



CODEN [USA]: IAJPBB

ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

<http://doi.org/10.5281/zenodo.1402707>Available online at: <http://www.iajps.com>

Research Article

A STUDY ON THE TREATMENT OF VARICELLA VIRUS INFECTION IN CHILDREN

¹Iqra Malik, ²Kashif Nawaz, ³Rabia Latif¹Jinnah Hospital Lahore²Nishtar Hospital Multan³DHQ, Faisalabad**Abstract:**

Objectives: The objective of this research is to know about the affect and difficulties rose by the disease which is spread by herpes varicella zoster virus in the sufferers who are purged from this disease with the help of an oral antiviral drug.

Methodology: The method of this research is vivid based on the observations. This research was carried out in a civil hospital of Karachi, Pakistan. This research was carried out in September 2017 to March 2018. All the patients aged from two to fifteen-year age whose medical reports confirmed the presence of the virus were treated from this oral antiviral drug. The quantity of the dose was eighty milligrams per kilogram per day for consecutive 5 days according to the weight of the patients. After this medical treatment, patients were thoroughly checked for complications and sufferings. The unfavourable effects and the economic value of this treatment were also evaluated in this research.

Results: The total number of the affected children was thirty-one who participated in this research. Fifteen were the male participants and remaining sixteen were the females. Temperature lasted from one to eight days after this medical dealing. Fifty-eight percent sufferers were found with a medium skin complains. More than nineteen percent sufferers had harsh skin complains and twenty-two percent persons were found with a low itchiness. The new skin complains appeared from 3 to 9 days. Other complications were appeared in only three participants in the result of the side effects of the drug. The economic cost of this medical treatment was more than three thousand rupees.

Conclusion: the use of the antiviral drug against chicken pox hinders the new phase of the skin itching and the length of the period of disease to less than five days. Further studies are required to evaluate its advantages in relation with economic costs.

Key Words: itching, Virus, zoster, herpes, Chicken pox, economic cost, antiviral

*** Corresponding author:**

Iqra Malik,
Jinnah Hospital,
Lahore

QR code



Please cite this article in press Iqra Malik et al., A Study on the Treatment of Varicella Virus Infection in Children., Indo Am. J. P. Sci, 2018; 05(08).

INTRODUCTION:

Varicella infection was found in thirty lakh people of USA in the start of the 1990s. Despite the fact that the proper medical treatment was available in USA, this disease was occurring in USA. This disease is very common in the children. About seventy-five percent to ninety percent patients of this disease are less than ten years of age. A research carried out in 2001 proved that ten percent children of 5 to 9 years of age and two percent children from ten to fourteen years are the victims of this disease in every 365 days [1]. This disease is the cause of long uneasiness and it involves other bacterial infection, inborn infection, fever and abnormality of bleeding. It can also lead to death. Sixty percent suffers of this disease who are admitted in the hospitals are of very young age. About 5 sufferers out of one thousand require medication in the hospital and in some cases, it can be life taking disease [2].

Forty patients out of one hundred who lose their life due to chickenpox are children every year. USA report provided the death rate due to this disease about one in forty thousand. The rectification of this disease is suggestive. The antiviral drug is being used to rectify this disease in children which is known Acyclovir [3]. This drug is suggested for the patients at dangerous stage to reduce the harshness of the infection. The main aim of this study was to check the complications rose by the varicella virus in the children and the effects of this particular antiviral drug acyclovir and its economic cost.

METHODOLOGY:

The method of this study was vivid based on the observation. This research was carried out in OPD of a civil hospital Karachi, Pakistan. The patient children aged from two years to fifteen years whose medical reports confirmed the chickenpox disease were included in the research. The research covers duration of seven months; September 2017 to March 2018. All the participants were not weak. The children were not weak and admitted within three

days with the start of the skin itching. The children who were in need of nourishment were excluded from the research. The sufferers having less than two year of age, high fever, itching from more than three days and intolerant to the antiviral drugs were not included in the study.

The willingness of all parents was taken before the start of the study. After taking consent, a dose of eighty milligrams per kilogram per day of oral antiviral drug acyclovir was given to the patients for five consecutive days. After five days, all the sufferers were checked for the level of itching, the mark signs on skin, fever and other related complications. This disease was classified as gentle if it caused less than fifty abrasions, medium level has two hundred to five hundred lesions and harsh have more than five hundred 500 lesions. Reliability and the unfavourable effects of this treatment were also evaluated. At the last time of this treatment, the economic cost of the treatment was also checked. A lotion was used to decrease the suffering of the children. All the information was edited and arranged in a sequence for the exact outcomes.

RESULTS:

Thirty-one sufferers were the subject of the study in which fifteen were male participants and sixteen were females. Sixty-one percent have a medical background to have a link with the chicken pox. Majority of the sufferers have medium level of signs as mentioned in table number one. The dangerous effects occur in small number of patients as mentioned in table number two. One patient was found with infection of ear, one patient was found with infection of the chest and scar found in seventeen patients. The total duration of the suffering of the patients and new skin infection itching are also mentioned in table number two. Side effects of this medical treatment were very low. The economic expense of this cure was from 2343 rupees to 6223 rupees.

