, some publications reported against the

Wiwanitkit House, Bangkhae, Bangkok Thailand

*Wiwanitkit House, Bangkhae, Bangkok Thailand; Hainan Medical University, China; Joesph Ayo Babalola University, Nigeria; Faculty of Medicine, University of Nis, Serbia

Correspondence/ Yazışma Adresi:
Somsri Wiwanitkit, Wiwanitkit House, Bangkhae, Bangkok Thailand
E-mail: somsriwiwan@hotmail.com
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possible relationship between hepatitis C virus infection and alopecia (6). Hence, this topic is still the controversial issue to be further studied. For hepatitis B virus infection, there are some interesting reports for its relationship with alopecia. The proposed mechanism is the autoimmunity after receiving hepatitis B virus (7). According to the study by Geier and Geier, significant increased risk of alopecia (odd ratios=7.2) could be detected (7).

For diagnosis of alopecia in hepatitis virus infection, the appearance is usually alopecia areata (4,5,7). There is no significant predominant different characteristic of alopecia from alopecia due to other etiologies. However, the clue for diagnosis of this condition is the history of recent hepatitis virus infection or jaundice. Also, as described, other concomitant skin disorders such as palpable purpura can be observed (5). On the other hand, it should also be noted that the skin disorders including alopecia can be the single manifestation of hepatitis virus infection (8). It is noted that liver should be examined in presence of skin diseases including alopecia that are clearly explained for the exact pathophysiological mechanisms (8,9). Focusing on the treatment, the use of standard alopecia treatment methods such as use of hair growth promotion substance can be effective. However, there is an important condition of alopecia due to the standard treatment of hepatitis virus infection. This is the interferon-induced alopecia. It is noted that the post-treated patients have significant increased prevalence of alopecia (4). There are many reports concerning this phenomenon in cases of hepatitis C virus infections. The antiviral treatment for chronic hepatitis C virus infection with interferon alfa or peginterferon can result in many dermatological disorders such as generalized skin rashes, pruritus as well as alopecia (10). Either interferon alpha 2a or 2b treatment regimens can result in alopecia at the similar rates (11). Also, there is no difference in rate of alopecia as adverse effect of using either interferon alpha-1 or lymphoblastoid interferon-alpha (12). Also combining therapy between interferon and ribavirin treatment can still result in alopecia with increased rate at the longer treatment period (13-15). Of interest, the trigger of immune mechanism due to treatment is also proposed for the pathophysiological process similar to that induced by viral infection (10). However, the alopecia due to interferon in course of hepatitis C virus treatment is usually alopecia universalis, hence, this is a great cosmetic concern (13-15). Of interest, alopecia is an important side effect of treatment that affects the patient adherence to the treatment of hepatitis C virus infection (15,16). About 10% of overall patients enrolling in treatment ceased the treatment due to several adverse effects including to alopecia (15). Finally, there is no reported relationship between the appearance of alopecia and the success rate of treatment. There is no predictive value of observation alopecia on the treatment outcome and course of disease.

Table 1. Some important local causes of alopecia

Etiologies	Example
Chemical exposure	acidic exposure, base exposure, oil exposure
Infection	fungal infection, local bacterial infection
Physical insult	heat burn, trichotillomania

Treatment for Hepatitis Associated Alopecia

Focusing on the treatment of interferon related alopecia in treatment of hepatitis C virus infection, the basic treatment can be used. In addition, there are some recent reports indicating that the alopecia can be reversible (17,18). Hair regrowth can be seen at 1-3 months after complete of treatment (17,18). Hence, it is suggested that the physician in charge should reassure the patients who get this problem during interferon treatment for hepatitis C virus infection to continue the treatment until complete course (18).

For treatment of hepatitis B virus infection, the similar problem can be seen although it is not as common (because the interferon therapy is not the main therapeutic regimen in treatment of hepatitis B virus infection). Alopecia can be the result of interferon monotherapy for hepatitis B virus infection (19). The increased rate of alopecia can be seen if the combined therapy between interferon and lamivudine is used (19).

