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Approach To Generalised Rash

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Abstract:*Background: Generalisedskin rashes are among the most common conditions seen by primary care physicians and dermatologists. Accurate diagnosis is important as diagnostic errors are common and some rashes can be life threatening if not treated promptly. Aim: To know the etiology of different generalised skin rashes and to categorise them into broad groups for better approach. Methods: In the study, 120 cases of all ages,both sexes with varied presentations are included. Their detailed history, clinical examination are carried out, apart from routine investigations, blood VDRL,biopsy are also done for better approach towards the diagnosis. Limitations:bacterial and fungal infections, infestations like scabies,eczemas,urticarias,vesiculobullous diseases and purpura are excluded. Rashes that primarily affect pregnant women, new borns& immunocompromised patients are also excluded .Results: out of 120 cases included in the study, are broadly divided in to drug eruptions (29), viral exanthems (24) and other dermatologicalconditions (67) after exclusion of secondary syphilis. In our study the most common etiology is drug eruptions in adults and viral exanthems in children. Conclusion: Because of busy schedules and perceived patient expectations,physicians often feel pressured to quickly arrive at diagnosis. First we should exclude secondary syphilis, as secondary syphilis is a great imitator of many diseases and in this HIV era secondary syphilis is reemerging. Then to exclude drug rashes and viral exanthems by proper history and examination followed by other dermatological conditions.*

Keywords*: drug rash, pityriasisrosea, psoriasis, secondary syphilis, viral exanthem*

I. Introduction

Diagnosing a case of generalised rash is often difficult because many different conditions produce similar rashes, and a single condition can result in different rashes with varied appearances. A rapid and accurate diagnosis is critically important to make treatment decisions, especially when mortality or significant morbidity can occur without prompt intervention.[1] Further, generalised skin rashes are among the most common conditions seen by primary care physicians,[2,3] and the most common reason for new patient visits to dermatologists. [4]

Accurate diagnosis is important as diagnostic errors are common [5,6] and treatment varies with etiology. Some rashes can be life threatening if not treated promptly.

It is difficult to comprehensively review generalised rashes because the topic is so broad. Previous reviews have been limited to narrower topics, such as viral exanthems, [7] drug eruptions, [8]and rashes associated with fever. [9,10] Differential diagnosis of generalised rashes and clinical features that can help to distinguish these rashes were discussed in few reviews.[1] Based on this background present article focuses on how to categorise and approach towards the patient with generalised rash. The causes of generalized rash are numerous. They are listed in the (**table 1)**.

Table 1. **Causes of Generalised Rash**

Common causes	Uncommon causes	Rare causes
Erythema Multiforme	Bullous Pemphigoid	Lichen Nitidus
Fifth Disease (I.E., ErythemaInfectiosum)	Dermatitis Herpetiformis	PityriasisLichenoides
Folliculitis	Hiv Acute Exanthem	PityriasisRubra Pilaris
Guttate Psoriasis	Id Reaction	Rickettsialpox
Insect Bites	Kawasaki Disease	Rubella
Keratosis Pilaris	Lupus (Subacute Cutaneous LE)	Rubeola
Lichen Planus	Lyme Disease	
MiliariaRubra (I.E., Prickly Heat, Heat Rash)	Meningococcemia	
Nummular Eczema	Mycosis Fungoides (I.E., Cutaneous T-Cell Lymphoma)	

PityriasisRosea Psoriasis (Plaque Psoriasis) Erythema Multiforme Fifth Disease (I.E., ErythemaInfectiosum) Folliculitis Guttate Psoriasis Insect Bites Keratosis Pilaris Lichen Planus	Rocky Mountain Spotted Fever Scarlet Fever Secondary Syphilis Staphylococcal Scalded Skin Syndrome Stevens-Johnson Syndrome Toxic Epidermal Necrolysis Sweet Syndrome (I.E., Acute Febrile Neutrophilic Dermatosis) Toxic Shock Syndrome	

II Objectives

To know the etiology of generalised skin rashes and to categorise them into broad groups for better approach towards the management.