Table – I: Severity of symptoms

Symptoms	Mild	Moderate	Severe	Nil	Total
Rash	7 (22%)	18 (58%)	6 (93%)	-	31
Itch	5 (16.1%)	20 (64%)	5 (16.12%)	1	31

Table – II: Outcome of the varicella infection

Average Duration of New Rash After Treatment	3.3 days (3-9 days)
Mean Duration of Illness After Treatment	3.12 days (1-8 days)
Complication (no. of patients)	3 (9.6%)
Scar formation	17(54.8%)

DISCUSSION:

Varicella is a self-restrained disaster. This disease lasts from 5 to 7 days from small marks to the bubble-like stage [4]. The quantity of the blisters does not remain same in all the cases. Rash is the most essential sign of the chickenpox which produces uneasiness among the children. Patients got temperature on the 3rd or 4th day on the start of the disease [5]. The cure of this disease with the help of antiviral drugs is very common and effective. Germany gave recommendation for four different types of the antiviral drugs against this very virus [6]. These four types are brivudin, famciclovir, valacyclovir and acyclovir. These elements are easily beard by the sufferers and do not put the user into danger. Acyclovir is very authentic antiviral drug against this virus [7]. This antiviral drug develops a quick effect on the sufferers. Some specialists have the views that this antiviral drug is very effective if applied through oral way within twenty-four hours of the start of the disease [8].

A study in the same field proved that this antiviral drug shortens the harshness and the length of the disease in the children when it is started within twenty-four hours of itching [9]. About ninety-five percent patients who were receiving acyclovir as antiviral drug; they had no new scars after the 3rd day of the treatment [10]. This very outcome is verified with the result of this very study in which the length of the disease was reduced to abovementioned level. These outcomes were also confirmed by the other related studies in the same field in whole world [11]. Two important database systems also confirmed the above results. There was a disparity in mentioning the quantity of the days for complete relief from itching and scars. Biswas also confirmed the same outcomes based on the bacterial infection [12]. Dunkle and Sadovsky proved the hindrance in the duration of the temperature and other signs to only 4 days. Economic expense of this treatment was from two thousand three hundred forty-three rupees to six thousand two hundred and twenty-three rupees. The mean expense for each patient was about three thousand two hundred and sixty-nine rupees [13].

Four hundred milligram of this antiviral dose is prescribed 4 times daily for consecutive 5 days for the sufferers of 2 to 5 year of age. Children having age more than six years have to get eight hundred milligrams 4 times daily for the same period of 5 days [14]. The sufferers having age more than twelve years have to get eight hundred milligrams for 7 days. Acyclovir treatment through oral way is very essential against this particular virus. In our research, the side effects of the antiviral medicine were not

developed.

CONCLUSIONS:

The use of this oral antiviral drug is a safe method for the treatment of this disease. But this medication should be used in high risk cases because off its cost and to get the hundred percent rectification of this disease.

REFERENCES:

1. Regezi, J.A., J.J. Sciubba, and R.C. Jordan, Oral pathology: clinical pathologic correlations. 2016: Elsevier Health Sciences.
2. Grahn, A. and M. Studahl, Varicella-zoster virus infections of the central nervous system– Prognosis, diagnostics and treatment. *Journal of Infection*, 2015. 71(3): p. 281-293.
3. Bate, J., et al., PEPTalk2: results of a pilot randomised controlled trial to compare VZIG and aciclovir as postexposure prophylaxis (PEP) against chickenpox in children with cancer. *Archives of disease in childhood*, 2018: p. archdischild-2017-314212.
4. Cunha, B.A. and J. Baron, The pharmacokinetic basis of oral valacyclovir treatment of herpes simplex virus (HSV) or varicella zoster virus (VZV) meningitis, meningoencephalitis or encephalitis in adults. *Journal of Chemotherapy*, 2017. 29(2): p. 122-125.
5. Gershon, A.A., et al., Varicella zoster virus infection. *Nature reviews Disease primers*, 2015. 1: p. 15016.
6. Tugal-Tutkun, I., L. Cimino, and Y.A. Akova, Review for Disease of the Year: Varicella Zoster Virus-Induced Anterior Uveitis. *Ocular immunology and inflammation*, 2018. 26(2): p. 171-177.
7. Sauerbrei, A., Diagnosis, antiviral therapy, and prophylaxis of varicella-zoster virus infections. *European Journal of Clinical Microbiology & Infectious Diseases*, 2016. 35(5): p. 723-734.
8. Werner, R., et al., European consensus-based (s2k) Guideline on the Management of Herpes Zoster–guided by the European Dermatology Forum (edf) in cooperation with the European Academy of Dermatology and Venereology (eadv), Part 2: Treatment. *Journal of the European Academy of Dermatology and Venereology*, 2017. 31(1): p. 20-29.
9. Brown, A.E.C., et al., Incidence and consequences of varicella in children treated for cancer in Guatemala. *World Journal of Pediatrics*, 2016. 12(3): p. 320-326.
10. Kelley, J., et al., Failure of a single varicella vaccination to protect children with cancer from life-threatening breakthrough varicella. The

- Pediatric infectious disease journal, 2015. 34(9): p. 1027.
11. Kennedy, P.G., Issues in the Treatment of neurological conditions caused by reactivation of varicella zoster virus (VZV). *Neurotherapeutics*, 2016. 13(3): p. 509-513.
 12. Wollenberg, A., et al., Consensus-based European guidelines for treatment of atopic eczema (atopic dermatitis) in adults and children: part II. *Journal of the European Academy of Dermatology and Venereology*, 2018. 32(6): p. 850-878.
 13. Ullmann, A.J., et al., Infectious diseases in allogeneic haematopoietic stem cell transplantation: prevention and prophylaxis strategy guidelines 2016. *Annals of hematology*, 2016. 95(9): p. 1435-1455.
 14. Kumar, A., N.R. Moulik, and N. Verma, Successful prevention of varicella outbreak in an overcrowded paediatric oncology ward using oral acyclovir prophylaxis. *Journal of tropical pediatrics*, 2015. 61(2): p. 151-151.