Conclusion

Alopecia can be the presentation of some important systemic infections including hepatitis B and hepatitis C. General practitioner has to concern on this fact in practice.

References

1. Weigand DA. Alopecias - diagnostic and pathogenetic considerations. Nebr State Med J 1969;54:26-37.
2. Hagerman G. On Alopecia, its causes and treatment. Sven Lakartidn 1964;61:3859-80.
3. Meadows-Oliver M. Tinea capitis: diagnostic criteria and treatment options. Dermatol Nurs 2009;21:281-6
4. Maticic M, Poljak M, Lunder T, Rener-Sitar K, Stojanovic L. Lichen planus and other cutaneous manifestations in chronic hepatitis C: pre- and post-interferon-based treatment prevalence vary in a cohort of patients from low hepatitis C virus endemic area. J Eur Acad Dermatol Venereol 2008;22:779-88.
5. Podányi B, Lengyel G, Hársing J, et al. Skin diseases associated with chronic hepatitis C. Orv Hetil 1998;139:2633-7.
6. Jadali Z, Mansouri P, Jadali F. These is no relationship between hepatitis C virus and alopecia areata. Eur J Dermatol 2006;16:94-5.
7. Geier DA, Geier MR. A case-control study of serious autoimmune adverse events following hepatitis B immunization. Autoimmunity 2005;38:295-301.
8. Paoletti V, Mammarella A, Basili S, et al. Prevalence and clinical features of skin diseases in chronic HCV infection. A prospective study in 96 patients. Panminerva Med 2002;44:349-52.
9. Jackson JM, Callen JP. Scarring alopecia and sclerodermatous changes of the scalp in a patient with hepatitis C infection. J Am Acad Dermatol 1998;39:824-6.
10. Aziz S, Qamar R, Ahmed I et al. Treatment profile of hepatitis C patients - a comparison of interferon alpha 2a and 2b treatment regimes. J Coll Physicians Surg Pak 2010;20:581-5.
11. Yu ML, Dai CY, Huang JF, et al. A randomised study of peginterferon and ribavirin for 16 versus 24 weeks in patients with genotype 2 chronic hepatitis C. Gut 2007;56:553-9.
12. Suzuki H, Tango T. A multicenter, randomized, controlled clinical trial of interferon alfacon-1 in comparison with lymphoblastoid interferon-alpha in patients with high-titer chronic hepatitis C virus infection. Hepatol Res 2002;22:1-12.
13. Lackner H, Moser A, Deutsch J, et al. Interferon-alpha and ribavirin in treating children and young adults with chronic hepatitis C after malignancy. Pediatrics 2000;106:53.
14. Pomova NI, Ivanikov IO, Siutkin VE. Use of peg-intron in combined treatment of chronic liver disease caused by HIV infection. Eksp Klin Gastroenterol 2003;182:42-5.
15. Brett Hauber A, Mohamed AF, Beam C, et al. Patient preferences and assessment of likely adherence to hepatitis C virus treatment. J Viral Hepat 2011;18:619-27.

16. Kartal ED, Alpat SN, Ozgunes I, et al. Reversible alopecia universalis secondary to PEG-interferon alpha-2b and ribavirin combination therapy in a patient with chronic hepatitis C virus infection. Eur J Gastroenterol Hepatol 2007;19:817-20.
17. Taliani G, Biliotti E, Capanni M, et al. Reversible alopecia universalis during treatment with PEG-interferon and ribavirin for chronic hepatitis C. J Chemother 2005;17:212-4.
18. Chan HL, Leung NW, Hui AY, et al. A randomized, controlled trial of combination therapy for chronic hepatitis B: comparing pegylated interferon-alpha2b and lamivudine with lamivudine alone. Ann Intern Med 2005;142:240-50.
19. Shepherd J, Jones J, Takeda A, et al. Adefovir dipivoxil and pegylated interferon alfa-2a for the treatment of chronic hepatitis B: a systematic review and economic evaluation. Health Technol Assess 2006;10:1-183.