



CASE REPORT

Localized Telogen Effluvium Following Hair Transplantation

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Telogen effluvium is categorized in nonscarring alopecia, which shows scalp hair thinning and shedding diffusely resulting from inducing factors such as physiological stressful events and several acute or chronic diseases. It usually appears in female patients following parturition, as well as after febrile disease, major surgery, emotional stress, abrupt diet, chronic illness, or the taking of certain medication pills. Two patients who both recalled an operational history of hair transplantation visited our department with their frontal and both temporal hair loss. Physical examination of the both patients showed localized but diffuse hair loss, especially in the frontal and temporal scalp. Histopathological examination of biopsy specimen taken from their temporal scalp revealed normal follicular density and increased numbers of telogen hair follicles without any inflammatory cell infiltration around follicles. These clinical and histopathological findings were consistent with telogen effluvium. Both of them were reassured and placed on close follow-up without any treatment. From these cases, we demonstrate that localized telogen effluvium could be a cause of hair loss after hair transplantation. (*Ann Dermatol* 30(2) 214~217, 2018)

-Keywords-

Hair transplantation, Telogen effluvium

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INTRODUCTION

Hair transplantation has often been used for esthetic correction of baldness¹. Complications following hair transplantation may occur in the donor or the recipient area, and it may be due to surgical or idiopathic causes². Possible complications include alteration in scars, pigmentation disturbances, hair kinking, arteriovenous fistulas, dehiscence, scar enlargement and necroses, postoperative folliculitis, scalp infection, and osteomyelitis of the cranium³. However, localized telogen effluvium as a complication of hair transplantation has not been described yet. Telogen effluvium is categorized in nonscarring alopecia, which shows scalp hair thinning and shedding diffusely resulting from inducing factors such as physiological stressful events and several acute or chronic diseases⁴. It usually appears in female patients following parturition, as well as after febrile disease, major surgery, emotional stress, abrupt diet, chronic illness, or the taking of certain medication pills⁵. We introduce 2 cases of localized telogen effluvium following hair transplantation.

CASE REPORT

Case 1

A 51-year-old healthy female patient visited our department with a 3-week history of frontal and both temporal shedding and thinning. She had a surgical history of hair transplantation of 2,000 hair follicles into her frontal scalp 1 month before abrupt hair loss. The patient was otherwise healthy and taking no medications. She had no smoking history.

Case 2

A 40-year-old male patient complained of a 2-week history of frontal and both temporal shedding. He recalled

that he underwent hair transplantation 3 weeks before his hair loss. This patient also had no medical history or smoking history.

Physical examination of the both patients revealed some diffuse hair loss, especially in the frontal and temporal area (Fig. 1) with positive hair pull test, more than 10 hairs. Histopathological examination of biopsy specimen taken from their temporal scalp revealed normal follicular density and increased numbers of telogen hair follicles without any inflammatory cell infiltration around follicles

(Fig. 2). These histopathological findings were consistent with telogen effluvium. Both patients were reassured and placed on close follow-up without any treatment. And both of them were fully recovered within 10 months.

DISCUSSION

Telogen effluvium is a disorder characterized by the thinning or shedding of hair in response to the early entry of hair in the telogen phase. The hallmarks of an acute tel-



Fig. 1. Case 1. Some diffuse hair loss especially in the (A) frontal and (B) temporal areas with (C) scar of donor site of hair transplantation. Case 2. Some diffuse hair loss especially in the (D) frontal and (E) temporal areas with (F) scar of donor site of hair transplantation.

