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Original Research

Analysis of effectiveness of topical 40% Hydrogen Peroxide in patients with Seborrhoeic keratosis

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***ABSTRACT*:**
Background: Seborrheic keratoses (SKs) are the most common benign epithelial tumours of humanity with an increasing incidence with age. Hence; we undertook the present study for analyzing the effectiveness of topical 40% Hydrogen Peroxide in patients with Seborrhoeic keratosis. **Materials & methods:** A total of 50 confirmed cases of SKs were enrolled. Complete demographic and clinical data of all the patients was obtained. Thorough clinical examination of all the patients was carried out. Baseline data was recorded. Lesion assessment score was recorded in all the patients at baseline, 2 weeks follow-up, 6 weeks follow-up and 12 weeks follow-up. Lesion assessment score comprised of evaluation of number of lesion, site of lesion, color of lesion and size of lesion. **Results:** At baseline, 6%, 12% and 82% of the patients had mild, moderate and severe lesion assessment score. At 2 weeks follow-up, 14%, 24% and 62% of the patients had mild, moderate and severe lesion assessment score. At 6 weeks follow-up, complete resolution was seen in 10% of the patients while mild, moderate and severe was seen in 24%, 20% and 46% of the patients. At 12 weeks follow-up, complete resolution was seen in 12% of the patients while mild, moderate and severe was seen in 28%, 24% and 36% of the patients. Erythema and pain were seen in 1 patient and 2 patients respectively. **Conclusion:** 40% H_2O_2 is an effective mode of treatment for managing patients with SKs.
Key words: Seborrhoeic keratosis, Hydrogen peroxide, Lesion.

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INTRODUCTION

Seborrheic keratoses (SKs) are the most common benign epithelial tumours of humanity with an increasing incidence with age. The predilection zones of SKs are trunk and forehead. An important clinical sign is the formation of multiple horn pearls. In dermoscopy, comedo-like openings, milia-like cysts, and fissures and ridges are characteristic. Although most SKs have a maximum diameter of less than 4 cm, sometimes giant lesions develop that raises some possible differential diagnoses including Buschke-Löwenstein tumours.[1-3]

The etiology is not well-known, although heredity, sunlight and human papilloma virus (HPV) have been suggested as risk factors. Recent genetic studies have suggested that somatic mutations in Fibroblast Growth Factor Receptor 3 (FGFR3) gene are important in the development of these lesions.[4-6] Hence; we undertook the present study for analyzing the effectiveness of topical 40% Hydrogen Peroxide in patients with Seborrhoeic keratosis.

MATERIALS & METHODS

The present study was undertaken in the department of Dermatology, Venerology and Leprology with the aim of analyzing the effectiveness of topical 40% Hydrogen Peroxide in patients with Seborrhoeic keratosis. A total of 50 confirmed cases of SKs were enrolled. Complete demographic and clinical data of all the patients was obtained. Thorough clinical examination of all the patients was carried out. Baseline data was recorded. Lesion assessment score was recorded in all the patients at baseline, 2 weeks follow-up, 6 weeks follow-up and 12 weeks follow-

up. Lesion assessment score comprised of evaluation of number of lesion, site of lesion, color of lesion and size of lesion. All the results were recorded and analyzed by SPSS software. Univariate analysis was used for evaluation of level of significance.

RESULTS

Mean age of the patients was 49.2 years while 58 percent of the patients were males. Service class and businessman comprised of 28 percent and 24 percent of the patients. 60 percent of the patients were of rural residence. Positive family history was seen in 64 percent of the patient population. Cosmetic disfigurement was the chief clinical complaint found to be present in 88 percent of the patients. At baseline, 6%, 12% and 82% of the patients had mild, moderate and severe lesion assessment score. At 2 weeks follow-up, 14%, 24% and 62% of the patients had mild, moderate and severe lesion assessment score. At 6 weeks follow-up, complete resolution was seen in 10% of the patients while mild, moderate and severe was seen in 24%, 20% and 46% of the patients. At 12 weeks follow-up, complete resolution was seen in 12% of the patients while mild, moderate and severe was seen in 28%, 24% and 36% of the patients. Erythema and pain were seen in 1 patient and 2 patients respectively.

