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Research Article

**THROMBOCYTOPENIA: OUTCOMES OF VARICELLA IN
ADULTS**¹Amber Arshad, ²Dr. Shafia Masood, ³Dr. Zarwa Shahid¹FMH Collage of Medicine and Dentistry, Lahore-Pakistan²Holy Family Hospital Rawalpindi³House Officer, Jinnah Hospital Lahore**Abstract:**

Objectives: The purpose of this research work is to elaborate the seriousness and rate of the low quantity of the platelets in the blood having relation with adult patients suffering of chickenpox.

Methodology: This was a descriptive research work carried out in Mayo hospital Lahore and the duration of this research work was from January 2015 to March 2018 in the department of infectious diseases. In this study, record of the demographics, medical data, and blood & biochemical alterations created for each and every patient. The entry of this data carried out on a special organized form. Patients with previous background of CLD (chronic liver disease), drug addicts, HIV patients, blood abnormalities, or consumers of the wine were not the part of this research work. The count of the full blood with count of the platelet conducted with the help of an automated BCM (Beckman Coulter machine). The verification of the haematological results, the patients having low quantity of the platelet underwent PSE (peripheral smear examination).

Results: One hundred and ten patients were the participant of this research work. The average age of the patients was 32.9 ± 9.7 years. Males were greater in number than females. The development of the thrombocytopenia found in 46 patients & the average count of platelets was $111.8 \pm 30.59 \times 10^3/\text{ul}$. The occurrence of this problem was very high in the patients who had chickenpox, hepatic dysfunction & impairment of renal. No patient of thrombocytopenia developed manifestations of bleeding in the duration of the disease. The amount of the platelet came back to its ideal limit in one to two weeks after the treatment of chickenpox without the transfusion of the platelet.

Conclusion: Thrombocytopenia is a blood disease which is commonly linked with varicella. The occurrence of thrombocytopenia was very high in the patients suffering of the large area of the body with the disease. Small amount of the platelet has no ability to start bleeding & the count of the platelet increases with the treatment of chickenpox.

Key Words: Thrombocytopenia, Chickenpox, Hepatic Dysfunction, Manifestations, Ambient, Bleeding.

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INTRODUCTION:

Chickenpox is very common disease caused by VZV (varicella zoster virus) & affects the children of less than ten year of age, who makes more than ninety percent cases of this disease [1]. In the climate of tropical regions, more patients are adults [2]. The high rate in adult is due to the no contact to VZV in early age in the non-urban areas because of the large ambient temperature in the regions of tropics decreasing the potential of this virus to propagate [3, 4]. Chickenpox is very contagious disease [5]. The contact with the fluids from the lesions of the skin can lead to the transmission of the disease. The mean period of incubation for the infection of varicella is fourteen to sixteen days with a range of ten to twenty-one days [6].

Varicella may be linked with many severe problems in adults [7]. The rate of the complication is not same for every patient as pneumonia due to varicella, infection of the skin & subclinical hepatitis is very common and acute myocarditis, failure of liver & DIC (disseminated intravascular coagulation) are very rare problems due to this disease [8]. The reduction in the amount of the platelets is very common abnormality of the blood due to the complication of the varicella. This problem is 4 times more frequent in the adults as compared to the children [9]. This case study carried out to assess the rate and seriousness of the thrombocytopenia linked with the patients of varicella getting treatment in Mayo Hospital Lahore.

METHODOLOGY:

This was a descriptive research work carried out in Mayo hospital Lahore and the duration of this research work was from January 2015 to March 2018. The information of every patient was put into a special organized Performa for this purpose. Questions were asked from the patients about the previous history of the complications of the blood, diseases of liver, any infection of virus & ingestion of the alcohol. The patients having CLD, AIDS,

abnormalities of the blood, active addict of wine were not included in this research work. Sample of the blood was taken from every patient for total count of blood, sugar level, whereas, LFT (liver function test) & other tests carried when it was necessary. An automated BCM was in use for the count of the blood. PSE carried out for the count of the reduction in the platelet. Thrombocytopenia disease is defined with the count of the platelets less than $150 \times 10^3/\text{ul}$ [10]. SAS Enterprise Guide 4.1 was in use for the analysis of the collected information. T test, Chi square test & ANOVA were in use for the statistical analysis of the information. P value of less than 0.05 was thought to be significant.