III Inclusion Criteria

All ages & both sexes with varied clinical presentations and where in the diagnosis is not immediately apparent were included in the study.

IV Exclusion Criteria

Bacterial & fungal infections, parasitic infestations, eczemas, urticarias, vesiculobullous diseases, purpura were excluded from the study. Rashes that primarily affect pregnant women, new borns and immunocompromised patients were also excluded.

V. Methodology

The study was conducted in Dvl op, GGH for the duration of 12 months from january 2014 to december 2014. For every case presenting with generalised rash,detailed history was taken which included onset, distribution and progression of the rash. H/O associated symptoms like fever,pruritis,pain , recent travel, insect bite, drug intake, exposure to weeds, contact with diseased, pets, chemical exposure, sexual exposure were enquired in every patient.

General condition, temperature &generalised lymphadenopathy were noted.Cutaneous examination included morphology like size,shape, color configuration and distribution of skin lesions, presence and quality of scale were noted. Dermatological signs likekoebners phenomenon,nikolskys sign,auspitzsign,blanchability were looked for.

Oral mucosa, nails, palms&soles, genitals were examined. Other systems examination was done.
Investigations like Hb, Tc, Dc, ESR, LFT, RFT, RBS,and serological studies like VDRL were done in all patients. Histopathological examination is doneto aid in diagnosis where ever required.

VI.Results

A total of 120 cases were included in the study. Out of 120 cases, 59 were females & 61 were males. 54 were children & 66 were adults.

After ruling out secondary syphilis, there were 29 cases(24%)of drug rash, 24 cases(20%) of viral exanthems and 67 cases(56%) of other dermatological conditions. Among other dermatological conditions,15 cases were of pityriasisrosea, 24 cases were of lichen planus, 25cases were of psoriasis and 3 caseswere of lichen nitidus.

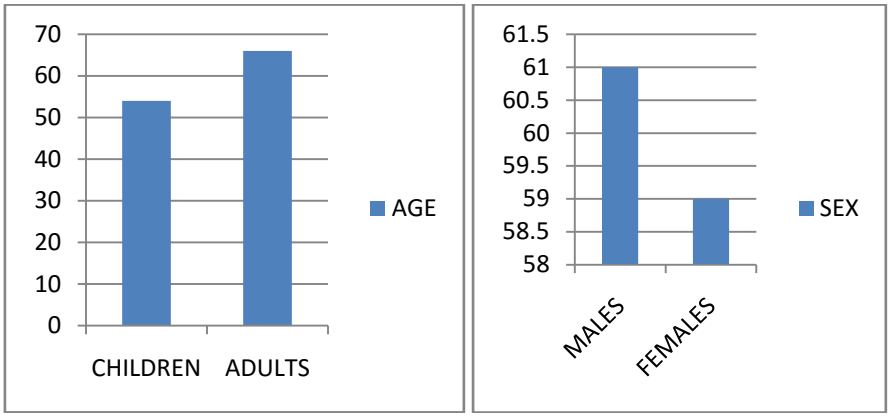

Figure 1.age and sex distribution of generalised rash

Table 2: Distribution of rashes according to age.

Generalized Rash	<15Yrs	15-45Yrs	>45Yrs
Drug Eruption(28)	5	21	3
Viral Exanthem(23)	22	2	-
Pityriasis Rosea(13)	9	6	-
Lichen Planus(22)	11	12	1
Psoriasis Vulgaris(23)	4	10	11
Lichen Nitidus(3)	3	0	0
Total	54	51	15

