

Topical Tirbanibulin Eradication of Periungual Squamous Cell Carcinoma

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INTRODUCTION

- Actinic keratosis (AK) are precancerous lesions that if left untreated may lead to invasive squamous cell carcinoma (SCC) ¹ (Fernandez)
- Tirbanibulin (KX2-391, KX01) is a synthetic, highly selective, novel inhibitor of tubulin polymerization and Src kinase signaling developed as a first-in-class topical formulation for the treatment for AK ² (Smolinski)
- Previous Phase I and II studies demonstrated that tirbanibulin ointment 1% was active against AK lesions on the forearm and face or scalp, respectively. Local skin reactions (LSRs) were mostly transient and mild-to-moderate in severity, and tirbanibulin was well tolerated ³ (DuBois phase I and phase II)
- Tirbanibulin ointment 1% once-daily for 5 days resulted in higher overall complete AK clearance rates at Day 57 than vehicle in two Phase III studies (KX01-AK-003: 44% vs 5%; KX01-AK-04: 54% vs 13%, respectively; p<0.0001) ⁴ (Blauvelt)

CASE REPORT

Figure 1a: Firm verrucous plaque at distal periungual tip of the left 4th digit before treatment with tirbanibulin 1% ointment

Figure 1b: Complete resolution of squamous cell carcinoma after 5 days of topical tirbanibulin 1% ointment



Figure 1a

Figure 1b

- 29-year-old non-smoking male had a biopsy-confirmed squamous cell carcinoma in situ at the distal periungual tip of the left fourth fingernail ⁵
- Previous treatment with imiquimod and monthly liquid nitrogen for 6 months had failed.
- Tirbanibulin 1% ointment was applied for 5 days with complete resolution on the fifth day without reported erythema, edema, or irritation

METHODS

- HPV typing by nested PCR was performed on paraffin-embedded block

RESULTS

- HPV 57 was detected (Figure 2),

DISCUSSION

- Although HPV 57 is most commonly associated with common warts, HPV 57 has also been reported with oral papillomas, esophageal SCC, and cutaneous SCC.
- Even though it is FDA-approved in the U.S. for treatment of actinic keratosis, tirbanibulin ointment may have efficacy on SCC or directly on HPV-driven carcinogenesis.

RESULTS

Human papillomavirus type 57 complete DNA

Sequence ID: **X55965.1** Length: 7861 Number of Matches: 1
Range 1: 6732 to 6864

Score	Expect	Identities	Gaps	Strand	Frame
213 bits(115)	3e-51()	127/133(95%)	0/133(0%)	Plus/Plus	
Query 1	ACTGTGGTAGATACTACGCGCAGCACAAATGTCTCTTTGTGTGCCACTGTAACCCACAGAA				60
Sbjct 6732	ACAGTGGTGGACACCACGCGCAGCACAAATGTCTCTTTGTGTGCCACTGTAACCCACAGAA				6791
Query 61	ACTAATTATAAAGCCTCCAATTATAAGGAATACCTTAGGCATATGGAGGAATATGATTTA				120
Sbjct 6792	ACTAATTATAAAGCCTCCAATTATAAGGAATACCTTAGGCATATGGAGGAATATGATTTG				6851
Query 121	CAGTTTATTTTTC	133			
Sbjct 6852	CAGTTCATTTTTC	6864			

Figure 2: NCBI-BLAST alignment of sequencing data obtained from the HPV-PCR product. The sequence data obtained from patient's sample (query) showed 95% identities to the prototype HPV 57 DNA deposited into the NCBI GeneBank (sbjct).

CONCLUSION

- Further research on the mechanism of tirbanibulin effect on HPV as well as SCC are required to confirm these findings.

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