Table 1: Demographic data

Parameter		Number of patients	Percentage
Age group (years)	Less than 40	22	44
	More than 40	28	56
Gender	Males	29	58
	Females	21	42

Table 2: Occupational details

Occupation	Number of patients	Percentage
Service class	12	24
Labourer/farmer	10	20
Housewives	11	22
Businessman	14	28
Others	3	6
Total	50	100

Table 3: Comparison of lesion assessment score at different time intervals

Time interval	Lesion assessment score	Number of patients	Percentage of patients
Baseline	Mild	3	6
	Moderate	6	12
	Severe	41	82
2 weeks	Mild	7	14
	Moderate	12	24
	Severe	31	62
6 weeks	No lesion	5	10
	Mild	12	24
	Moderate	10	20
	Severe	23	46
12 weeks	No lesion	6	12
	Mild	14	28
	Moderate	12	24
	Severe	18	36

Table 4: Complications

Complications	Number of patients	Percentage of patients
Erythema	1	2
Pain	2	4

DISCUSSION

Seborrheic keratoses are common, benign, pigmented epidermal tumors. Many terms such as senile wart, melanoacanthoma, basal cell papilloma, senile keratosis and seborrheic wart have been applied, but seborrheic keratosis is the most widely accepted term. These usually develop after the age of 50 years although occasionally, seen in young adulthood without any sexual predilection. The common site of involvement includes the trunk, particularly the interscapular area, sides of the neck, the face and the arms. The tumors are not, however, seen on the mucous membranes.[6- 8] Hence; we undertook the present study for analyzing the effectiveness of topical 40% Hydrogen Peroxide in patients with Seborrhoeic keratosis. In the present study, mean age of the patients was 49.2 years while 58 percent of the patients were males. Service class and businessman comprised of 28 percent and 24 percent of the patients. 60 percent of the patients were of rural residence. Positive family history was seen in 64 percent of the patient population. Cosmetic disfigurement was the chief clinical complaint found to be present in 88 percent of the patients. At baseline, 6%, 12% and 82% of the patients had mild, moderate and severe lesion assessment score. At 2 weeks follow-up, 14%, 24% and 62% of the patients had mild, moderate and severe lesion assessment score. Baumann LS et al evaluated the safety and efficacy of 40% hydrogen peroxide topical solution (HP40) versus vehicle for the treatment of SKs (A-101-SEBK). A total of 937 patients with 4 SKs each (≥1 lesion each on the face and on the trunk and/or an extremity) were randomized 1:1 to HP40 or vehicle. At each visit, SKs were graded using the Physician's Lesion Assessment (PLA) scale (0, clear; 1, nearly clear; 2, ≤1 mm thick; and 3, >1 mm thick). After 1 treatment, SKs with a PLA score higher than 0 were re-treated 3 weeks later. At day 106, significantly more patients treated with HP40 than with vehicle achieved a PLA score of 0 on all 4 SKs (study 1, 4% vs 0%; study 2, 8% vs 0% [both $P < .01$]) and on 3 of 4 SKs (study 1, 13% vs 0%; study 2, 23% vs 0% [both $P < .0001$]). A higher mean per-patient percentage of SKs were clear (study 1, 25% vs 2%; study 2, 34% vs 1%) and clear or nearly clear (study 1, 47% vs 10%; study 2, 54% vs 5%) with HP40 than with vehicle. Local skin reactions were largely mild and resolved by day 106. Application of HP40 was well tolerated and effective in the removal of SKs.[9]

In the present study, At 6 weeks follow-up, complete resolution was seen in 10% of the patients while mild, moderate and severe was seen in 24%, 20% and 46% of the patients. At 12 weeks follow-up, complete resolution was seen in 12% of the patients while mild, moderate and severe was seen in 28%, 24% and 36% of the patients. Erythema and pain were seen in 1 patient and 2 patients respectively. Peredo M et al presented two patients with SKs located on their face and neck who received in-office treatment with 40% Hydrogen Peroxide Topical Solution (Eskata™, HP40), a new FDA-approved topical therapy that has demonstrated efficacy in phase 3 trials. Compared to non-topical, more invasive techniques, HP40 may lead to less pigmentary changes, and may be more efficacious for SKs on the face and neck. Both patients received two treatment courses of HP40, which resulted in positive therapeutic outcomes, including the absence of scarring and pigmentary changes.[10] HP40 may act not only through its direct oxidation of organic tissues, generation of reactive oxygen species, and local lipid peroxidation but also by the generation of local concentrations of oxygen that are toxic to SK cells.[11, 12]

CONCLUSION

Under the light of above obtained results, it can be concluded that 40% H_2O_2 is an effective mode of treatment for managing patients with SKs.

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