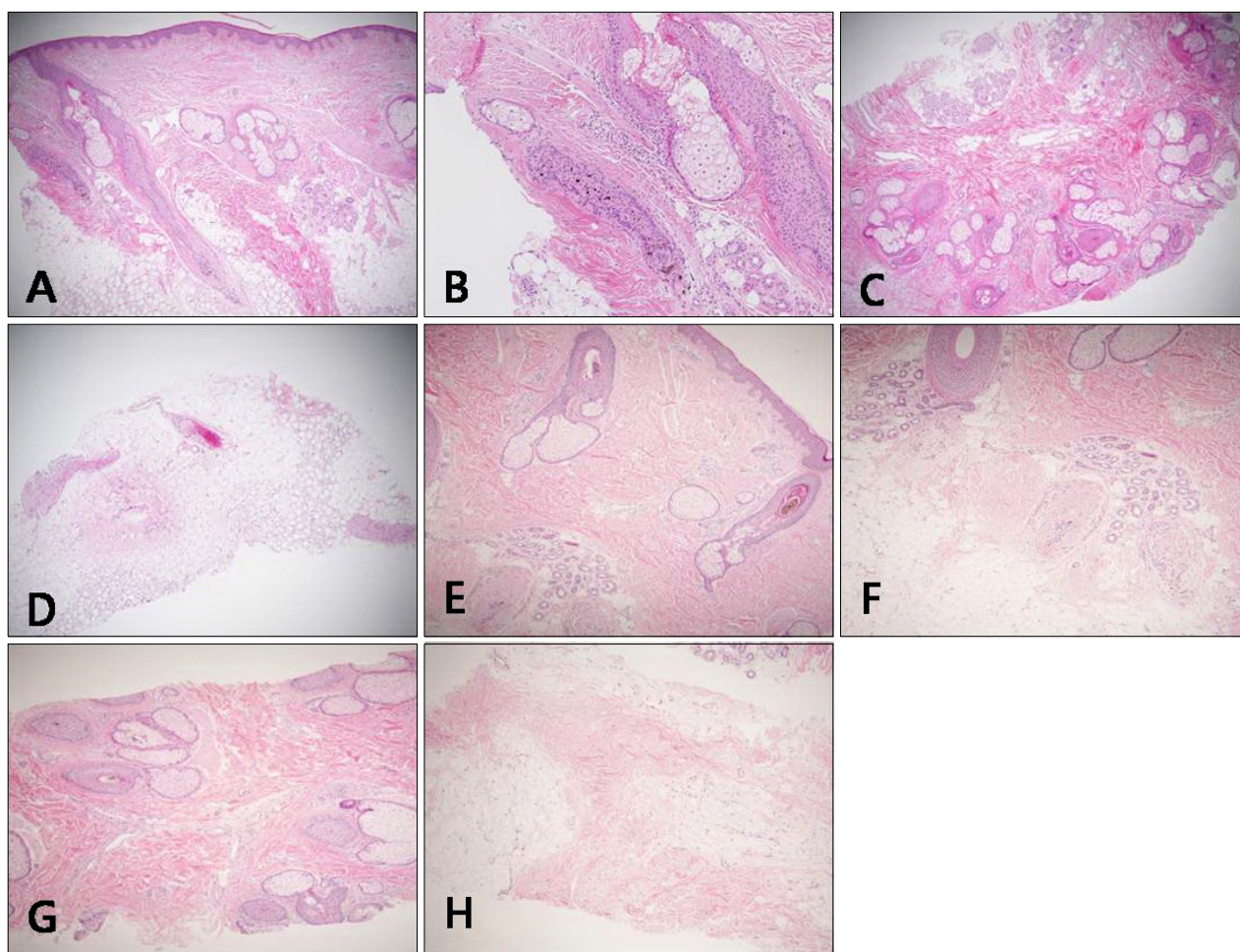


Fig. 2. Case 1. (A, B) Vertical section. Decreased number of hair follicles and few perifollicular infiltration of inflammatory cells (H&E; A: $\times 40$, B: $\times 100$, respectively). (C, D) Transverse section. Increased number of telogen staged hair follicles and no hair follicle in the deep dermis and subcutaneous level (H&E; C, D: $\times 40$). Case 2. (E, F) Vertical section. Decreased number of hair follicles and few perifollicular infiltration of inflammatory cells (H&E; E: $\times 40$, F: $\times 100$, respectively). (G, H) Transverse section. Increased number of telogen staged hair follicles and no hair follicle in the deep dermis and subcutaneous level (H&E; G, H: $\times 40$).

ogen effluvium include diffuse shedding, sometimes with accentuated hair thinning, a normal appearing scalp, and a markedly positive pull test⁶. It is common for a patient suffering from telogen effluvium to claim that their hair is falling out. Patients are often anxious about this type of hair loss and often assume that it will lead to baldness. Telogen effluvium is caused by any disruption of the hair cycle that results in increased or synchronized telogen shedding. A trigger can often be found in patient's history⁷. Headington described 5 mechanisms of telogen effluvium and it can be summarized as immediate anagen release with fever, stress and medication, delayed anagen release due to child-birth, short anagen which leads to chronic telogen effluvium, immediate telogen release with topical minoxidil therapy and delayed telogen release which is only theoretically possible⁸. Due to its self-limit-

ing characteristic, observation until spontaneous resolution is necessary⁶.

In these cases of 2 patients, hair loss began 1 month after hair transplantation. Both were otherwise healthy and didn't take any medication recently. Scalp biopsy specimens revealed increased ratio of telogen hair follicles which indicate the diagnosis of localized telogen effluvium following hair transplantation. Hair shedding was ceased and regrowth of hair was observed during follow-up. Possible mechanisms of temporary hair loss following hair transplantation can be undue tension at the time of closure of donor site, diminished blood supply to the hair follicles, direct trauma to the hair follicles during dissection, physiologic stress of operation itself and excessive emotional stress of being baldness before hair transplantation.

Through these cases, we demonstrated that localized telogen effluvium could be a cause of hair loss after hair transplantation. Dermatologists should know and explain to patients that localized telogen effluvium can be the cause of temporary hair loss after hair transplantation and spontaneous recovery of hair loss. To prevent localized telogen effluvium on recipient sites, surgeons have to reduce the trauma of the hair follicle by performing transplanting in a direction parallel to the hair follicles and reducing operation time for blood supply.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

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