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DELAYED ANTIVIRAL THERAPY IN ADULT VARICELLA RESULTING IN SECONDARY BACTERIAL INFECTION AND AESTHETIC SEQUELAE: A CASE REPORT

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ABSTRACT

Background: Varicella-zoster virus infection is commonly self-limiting. However, adults may present with increased severity, higher complication rates, and long-term aesthetic sequelae. Early initiation of antiviral therapy within 72 hours of rash onset is important in reducing disease burden.

Case Presentation: A man in his 20s, a college student living in a campus hostel, presented with a 7-day history of fever, malaise, and a progressively worsening generalised pruritic vesiculopustular rash. He reported recent exposure to a classmate diagnosed with chickenpox, with no previous history of childhood varicella or vaccination. He reported no other relevant medical history. He initially sought medical attention on day 3 of illness and was managed symptomatically without antiviral therapy. His condition subsequently deteriorated, with increasing lesion burden, pustulation, and severe pruritus, particularly over the face. On day 7, he was clinically diagnosed with varicella with severe cutaneous involvement complicated by secondary bacterial infection. He was treated with oral valaciclovir, amoxicillin-clavulanate, and bilastine for 5 days. Although the acute lesions resolved, he developed extensive post-inflammatory hyperpigmentation and atrophic scarring over the face and body, resulting in significant psychosocial distress. Patient-reported outcome assessment (SCAR-Q) demonstrated marked improvement in appearance and symptoms after treatment but persistent psychosocial impact.

Conclusion: This case highlights the importance of timely antiviral therapy in adult varicella to reduce complications and long-term aesthetic sequelae. Prompt recognition of secondary bacterial infection and timely antibiotic treatment are essential. Early intervention is particularly important in cases with facial involvement to reduce cosmetic and psychosocial impact.

Keywords: Varicella, Delayed antiviral therapy, Secondary bacterial infection, Post-inflammatory hyperpigmentation, Scarring

OBSERVATION

A man in his 20s presented with a 7-day history of fever, malaise, and a generalised pruritic rash. The eruption initially appeared as papules over the trunk and subsequently spread to the back, chest, and face, progressing to vesicles and later pustules. He is a college student staying in the campus hostel. The patient reported recent exposure to a classmate diagnosed with chickenpox. The patient reported no prior history of chickenpox during childhood and had not received varicella vaccination. The patient had no known immunocompromising condition, malignancy, chronic systemic illness, or regular immunosuppressive medication use.

He first sought medical attention on day 3 of illness and was clinically diagnosed with varicella. He was managed symptomatically with antipyretics and antihistamines, without initiation of antiviral therapy.
Despite treatment, his condition worsened, with an increasing number of lesions, progression to pustules, and severe pruritus, particularly over the face. He sought a second opinion on day 7 of illness. Cutaneous examination revealed widespread polymorphic lesions involving the face and trunk, comprising papules, vesicles, and pustules at varying stages of evolution. Multiple lesions demonstrated central crusting, particularly over the facial region. The distribution predominantly involved the face, anterior chest, and posterior trunk (Figure 1). No signs of systemic involvement were noted.
He was diagnosed with varicella with extensive cutaneous involvement complicated by secondary bacterial infection and commenced on oral valaciclovir 500mg two times daily, amoxicillin-clavulanate 625 mg two times daily, and bilastine 20 mg two times daily for 5 days.

The diagnosis was established clinically based on the characteristic polymorphic eruption consisting of papules, vesicles, pustules, and crusts at different stages of evolution in the presence of fever and malaise. Laboratory confirmation with polymerase chain reaction (PCR) testing was not performed.

At one-week follow-up, there was clinical improvement with resolution of active lesions. However, he developed extensive post-inflammatory hyperpigmentation and atrophic scarring over the face and body, which negatively affected his self-esteem. Patient-reported outcome assessment using the SCAR-Q demonstrated substantial improvement in appearance (25 to 75) and symptom domains (33.3 to 83.3). However, psychosocial scores showed only modest improvement (33 to 41.6), suggesting persistent psychological impact despite clinical recovery. Cutaneous findings at 1 week post-treatment are shown in Figure 2.

At three weeks post-treatment, persistent post-inflammatory hyperpigmentation and atrophic scarring were noted over the face, anterior trunk, and posterior trunk, with no active lesions. These findings are illustrated in Figure 3.

KEY MESSAGES

1. **Adult varicella should not be managed symptomatically alone; initiate antiviral therapy early (within 72 hours of rash onset).**
2. **Worsening or spreading rash after initial review should prompt escalation to antiviral therapy.**
3. **Pustules or crusting suggest secondary bacterial infection; initiate antibiotics and arrange close follow-up.**
4. **Facial involvement increases the risk of post-inflammatory hyperpigmentation and scarring; early counselling and intervention are essential.**
5. **Patient-reported outcome measures such as SCAR-Q help assess psychosocial impact, as physical improvement may not reflect psychological recovery.**

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FIGURES

Timing of antiviral therapy	Clinical outcomes	Aesthetic outcomes
≤72 hours of rash onset	Reduced lesion formation, faster recovery	Reduced risk of post-inflammatory hyperpigmentation (PIH) and scarring
Delayed (>72 hours)	Progressive lesion development and increased risk of complications	Increased risk of PIH, atrophic scarring, and possible keloid formation in susceptible individuals

