

A study of dermatological manifestation of viral exanthems in a tertiary care center

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Abstract

Introduction: Viral fevers are now a days common in and around the spring season. They involve all system of the body including skin. We tried to review possible dermatological manifestation of all suspected and diagnosed cases of viral exanthema.

Materials and Methods: A prospective study of Dermatological manifestation of viral fevers conducted in August 2017 to November 2017 for a period of 3 months. Complete Clinical examination was performed and the findings were recorded on pro forma.

Results: A total approximately 200 patients were enrolled in the study during that specified period. Out of which males were 96 and females were 104. Most commonly observed skin lesions is morbilliform maculopapular rash in about 35 % of patients, next was Generalised erythema with islands of normal skin in around 12%. Pigmentary changes were noted in 27% of patients.

Conclusion: A wide spectrum of mucocutaneous manifestations is observed in viral exanthemas. A good knowledge of dermatological manifestation of viral exanthemas can aid in early diagnosis and proper management.

Keywords: Viral exanthemas, Chicken gunya fever, Dengue fever, Morbilliform rash, Melasma like pigmentation.

Introduction

The skin, largest organ of the body is the window to our inner systems. The skin can provide important clues to systemic diseases, enabling the practitioner to make a tremendous contribution to patient care if cutaneous manifestations in a systemic disorder can be identified.¹ As we live near equator, the incidence of viral fevers occurrence more common now a days. Among all viral exanthemas Chicken gunya fever and Dengue fevers most commonly occur. Chicken gunya fever (CF) has recently re-emerged as a major public health problem of global scale. CF is characterized by an acute onset of high fever associated with a severe disabling arthritis often accompanied by prominent mucocutaneous manifestations. The disease is usually self-limiting, but the joint symptoms and some of the cutaneous features may persist after the defervescence. A wide range of mucocutaneous changes has been described to occur in association with CF during the current epidemic. Besides a morbilliform erythema, hyperpigmentation, xerosis, excoriated papules, aphthous-like ulcers, vesiculobullous and lichenoid eruptions, and exacerbation of pre-existing or quiescent dermatoses had been observed frequently.² Dengue fever (DF, DHF Dengue Hemorrhagic Fever) is a severe, flu-like illness that affects infants, children, adolescents, and adults. The clinical features vary according to the age of the patient. Infants and young children usually have only a nonspecific febrile illness, with a rash that is hard to distinguish from other viral illnesses.³ The characteristic exanthema of DF is estimated to occur in 50-82% of patients with DF.^{4,5} Cutaneous findings figure prominently in the clinical manifestations of DF and DHF. In DF, the initial rash is a transient flushing erythema of face that typically

occurs shortly before or within the first 24-48 hours of the onset of symptoms. Cutaneous and mucosal findings like confluent erythema, morbilliform eruptions, and hemorrhagic lesions may figure prominently in the clinical features of dengue. Other causes of mucocutaneous rash are scarlet fever, Kawasaki disease, roseola infantum, measles, typhoid fever, secondary syphilis, acute retroviral syndrome and drug exanthema. We conducted study to know the profile viral exanthema cases in our geographical region.

Materials and Methods

A prospective study of Dermatological manifestation of viral fevers conducted in OPD of department of skin and VD K R Hospital Mysore medical college from August 2017 to November 2017 for a period of 3 months. All suspected cases, cases referred from other departments for cutaneous manifestation and those who give history of viral fever were included in study. A detailed history including the nature of fever, joint pain and appearance of the skin lesion was taken. Complete clinical examination was performed and the findings were recorded on proforma. All suspecting adverse drug reaction patients were ruled out by careful history, clinical features and investigations. Laboratory investigations were conducted in all, included blood counts and serological test. Other investigations were performed in patients with severe disease.

Results

A total approximately 20 patients were enrolled in the study during that specified period. Out of which males were 96 and females were 104. Age group

includes from 6 year old child to 76 year old person. History of fever and other constitutional symptoms were positive in almost all cases. Only two patients gave significant history of taking amoxicillin group of drugs prior to the onset of rash. The cutaneous lesions observed in our study, together with their description, were presented in Table 1. Most of the patients presented with either a single or multiple type of skin lesions. Most commonly observed skin lesions is morbilliform maculopapular rash in about 35% of patients [Fig. 1], next was Generalised erythema with islands of normal skin in around 12%, purpuric/ecchymotic rash in 10%, Aphthous like ulcer either oral or genital in 12%, only facial flushing observed in 6%, acute intertrigo like lesion in 4%, other types of cutaneous rashes observed are vasculitic type lesion, transient nasal erythema, xerosis with scaling and vesiculobullous lesion. Pigmentary changes were noted in 27% of patients, among them hyperpigmentation of tip and alar part of nose observed in 16 % of patients [Fig. 2], centrofacial hyperpigmentation seen in 5% of patients [Fig. 3], melasma like pigmentation in 8 % of patients [Fig. 4] and in 6% of patients hypopigmented patches seen over the face. Laboratory parameters were not significantly elevated. Desquamation of palms and soles and in some patient's finger tip peeling occurred in 15% of patients [Fig. 5].



