

ACADEMIC: ORIGINAL RESEARCH

Stucco Keratosis: a common yet poorly understood phenomenon

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Abstract

Background

Stucco keratosis is a benign skin condition characterised by small flat-topped papular lesions with a 'stuck on' appearance usually found symmetrically on the lower legs, ankles, and dorsum of feet. Due to their inconspicuous and asymptomatic nature, they may be more common than previously thought.

Materials and Methods

1) Retrospective analysis of a database of private clinic patients spanning 23 years. 2) Assessment of all private clinic patients who received a full skin examination for any reason over four weeks. 3) Survey of general practitioners (GPs) and GP registrars in attendance at a local conference.

Results

Of all 11,076 patients in the database, only 40 (0.4%) had attended a consultation with stucco keratoses as a presenting complaint or significant examination finding. Over the four week study period, 103 patients were examined for the presence of stucco keratoses with 32 patients (31%) having positive findings. Of the 25 GPs and five registrars surveyed, 26 participants (87%) were not aware of stucco keratosis as a diagnosis.

Discussion

Almost a third of dermatology patients in the clinic setting had incidental findings of stucco keratoses. However, it is very rarely an issue that patients seek specialist advice on. Although few GPs may be familiar with the diagnosis of stucco keratosis, it may be common among their patients but seldom a presenting complaint. There are no reported prevalence or incidence studies within the last 60 years. The findings from this study suggest that stucco keratosis is common, not well understood, and not bothersome for patients.

Introduction

Stucco keratosis is a benign skin condition characterised by small flat-topped papular lesions with a 'stuck on' appearance similar to sprayed chalk or stucco cement walls.¹ Anywhere from a few to several hundred 1-4mm white-grey papules can present, usually appearing symmetrically on the lower legs, ankles, and dorsum of feet.² They are less commonly found on the hands, arms, and trunk.¹ A distinctive feature is that the overlying scale can be flicked off without bleeding or exudation.³ Lesions are asymptomatic, with occasional pruritus.² The nature and pathogenesis of this condition is largely unknown. It has been postulated that pre-disposing factors may include chronic sun exposure, dry skin, variants of the human papilloma virus, and chemical

or tar exposure.^{1,4,5} Treatment with cryotherapy, electrodesiccation, curettage, topical keratolytics, and oral retinoids often only results in temporary regression of the lesions.^{4,6}

Peak incidence is from ages 40 to 60 in fair-skinned individuals, with males four times as likely to be affected than females.⁷ The first reported survey of stucco keratosis identified a 10% incidence in 232 non-dermatological patients at an Australian hospital in 1958.⁸ Other studies estimate a prevalence of around 14-20%.^{1,7} Due to their inconspicuous and asymptomatic nature, stucco keratoses may be more common than previously thought.

Materials and Methods

The study was out of scope for national ethics approval in New Zealand. Local ethical approval through the involved practice was obtained.

This study utilised a database spanning 23 years of private patients in a dermatology clinic based in Palmerston North, New Zealand. Of all 11,076 patients at the time of analysis, only 40 (0.4%) had attended a consultation with stucco keratosis as a presenting complaint or significant examination finding. For comparison, we assessed the prevalence of stucco keratoses as an incidental finding in patients who had attended the private dermatology clinic for a full skin examination over four weeks.

General practitioners (GPs) and training GP registrars at a local conference were also surveyed to assess their awareness of the condition of stucco keratosis. Five registrars and 25 GPs completed the paper-based survey.

Results

Over the study period, 103 patients were assessed for the presence of stucco keratoses. The average age of all patients was 64 (SD 14) years, with 66% females and 34% males. Except for one Māori patient, all were of New Zealand European or European ethnicity. No patients described stucco keratoses as their presenting complaint. We identified 32 patients (31%) with positive findings of stucco keratoses. Compared to the overall patient group, those with stucco keratoses had an average age 11 years older, with more males (69%) than females (31%). Of the patients with stucco keratoses, 34% had fewer than ten lesions identified, and 19% had lesions numbered in the hundreds. Stucco keratoses were only identified on the lower limbs, with 72% of patients having lesions on their ankles, 63% on the dorsum of feet, 59% on the lower leg, and 19% on the thighs. The presence of stucco keratoses were also compared against concomitant or historical skin lesions including seborrheic keratoses (Seb K); actinic keratoses (AK) and skin cancers; and warts, as these lesions are known to be associated with increasing age, sun exposure, and viral variants, respectively.⁹⁻¹¹ Compared to patients without stucco keratoses, a higher proportion of this group had current or previous Seb K, warts, AK, squamous

Table 1: Patient demographics and associated skin lesions.

Stucco Keratosis	Average Age (years)	Male (%)	Female (%)	Seborrhoeic Keratoses (%)	Warts (%)	Actinic Keratoses (%)	SCC (%)	BCC (%)	Melanoma (%)
Present (N=32)	71 (SD 10)	69	31	81	16	72	25	59	13
Not present (N=71)	60 (SD 14)	18	82	62	7	34	13	35	25

Abbreviations: standard deviation (SD), squamous cell carcinoma (SCC), basal cell carcinomas (BCC).

cell carcinomas (SCC), and basal cell carcinomas (BCC) (Table 1). In contrast, there was a higher proportion of patients without stucco keratoses who had a history of melanoma. Historic data for duration of these additional co-existing or previously existing skin lesions is not available.

Based on the results of the GP survey, 26 participants (87%) were not aware of stucco keratosis as a diagnosis. All four GPs who knew of the condition had at least 10-20 years of working experience since graduation. There was a mixed report of how often they had encountered this condition including never, rarely, moderately often, and very often. Free-text descriptions included “stuck on”, “small grey/white spots on feet/legs”, and “rough, lichenified spots.”

Discussion

This study looked into a skin condition that is poorly researched, likely due to its benign and unassuming nature. The study was limited to a cohort of patients within a single clinic with a large European bias. Thus, the results may not be as applicable to wider populations in New Zealand. Future observational studies in other regional centres could further elucidate the estimated prevalence of the condition. As seen in Table 1, the higher instance of Seb K, AK, and non-melanoma skin cancers among the affected group reinforces the association of stucco keratosis with increasing age and sun exposure.⁹⁻¹¹ A higher prevalence of melanoma in the non-affected group may be an indication that the development of melanoma is associated with environmental and genetic factors other than sun exposure and increasing age.¹²

Conclusion

Overall, we identified that stucco keratosis is common, with almost a third of dermatology patients in the clinic setting having positive examination findings. However, it is very rarely an issue that patients seek specialist advice on. Although few GPs are familiar with the diagnosis of stucco keratosis, it may be common among their patients but seldom a presenting complaint. There is very little literature available on stucco keratosis, with no reported prevalence or incidence studies within the last 60 years. The findings of this study suggest that stucco keratosis is common and not well understood, but not bothersome for patients.

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Declarations/funding

The author(s) received no financial support for the research, authorship, and/or publication of this article. All authors declare that they have no conflicts of interest. Ethical approval/patient consent The study was out of scope for national ethics approval in New Zealand. Local ethical approval through Dr Reiche’s private practice was obtained.

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