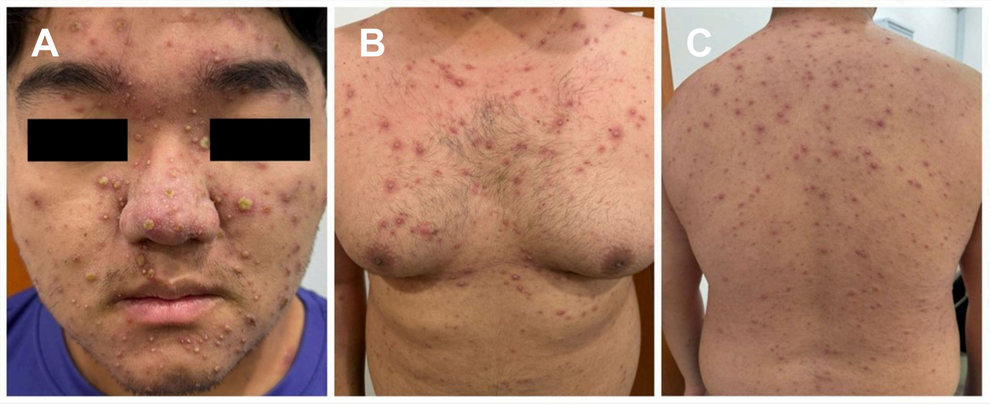

Figure 1: Acute cutaneous involvement demonstrating (A) facial, (B) anterior trunk, and (C) posterior trunk distribution of multiple vesiculopustular lesions.

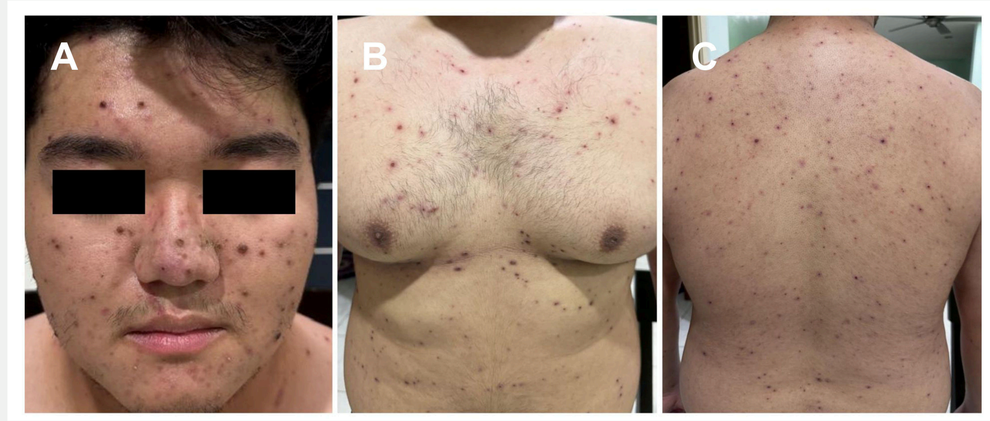

Figure 2: Cutaneous findings at 1 week post-treatment demonstrating (A) facial, (B) anterior trunk, and (C) posterior trunk distribution of resolving lesions with residual crusting and post-inflammatory changes.

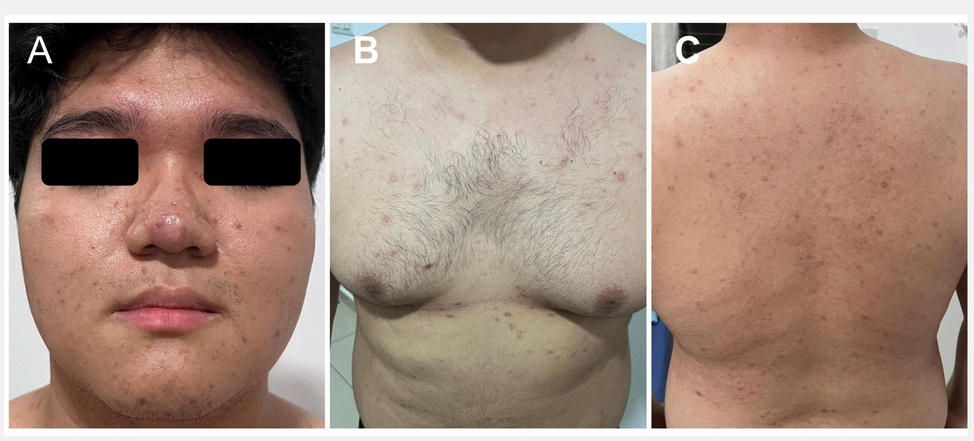

Figure 3: Cutaneous findings at 3 weeks post-treatment demonstrating residual post-inflammatory hyperpigmentation and atrophic scarring involving (A) face, (B) anterior trunk, and (C) posterior trunk.

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EARLY INITIATION OF ANTIVIRAL THERAPY WITHIN 72 HOURS OF RASH ONSET IS IMPORTANT IN REDUCING VARICELLA DISEASE BURDEN