



DOES SMOKING ACCELERATE NAIL GROWTH?

Khalifa E. Sharquie¹ & Jawad Kadhim Shaboot²¹Department of Dermatology & Venereology, College of Medicine /University of Baghdad /Baghdad /Iraq² Department of Dermatology & Venereology AL-Karkh General Hospital/Baghdad/Iraq**ABSTRACT**

There are thousands of components in cigarette smoke that may be pharmacologically important and most of them are harmful to the body especially nicotine but smoking might have a useful effect on the body. We aimed to assess the effect of smoking on the nail growth in smoker individuals. We did a case control study of 25 male smoker participants in the nail growth follow-up study who were smoking cigarette above 25 cigarettes / day for 5-20 years duration. Their ages ranged from 20-60 years with a mean of 43.27 years \pm 13.61. We also measured the nail growth of 32 male non-smoker participants as a healthy control group. Their ages ranged from 20-60 years with a mean of 43.83 years \pm 12.79. The nail growth in smoker participants ranged from 0.097-0.113 with a total mean rate of 0.101 mm/day \pm 0.0038, while in non-smoker participants, the nail growth ranged from 0.095-0.11 mm/day with a total mean rate of 0.095 mm/day \pm 0.0095.

The nail growth of smokers was found to be faster as compared with the nail growth of non-smoker control group. So, smoking could be beneficial to human beings in regarding acceleration of nail growth. This finding might have some implications on other human tissues.

KEY WORDS: Smoking, nail growth.**INTRODUCTION**

There are thousands of chemical components in cigarette smoke that may be pharmacologically important, most of them are harmful to the body specially nicotine¹. So smoking can induce many medical problems like cancer, aging of the skin, fetal development abnormalities and sometimes cigarette smoking is associated with progression of genital wart infection, to cancer of cervix, glans penis, anus, vulvogenital area & periungual skin². Also photodamage is markedly exacerbated in smokers³. In addition, smoking regarded as a possible risk factor that can complicate and exacerbate an underlying lipoprotein abnormality and hyperlipidaemia, which is a major risk factor for coronary artery disease⁴. Still smoking might have some beneficial effects on many diseases like ulcerative colitis, Parkinson diseases^{5, 8} and aphthous stomatitis⁶. It has also been reported that smoking significantly depresses the inflammatory response in irritant contact dermatitis^{1, 7} and this has been attributed to nicotine rather than to other components of cigarettes smoke⁸. The aim of the present work is to assess the effect of smoking on the nail growth.

METHODOLOGY**Participants**

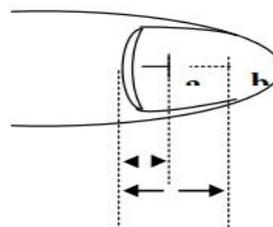
Twenty-five male smokers were included in the present work with age range from 20-60 years with a mean of 43.27 years \pm 13.61. The duration and the number of cigarettes were calculated.

Thirty-two male non-smokers were evaluated as a control. Their ages ranged from 20-60 years with a mean of 43.83 years \pm 12.79. Any associated medical problems like heart disease, hypertension, diabetes mellitus were excluded.

Procedures of nail growth measurements^(9, 10)

A T-shaped mark was etched on the proximal part of the left thumb nail plate close to the distal border of the lunula, using a sharp large needle guided by a plastic mould in which a T-shaped guide was cut (Figure). The plastic mould was made from half of the body of a disposable syringe, cut longitudinally and in which the T-shaped guide was made at one of its ends. The mould was placed over the dorsal surface of the nail plate, so that the T-cut was perpendicular to the proximal nail fold. The measurements were done from the proximal nail fold to the etched mark.

The first reading was made immediately after etching (X-reading) and the second reading about one month later (Y-reading) (Figure 1).

**FIGURE 1:** Method of nail growth measurement.

Measurements were carried out using a vernier caliper. All technical procedures were done under a x3 large diameter magnifying lens suspended on a stand fitted with a laterally positioned light projector when it is needed.

The linear growth of the nail plate was calculated using the following formula:

$$\frac{X - Y}{\text{No of days between obserations}} = \text{nail growth/day}$$

Statistical methods (data analysis)

A case control study was done and Student's t-test was used to measure the level of significant differences in the given data between smoker and non-smoker groups⁽¹¹⁾.

RESULTS**Smoker individuals**

Nail growth was measured in 25 healthy smokers. The duration of smoking ranged from 5-20 years and the number of cigarettes were above 25/day. The participants were divided into 5 groups according to their ages (Table 1). The nail growth per day ranged from 0.097-0.113 mm/day with a total mean rate of 0.101 mm/day (Table 1).