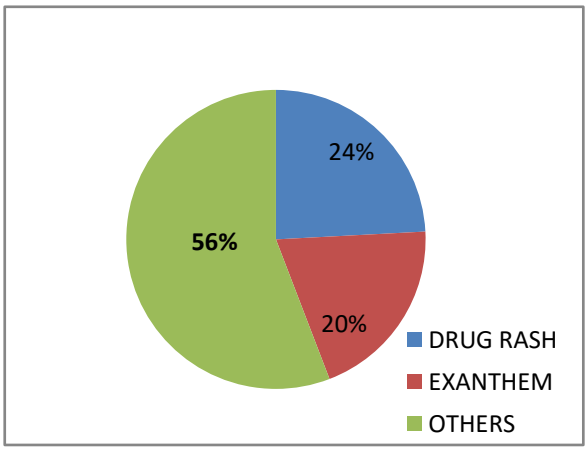

Figure 2: percentage distribution of different rashes

Figure 3: Drug eruption in a 48yr old male patient to phenytoin

Figure 4: viral exanthemin a 7 yr old male child with involvement of face

Figure 5: pityriasisrosea with christmas tree pattern in a 11 yr old male child

Figure 6: Lichen planus lesions with typical 5p's in a 9 yr old female child

Figure 7: Psoriasis vulgaris with scalp involvement in a 52yr old male patient.

Figure 8: Lichen nitidus showing koebners phenomenon

VII Discussion

Most skin eruptions are listed in hospital charts only as "rashes''----- but precise description of cutaneous eruption would allow better diagnosis ,prompt treatment and prognostic information. Skin lesions need to be '''looked for,not at'''. In history taking it's better to sandwich the history around physical examination.

Generalized rash canbe broadly divided in to four groups for better approach. After ruling out secondary syphilis [as it is a great imitator of many dermatological conditions], then should rule out drug

eruptions, then viral exanthems based on history and clinical features then proceed towards other dermatological conditions .

For ruling out secondary syphilis, detailed sexual history, H/O primary chancre, and then clinical examination of lesions should be done.

The early secondary syphilids follow rule of thumb on distribution. Syphilitic rash can be a macule, papule, pustule, follicule or a scar but never a vesicle in an adult. Grouping of lesions and annular or ring shaped configuration always bring syphilis in to differential diagnosis.

Syphilitic rash has characteristic distribution,association, configuration,induration and indolence.

Secondary syphilis tend to chronicity and mildness. They emerge very gradually, in faint pinks and dull reds with a tinge of yellow or brown or a slight lividity (the raw ham or cut muscle color) persist for a few weeks,fade slowly ,change in morphology ,thenslowly recede with unusualpersistence inareas as palm or sole,hair line of forehead etc.

All the papular and annular syphilids are indurated, follicular and pustular lesions donot depend for their recognition upon induration. The lesion of syphilis is to speak *in the skin* that of many conditions involved in its differentiation *on the skin*. The lesions are discrete,shotty,arranged in groups with localising tendencies.

Association mean the entire picture presented by the patient, like a macular eruption, with erosions in the mouth and papules about the genitalia, suggests syphilis. If there are blisters on the skin, the same association suggests pemphigus or erythema multiforme.

A papular eruption on the palms or soles with nothing on the scalp, elbows or knees with no fissuring or patches of dermatitis elsewhere on the body and without severe constitutional symptoms,suggests syphilis.

A sorethroat with a general macular or papular eruption that persists more than a week suggests syphilis before any other possibility.

The association of severe itching with an eruption of general character is against syphilis.

A marked general adenopathy with an indolent general eruption speaks in favour of syphilis.

A general eruption accompanied by marked loss of weight is suggestive of early syphilis.[11]

If rash is in favour of syphilids, then proceed to serological tests of syphilis like VDRL for further diagnosis.

VII Viral Exanthemsand Drug Eruptions:

Age is an important criteria to differentiate between drug eruption and viral exanthema. Any maculopapular rash in a child we should first think of a viral exanthema and drug rash in an adult.[12]

Suspicion of drug allergy must be substantiated by history, clinical picture, skin testing….sometimes drug provocation.

History should include list of all the drugs taken, prior drug allergies.typically it occurs 1-3 wks post administration and resolves in 1-2 wks after cessation. Skin biopsy may be useful for excluding other causes.