Fig. 1: Shows Morbilliform maculopapular rash



Fig. 2: Shows hyperpigmentation of tip and alar part of nose



Fig. 3: Shows centrofacial hyperpigmentation



Fig. 4: Shows melasma like pigmentation of face



Fig. 5: Shows Desquamation of palms

Table 1:

Dermatological manifestation of viral exanthema		
Dermatological manifestation		Number of cases out of 200
Skin rashes	Morbilliform maculopapular rash	70
	Purpuric/ecchymotic rash	20
	Facial flushing alone	12
	Generalised erythema with islands of normal skin	24
	Aphthae like ulcer(oral/axillae/groin)	24
	Acute intertrigo like lesion	8
	Xerosis with scaling	6
	Vesiculo bullous lesions	6
Pigmentary change	Hyperpigmentation of tip and alar part of nose	32
	Centrofacial hyperpigmentation	10
	Melasma like pigmentation of face	16
	Hypopigmentation of face	12
Exacerbation of existing dermatosis	Psoriasis /Erythroderma/Eczema	22
Desquamation	Palms/soles/both palms and soles/ Face	30
Lower limb edema		14

Discussion

A large variety of skin and mucous membrane lesions have been documented to occur in association with viral fevers including some that have been unique to particular viral exanthema. The dermatological manifestations of the disease may occur in about 40-50% of all cases.⁶ Morbilliform eruption is the most common pattern of cutaneous manifestation found in our study which is in concordance with other studies.⁷ It usually appears from 3 to 5 days after the onset of fever and subsides within 3 to 4 days usually without any sequelae. The rash usually asymptomatic in most of the patients, and some of may complain of mild pruritus.⁸ The eruption may appear simultaneously with the fever or after defervescence also. The skin rash in CF commonly affects the extremities, trunk, neck, and ear lobes. Although the face is said to be relatively spared, facial involvement in up to 77% of the cases have been reported.⁸ Recurrent episodes have also been observed. In DF, the initial rash will be a transient flushing erythema of face that typically occurs shortly before or within the first 24-48 hours of the onset of symptoms and is thought to be the because of capillary dilatation. After 3-6 days onset of fever another episode of rash develops and it is characterized by asymptomatic maculopapular or morbilliform eruption and lesions may coalesce and are then seen as generalized confluent erythema with petechiae and rounded islands of sparing-“white islands in a sea of red”.⁹ The morbilliform, maculopapular rash usually spares palms and soles. Aphthae like ulcers, occurring mostly in the perineum, groins and axillae, seen in cases of CF.¹⁰

These ulcers develop during 2-5 weeks after the onset of fever. The ulcerations are usually punched-out, both superficial and deep-seated with undermined edges showing some healthy granulation tissue in the floor and erythema, and in some cases thickening of the surrounding skin would be there. The size of the ulcers varies from 0.5 to 2 cm in diameter and their shape is round to be oval or asymmetrical. The number of ulcers per patient usually ranges from 1 to 3.⁸ These lesions are self-limiting. Apart from these, multiple aphthous-like ulcers may also be found on axillae, tongue, palate, and other areas of oral mucosa. The mucosal manifestations noted in dengue viral infections are conjunctival and scleral injection, small vesicles on the soft palate, erythema and crusting of lips and tongue.¹¹ We also observed in 12 % of patients. Flaccid vesiculobullous lesions also appears in some cases of CF. These lesions were of sudden-onset and often multiple and healed without scarring or pigmentary changes. Vesiculobullous lesions appeared around the fourth day of fever over the lower limb and spread to involve the perineum, abdomen, chest, and upper limb.¹² in our study we observed vesiculobullous lesion in 6 % of cases. Hyper Pigmentation especially in CF usually occurred after subsidence of fever, which leads to consult a dermatologist. Most of these patients had exacerbations of the pigmentation on exposure to the sunlight. The exact mechanism of pigmentation is not known. Inamdar, et al.¹³ proposed virus triggered increased intraepidermal dispersion/retention of melanin. The desquamation of skin on palms resulted in post inflammatory hypopigmentation in 6% patients.

Treatment of cutaneous manifestation of viral exanthema required only symptomatic. As the exanthematous rashes are self-limiting, no treatment is required. However, in some of the patients who are having burning and itching sensation require treatment like topical calamine lotion and antihistamines. Intertriginous apthae like ulcers were treated with topical and systemic antibiotics. Pigmentation of the face was treated with sunscreens and low potent depigmenting creams. Desquamation was treated with simple emollients.

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Conclusion

Now a days viral fevers are commonly appear in and around spring season affecting whole community in the locality. Most common among all viral fevers are Chicken gunya fever and Dengue fever. Both fevers are having wide variety of cutaneous manifestation some of are unique to that particular fever. Even during and after the subsidence of fever also cutaneous manifestation develop. The physician with proper knowledge of cutaneous manifestation can easily and earlydiagnose the fever type and which aid in the proper management of the fever.

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