TABLE 1: The frequency distribution of nail growth in smokers (n=25) and non-smokers individuals (n=32)

Age / year	Number		Mean \pm SD of age / yr.		Mean rate \pm SD of nail growth (mm/day)	
	Smokers	Non-smokers	Smokers	Non-smokers	Smokers	Non-smokers
20-29	5	5	24.33 \pm 2.81	25.47 \pm 2.10	0.098 \pm 0.0017	0.095 \pm 0.0012
30-39	3	5	33.18 \pm 1.59	35.46 \pm 2.25	0.104 \pm 0.0016	0.110 \pm 0.0012
40-49	12	5	42.35 \pm 1.48	43.70 \pm 1.83	0.105 \pm 0.0014	0.102 \pm 0.0017
50-59	4	6	55.33 \pm 1.38	52.29 \pm 1.57	0.104 \pm 0.0011	0.081 \pm 0.0057
> 60	1	9	61.17 \pm 0.00	62.27 \pm 1.91	0.097 \pm 0.00	0.095 \pm 0.0094
Total mean	25	32	43.27 \pm 13.61	43.83 \pm 12.79	0.101 \pm 0.0038	0.095 \pm 0.0095

t = 2.5, p < 0.025

Non-smoker control individuals

The results of nail growth were divided into 5 groups according to their ages, (Table 1).

The nail growth ranged from 0.095-0.11 mm/day with a total mean rate of 0.095 mm/day, (Table 1).

When the results of nail growth of both groups compared together we found that smokers have much rapid growth than non-smoker individuals (P < 0.025).

DISCUSSION

We all know that smoking is very harmful habit and prohibited in many countries but still could be useful in some aspects of life like a psychological relief for some individuals and could be useful for patients with ulcerative colitis and Parkinsonism and aphthous stomatitis^(5, 6, 8).

Also smoking depresses the inflammatory response in irritant contact dermatitis^(1, 7).

The present study has reached very interesting and conflicting results as smoking was found to be very useful for the nail to grow faster. This result is raising a big dilemma like many others thinks in life that are harmful but could be useful?

So one can speculate that because smoking stimulate the nail matrix to grow faster, it might do similarly on the hair matrix and bone marrow cells making them grow much rapid than usual !!. These thoughts need to be considered and answered.

REFERENCES

- [1]. Mills CM, Hill SA, Marks R. Transdermal nicotine suppresses cutaneous inflammation. *Arch Dermatol* 1997; **133**: 823-25.
- [2]. Richard BO, William DJ, Timothy GB. Viral Diseases. In: Andrew's Diseases of the Skin, Clinical Dermatology, 9th Edition, W.B. Saunders company, 2000; 514.
- [3]. Davis BE, Koh HK. Faces going up in smoke. A dermatologic opportunity for cancer prevention. *Arch Dermatol* 1992; **128** :255-62.
- [4]. Black MM, Gawck Rodger DJ, Carol A. et al. Metabolic and Nutritional Disorders. In: Rook / Wilkinson / Ebling, Textbook of Dermatology, 6th Edition, Blackwell Scientific Publications, 1998, 2602.
- [5]. Laurence DR, Bennett PN. Brown MJ. Cholinergic and Antimuscarinic (Anticholinergic) drugs. In : Clinical pharmacology 8th Edition, Churchill Livingstone, New York, Edinburgh – London, 1997, 405.
- [6]. Grandy D, Ernsten VL, Stillman L, Greenspan J. Smokeless tobacco use prevents aphthous stomatitis. *Oral surgery, Oral Med, Oral Pathol* 1992; **74**: 463-65.
- [7]. Mills CM, Hill SA, Marks R. Altered inflammatory response in smokers. *B M J* 1993; **307** : 911.
- [8]. Strivastava ED, Russell MH, Feyerabend C, Silliams G. Masterson JG and Rhodes J. Transdermal nicotine in active ulcerative colitis. *Eur J Gastroentrol Hepatol* 1991; **3** : 815-18.
- [9]. Dawber RPR. Finger nails growth in normal and psoriatic subjects. *Br J Dermatol* 1970; **82**: 454-7.
- [10]. Dawber RPR. The effects of methotrexate, corticosteroid and azathioprine on finger nail growth in psoriasis. *Br J Dermatol* 1970; **83**: 680-8.
- [11]. Swinuscow, TDV, Statistics at square one, published by British medical association. Tvisstock square, London, 1981.