

*Research Article*

## Evaluating The Effect of Minoxidil in Treatment of Traction Alopecia

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### Abstract

**Background:** Traction alopecia (TA) is hair loss due to ongoing or repetitive tension on the hair and it is commonly seen in women of African descent who have tightly curly or spiral hair. Treatment options for TA vary depending on whether or not long-standing disease has resulted in permanent hair loss. **Objectives:** This work aims to evaluate the role of minoxidil in treatment of traction alopecia.

**Methods:** The study was conducted on 10 patients with traction alopecia. The age of patients ranged from 20 to 45 years. **Results:** Clinical improvement in most of cases which was in the form of increase in hair growth and density within affected areas. It started at about 3 months and completed by 6 months of treatment. **Conclusion:** minoxidil is a good alternative for treating TA medically.

**Keywords:** Traction alopecia, treatment.

### Introduction

Traction alopecia (TA) is hair loss due to ongoing or repetitive tension on the hair and it is commonly seen in women of African descent who have tightly curly or spiral hair (Khumalo et al., 2008).

Clinically, traction alopecia most often affects the frontal and temporal scalp, however it has been extensively reported in the literature to occur on many different regions of the scalp being dependent on individual's hair care practices (James et al., 2007). Treatment options for TA vary depending on whether or not long-standing disease has resulted in permanent hair loss. Treatment can be divided into 3 stages: prevention, early TA and long standing TA (Samrao et al., 2011).

In long-standing disease, surgical options may be considered. Hair transplants, in the form of micro-grafting, mini-grafting, and follicular unit transplantation, have been effective (Earles, 1986).

The aim is to evaluate the role of minoxidil in treatment of traction alopecia.

### Subjects and Methods

The present study has been conducted on 10 patients with traction alopecia attending the outpatient clinic of the Department of Dermatology, STDs and Andrology, Minia University Hospital. All patients were females. The age of patients ranged from 20 to 45 years.

They were attending the Dermatology outpatient clinic of Minia University Hospital in the period from January 2016 to June 2018.

All patients were subjected to full history taking, scalp examination, photography and scalp biopsy before and after treatment. Patients were treated with minoxidil for 6 months.

### Statistical analysis

Data were statistically analyzed using SPSS program. The statistical difference between groups was expressed in *p value* which was considered significant when it was  $< 0.05$ .

### Results

We noticed clinical improvement in most of cases which was in the form of increase in hair growth and density within affected areas. It started at about 3 months and completed by 6 months of treatment.

### Discussion

Traction alopecia refers to hair loss as a result of excessive pulling of the hair usually on the margins of the scalp from hairstyles. These pulling forces are thought to cause mechanical damage to hair follicles (Slepyan, 1978).

The response to minoxidil might suggest 'follicle miniaturization' as a pathogenic process in TA. It has recently been hypothesized that follicle miniaturization may occur abruptly secondary to a reduction in cell

number and size of the dermal papilla (Whiting, 2001). It is possible that the trauma of traction could induce alopecia in this way, explaining the initial development of fine hairs prior to the smoother scalp seen in permanent TA making it responding to minoxidil (Khumalo and Ngwanya, 2007). Thus, prolonging anagen and increasing hair follicle size (Macdonald et al., 2003; Cervelli et al., 2014).

Although the use of minoxidil looks promising, treatment duration is unclear. However, medical treatment is preferable to surgery (Earles, 1986; Ozcelik, 2005).

### Summary and Conclusion

Traction alopecia (TA) is hair loss due to ongoing or repetitive tension on the hair and it is commonly seen in women of African descent who have tightly curly or spiral hair. Although prevalent, TA is preventable and could potentially be eradicated with appropriate education and public awareness.

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