

## Viral wart treatment with green tea sinecatechins<sup>☆</sup>



### Tratamiento de verrugas víricas con sinecatequinas de té verde

Dear Editor:

Viral warts are benign lesions caused by infection by human papillomavirus. They are usually asymptomatic, although in some cases they may cause pain or deformity, and may be aesthetically displeasing. Traditional treatment of viral warts includes options such as cryotherapy, topical administration of acids or caustics and, in refractory cases, topical 5-fluorouracil or imiquimod, among others. We present two cases of male patients aged 7 and 14 years with extragenital viral warts that were treated successfully with green tea sinecatechins, achieving full resolution of the lesions with no associated side effects.

The first patient was a male aged 7 years with viral warts spanning nearly the entire face that had developed over three years, some flat and others hemispheric, with progressive worsening (Fig. 1a). We ordered immunological and serological HIV tests, both of which had negative results. The lesions were initially treated with cryotherapy and topical tretinoin 0.05% for two months with no success, leading to initiation of treatment with green tea sinecatechins of one month's duration (one application every 8 h), which led to full resolution of the lesions (Fig. 1b) without any adverse effects.

The second patient was a male aged 13 years with similar lesions in the fingers and bilateral lesions in the inguinal region that had developed in the course of three to four years (Fig. 2a). The patient had been treated with cryotherapy for six to seven months without improvement, so the treatment was switched to topical treatment with green tea sinecatechins applied three times daily for two months, leading to full resolution of the lesions (Fig. 2b) with no associated side effects.

Sinacatechins (or polyphenon E) are a group of polyphenol compounds (of which more than 85% are catechins, with epigallocatechin gallate being the most abundant and biologically active) extracted from green tea leaves. They act by arresting the cell cycle and inducing apoptosis in infected cells (via activation of the caspase pathway, regulating the expression of Bcl-2 and inhibiting telomerase)<sup>1</sup>; they have antioxidant properties, and it has been hypothesised that they may have mild antitumor effects. This therapy has not yet been officially approved for the treatment of extragenital viral warts, and it has mostly been used for treating genital warts associated to human papillomavirus with success rates ranging between 45.5% and 64.9%.

It is marketed as a cream (10%) and administered daily every 8 h in affected areas (maximum of 250 mg over a period of no more than 16 weeks) until lesions fully resolve, with beneficial effects starting to show two to three weeks after initiation of treatment. The summary of product characteristics of the Agencia Española de Medicamentos y Productos Sanitarios (Spanish Agency of Medicines and Health Care Products [AEMPS]) approves its use for cutaneous treatment of external anogenital warts (*Condylomata acuminata*) in immunocompetent patients at least 18 years of age,<sup>2</sup> which makes it a good alternative for compassionate use. Its main advantages are the ease of application (painless and easily administered, compared to other options such as cryotherapy), its rapid action, the possibility of long-term use (maximum of 16 weeks, compared to 4 weeks for podophyllotoxin or imiquimod) and the low rate of adverse effects (mostly mild and transient local irritation at the site of application).<sup>3,4</sup> This inflammatory reaction reflects the immunological activation that is responsible for the favourable effects on this type of lesion, as the evidence shows that such reactions are more common in patients that respond to treatment.

Two articles on the use of this therapy in patients with extragenital viral warts have been published in the past. The first involved a male patient aged 35 years with facial viral warts that resolved after 20 days of treatment with this therapy.<sup>5</sup> The second involved two patients: one female



**Figure 1** Patient aged 7 years, with multiple viral warts in the facial region (a), full resolution of lesions after one month's treatment (b).

<sup>☆</sup> Please cite this article as: Aranda Cazón C, Campos Muñoz L, Conde Taboada A, López Bran E. Tratamiento de verrugas víricas con sinecatequinas de té verde. An Pediatr (Barc). 2016;84: 236–237.



**Figure 2** Patient aged 13 years, with bilateral viral warts in the inguinal region and fingers (a), resolution of lesions after two months' treatment (b).

aged 48 years with viral warts in the sole of the foot that made walking difficult and resolved with 14 days of treatment, and a female aged 24 years with a history of chronic idiopathic neutropaenia and periungual warts in most fingers that was treated for 16 weeks with full resolution of the lesions.<sup>6</sup> We present the first report of paediatric cases of extragenital viral warts treated with sinecatechins, which offers a painless therapeutic alternative that is easier to implement in children than cryotherapy or keratolytic agents, and was well received by the patients and their parents due to its effectiveness and lack of side effects.

## References

1. Tzellos TG, Sardeli C, Lallas A, Papazisis G, Chourdakis M, Kouvelas D. Efficacy, safety and tolerability of green tea catechins in the treatment of external anogenital warts: a systematic review and meta-analysis. *J Eur Acad Dermatol Venereol.* 2011;25:345–53.
2. Ficha técnica AEMPS. Veregen 100 mg/g Pomada. Junio 2014.
3. Gross G, Meyer KG, Pres H, Thielert C, Tawfik H, Mescheder A. A randomized, double-blind, four-arm parallel-group, placebo-controlled phase II/III study to investigate the clinical efficacy of two galenic formulations of polyphenon E in the treatment of external genital warts. *J Eur Acad Dermatol Venereol.* 2007;21:1404–12.
4. Stockfleth E, Beti H, Orasan R, Grigorian F, Mescheder A, Tawfik H, et al. Topical polyphenon E in the treatment of external genital and perianal warts: a randomized controlled trial. *Br J Dermatol.* 2008;158:1329–38.
5. Clouth A, Schöfer H. Treatment of recalcitrant facial *verrucae* vulgares with sinecatechins (green tea catechins) ointment. *J Eur Acad Dermatol Venereol.* 2015;29:178–9.
6. Alcántara González J, Pérez Carmona L, Ruano del Salado M, Calzado Villarreal L. Verrugas extragenitales tratadas con sinecatequinas en pomada. *Actas Dermosifiliogr.* 2015;106:139–40.

C. Aranda Cazón<sup>a,\*</sup>, L. Campos Muñoz<sup>b</sup>,  
A. Conde Taboada<sup>b</sup>, E. López Bran<sup>b</sup>

<sup>a</sup> *Servicio de Pediatría y Neonatología, Hospital Clínico San Carlos, Madrid, Spain*

<sup>b</sup> *Servicio de Dermatología, Hospital Clínico San Carlos, Madrid, Spain*

\*Corresponding author.

E-mail address: aranda.cristina@hotmail.com  
(C. Aranda Cazón).