

Clinical Trends of Pediatric Viral Infections- A Clinico Epidemiologic Study

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Abstract:

Background: Cutaneous infections form an important component of pediatric dermatology. Pediatric viral infections are common and probably increasing in incidence over the last few decades because of increase in incidence of viral infections in the general population & immunosuppression due to HIV.

Aims and Objectives: The aim of the study is to know the changing clinical trends of pediatric viral infections.

Materials & Methods: A prospective observational study was conducted from January 2014 to June 2017. All children, 0 -15 years, of either sex presenting with viral infections were recruited in the study.

Results: We report a clinico epidemiologic study of 556 children presenting with various viral infections. The most common causes were viral warts (29%), followed by molluscum contagiosum(26%), varicella(22%), herpes zoster(15%) and herpes labialis(8%).

Conclusion: This study will provide data for future clinical research and helps in knowing the changing trends of cutaneous viral infections in children.

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I. Introduction

Cutaneous infections form an important component of pediatric dermatology. Pediatric viral infections are common and probably increasing in incidence over the last few decades because of increase in incidence of viral infections in the general population & immunosuppression due to HIV, broad spectrum antibiotics. The altered incidence of herpes zoster& varicella in otherwise healthy children may be due to acquiring primary varicella infections in utero or in infancy or may be due to the vaccination with live attenuated virus for varicella. So we did this study to know the changing trends in pediatric viral infections as there are few studies reported.

II. Materials and Methods

A prospective observational study was conducted in the Department of DVL, Guntur from January 2014 to June 2017. A total of 4800 children attended the outpatient department, of which 556 children presenting with various viral infections were included in the study

Inclusion criteria:

Inclusion criteria included all children from 0 to 15 years, of either sex presenting with viral infections.

Exclusion criteria:

Exclusion criteria were patients above 15 years of age.

Objective:

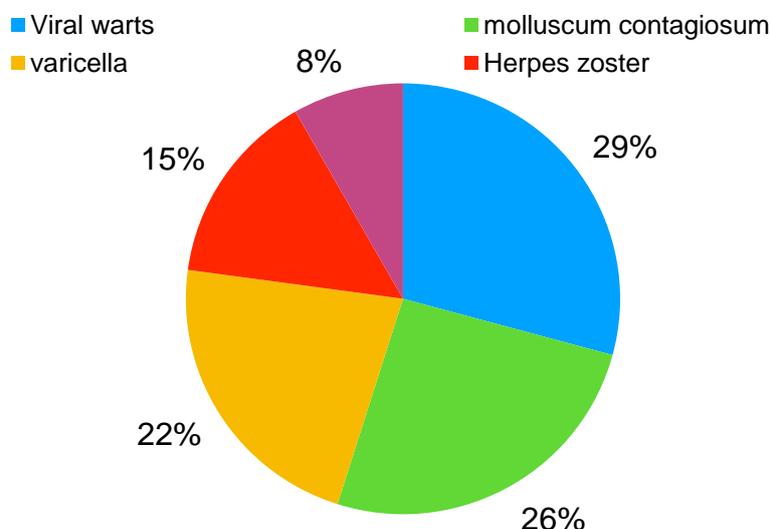
Objective of this study is to review the clinico epidemiological data of various viral infections in children and to prevent the complications. Data collected included age, sex, duration of the disease, vaccination history, contact history, history of chicken pox during antenatal period in mother were recorded in a predesigned proforma. Complete dermatological examination, along with appropriate investigations as per the requirement were done.

All children were recruited in the study after taking informed consent from the parents.

III. Results

Of the 4800 children attending our OPD, 556 children were included, of which 273 were boys, 283 were girls. Age range was from birth to 15 years of age. A total of 556 children were enrolled in the study.(chart 1)

The most common viral infection was viral warts (29%), followed by molluscum contagiosum(26%), varicella(22%), Herpes zoster (15%) and Herpes labialis(8%). Similar findings were observed by Nanda et alⁱ., Sangameswara et alⁱⁱ. While Patel et al recorded high prevalence of molluscum contagiosum compared to wartsⁱⁱⁱ.



Age and sex distribution of various viral infections is illustrated in (Table 1).

Viral infections	0-5 Yr Male	0-5yr Female	6-10 yr Male	6-10 yr Female	11-15 yr Male	11-15 Yr Female	Total
Viral warts	14	13	38	14	57	28	164
Molluscum contagiosum	27	28	28	34	10	15	142
Varicella	15	41	41	27	20	5	123
Herpes zoster	-	11	11	30	10	15	81
Herpes simplex	8	8	8	-	8	14	46
Total	64	101	104	105	105	77	556

IV. Discussion

In this study, majority (209) of the patients were in 6-10 years age group constituting 104(18.7%) boys and 105(18.88%) girls. Most common viral infection in 0-5 years age group was varicella (33.93%) followed immediately by molluscum contagiosum (33.33%). Molluscum contagiosum(29.66%) was the most common viral infection observed in 6-10 years of age group, whereas most common viral infection observed in 11-15 years of age group was viral warts(46.7%).

Viral warts:

Viral warts(Figure 1) are the most common infection observed in this study with a male preponderance as boys being more active in physical activities like sports and games. Similar findings were observed by TSC Theng et al^{iv}. Most common age group is 11-15 years with limbs being the most common sites affected. Most common type observed is verruca vulgaris, followed by plane warts.

Molluscum Contagiosum:

It is the second most common viral infection observed in this study(Figure 2). A positive family history was observed in 42% of cases. 26% of children gave history of atopy.

Varicella:

Varicella was most common viral infection below 5 years of age group. Of which 20 patients took varicella vaccine, while rest of the patients either didn't take the vaccine or could not give the history. Mild disease was noted in patients who were vaccinated. We reported a case of hemorrhagic varicella(Figure 4) in an immunocompromised, malnourished child.

Herpes zoster:

81 cases of herpes zoster (Figure 3) were reported in this study. Similar to the study by Prabhu et al^v, females predominated. But males predominated in studies by Malik et al^{vi}. Vora et al^{vii}. Youngest age reported was 2 years. 10 patients took varicella vaccine.3 patients gave history of varicella in the past and varicella or herpes zoster in close contacts. Thoracic dermatomes were the most commonly affected in this study. Multi dermatomal involvement and seropositivity was observed in 34% of cases.

Historically, childhood zoster was thought to be an indicator of immunosuppression. Whereas recent studies have recorded Herpes zoster in immunocompetent children. Our study proves the same. The increase in the incidence of herpes zoster in healthy children may be due to acquiring primary varicella infection in utero or in infancy, when immunity is not fully developed. Vaccination with live attenuated vaccine may also contribute.

Terada et al. suggested the importance of the immunological status of the child at the time of acquiring primary infection. They believed it to be the most important determinant in childhood zoster^{viii}.

Herpes Simplex:

Herpes simplex (Figure 5)was reported in 46 cases. Face was the most common site affected .The youngest age group reported was 3 years and face is the most common site affected.



Figure 1: plantar warts in a ten year old



Figure 2: Molluscum contagiosum in a 8 year old



Figure 3: Herpes zoster in a 6 year old



Figure 4: Herpes zoster in a 9 year old



Figure 5: Herpes simplex in 7 year old



Figure 6: Hemorrhagic varicella in a 10-year old

V. Conclusion

This study will provide data for future clinical research and helps in knowing the changing trends of cutaneous viral infections in children. The altered incidence of Herpes zoster and varicella in immunocompetent children may be due to acquiring primary varicella infections in utero or in infancy or vaccination with live attenuated vaccine for varicella.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil

Conflicts of interest

There are no conflicts of interest

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