Drug rashes are often difficult to differentiate from viral exanthems. The former are more likely to be urticarial, intensely erythematous and pruritic, and may or may not be associated with the prodromal features of viral fevers[13]

Table 3: Useful clinical anamnestic data in the differential diagnosis between exanthematous eruptions caused by drugs and those caused by biotic agents.[14]

Drug Eruption	**Viral Exanthem**
☐ Time ---Any Time ☐ Prodrome---May Occur ☐ Morphology—Not Uniform ☐ Colour-Dark Red To Purpuric	☐ Sporadic ☐ Almost Always ☐ Uniform ☐ Bright Red Or Pink
☐ Distribution-Symmetric ☐ Prevalent Localisations—Trunk,Lims,Folds ☐ Evolution—Begins On Trunk, Rapid Spread ☐ Enanthem—Rare ,Late ☐ Itching-Always ,Intense	☐ Varied ☐ Face, Palms, Soles ☐ Begins On Face, Spread As A Snowfall ☐ Usually+ ☐ Occasional,Mild
☐ Lymphadenitis--Rare ☐ Resolution---Desquamation &Brown Pigmentation	☐ Frequent ☐ Palmoplantar Exfoliation[If Scarletiform]

Vii.2. other dermatological conditions presented as generalized rash:

Pityriasisrosea – H/o herald patch and prodrome, with oval to round plaques arranged in christmas tree pattern with fine collarette of scales

Psoriasis vulgaris- Discrete erythematous plaques with silvery white scales showing auspitz sign and koebners phenomenon with prediliction for extensors and scalp.

Lichen planus- 5 p's purple, polygonal, plane topped, pruritic, papules with wichmansstriae and distribution on flexor aspects of extremities with koebners phenomenon positive. Oral mucosa showing white lacy reticular network.

Lichen nitidus- pinpoint to pin head sized asymptomatic flesh coloured flat shiny papules, withkoebners phenomenon.

Vii.3.Differentiating features of common generalized rashes from secondary syphilis:

Toxic erythemas unlike secondary syphilids, spring suddenly,stand out prominently,assume rosy and bright hues, and quickly vanish ,leaving a yellowish spot and faint scale.

Drug rash has short and acute course, with high fever and sick look. Eruption is abundant,rather florid, tends to confluence, more abundant on extremities,suggests measles in color, may be hemorrhagic or punctuate, and scarlatiniform; with, Occasional desquamation and no general adenopathy. This should be differentiated from macular lues.[11]

Psoriasis should be differentiated from papularlues,it shows predilection for extensors,florid red lesion with abundant silvery white scales showing auspitz sign and koebners phenomenon with no induration and scars.[11]

Pityriasisrosea can be differentiated by prodromal primitive plaque, arrangement of papules in the lines of cleavage,and absence of mucosal,palmar,plantar and genital lesions. Absence of general adenopathy.[11]

Lichen planus can be differentiated by characteristic purple, polygonal, plane topped,pruritic papules with intense itching and koebners phenomenon. There will be no induration.[11]

Pityriasisrubra pilaris can be differentiated from follicular lues by universal involvement including face,patches showing coarse nutmeg grater appearance and feel with spinous follicular horny plug ,yellow orange hue and tendency to confluence with 'islands of sparing'.[11]

Papulo necrotic tuberculids of the fingers can be differentiated from papularlues by having typical tuberculid papule with dried necrotic central plug,painful onset and healing with white or depressed punctuate scars.[11]

VIIConclusion

The purpose of this presentation is evaluation of generalised rash with easy approach.Generalised rash causes can be grouped in to four broad categories i.e secondary syphilis, viral exanthem, drug rash and other specific dermatological conditions.

Age is an important criteria to differentiate between drug eruption and viral exanthem.

Because of busy schedules and perceived patient expectations,physicians often feel pressured to quickly arrive at diagnosis. First we should exclude secondary syphilis,as secondary syphilis is a great imitator of many diseases and in this HIV era secondary syphilis is reemerging. Then to exclude drug rashes by taking proper treatment history and viral exanthems followed by other dermatological conditions.

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