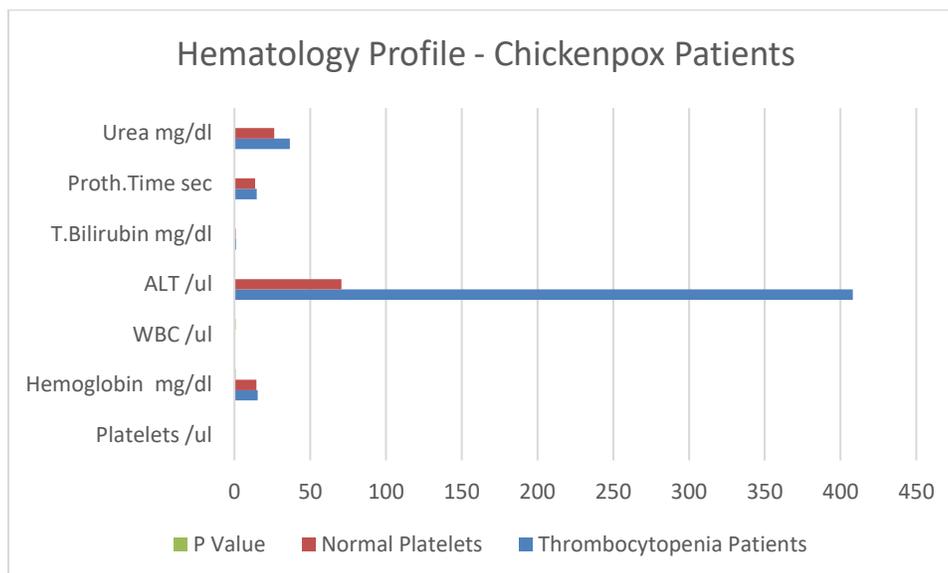
RESULTS:

One hundred and ten patients were the part of this research work. The average age of the patients was 32.9 ± 9.7 years with arrange of fifteen to sixty-five years. Male were greater in quantity than females. There was no age disparity between the members of both groups. Some of the most common symptoms of the disease are difficulty in breathing, itchy skin, high temperature, cough, sputum & pain in the head but no patient found with the past history of the bleeding. Thrombocytopenia developed in 46 patients. The average count of platelet in all patients was $175.8 \pm 106.6 \times 10^3/\text{ul}$. But the average count of the platelets in the chickenpox patients with deficiency of platelets was $111.8 \pm 30.59 \times 10^3/\text{ul}$. High rate of thrombocytopenia was present in the patients who are linked with the pneumonia of varicella, hepatic dysfunction & impairment of the renal. Twelve patients had the low level of haemoglobin, leucopenia was present in three patients & leucocytosis was present in twenty-seven patients as displayed in Table-1. Some of the problems observed in the patients are infection of the skin, encephalitis, ataxia of cerebella, ARDS (acute respiratory distress syndrome) & acute cholecystitis. Acyclovir was in use for sick patients.

Table-I: Hematological and Biochemical data of 110 chickenpox patients

Parameter	Thrombocytopenia Patients	Normal Platelets	P Value
Platelets /ul	$111.80 + 30.50 \times 10^3$	$221.820 + 114.50 \times 10^3$	0.0060
Hemoglobin mg/dl	$15.40 + 1.70$	$14.40 + 1.70$	0.9000
WBC /ul	$8.70 + 4.20 \times 10^3$	$8.90 + 3.90 \times 10^3$	0.8000
ALT /ul	$408.10 + 1376.20$	$70.50 + 128.30$	0.0010
T.Bilirubin mg/dl	$1.00 + 0.70$	$0.80 + 0.70$	0.3000
Proth.Time sec	$14.70 + 2.40$	$13.70 + 0.50$	0.0600

Urea mg/dl	36.50 + 26.50	26.20 + 12.60	0.0100
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DISCUSSION:

There is very high rate of the complications of chickenpox in males, addicts of smoking, males & pregnant females. When this disease occurs in the persons who are unable to give a proper immunity response or adults, the probability of having involvement of the visceral enhances [1, 11, 12]. The manifestations of the haemorrhage are very rare [13]. There is link between chickenpox and thrombocytopenia which involves the decrease of the count of platelets [14]. Two possible mechanisms of pathogenesis are: one contagious with the decrease in the counts of platelets in the duration of viremia; but the next is contagious with thrombocytopenia progressing long period of times [15]. Platelets (Cr15-labelled) research works conclude the mitigation of the marked platelet. IgG & IgM antibody of anti-platelet on platelets is describing the participation of mechanisms of immunity mediated [16].

ITP (Immune thrombocytopenia) is very problem of varicella & it occurs as late complication [17]. Thrombocytopenia starts in the very initial stage of the chickenpox. The rate of the thrombocytopenia in the patients of varicella reported as one percent, about twenty-three percent, thirty percent & forty-five percent in different research works [2, 18, 13, 19]. In this research work, about forty-two percent patients gained thrombocytopenia. Some other research works stated thrombocytopenia as very frequent disorder of blood in the chickenpox patients [20, 21]. There are

no identifiers of prediction that can discover the patients who have the potential to acquire problems of ITP latter [22]. In varicella, the amount of WBC (white blood cell) can be less, elevated or normal. Marked leucocytosis proposes a derived disease [20]. The patients of haemolytic anaemia induced by chickenpox are also in consideration [23]. In this research work, about eleven percent patients had haemoglobin less than the range of reference. Chickenpox once concluded as benign infection disease is no true now. Severe life taking bleeding has been presented in this disease [24]. We did not find any availability of bleeding in the patients of this research work. There was not any requirement of the transfusion of the platelets in our patients. The amount of the platelets reached at its level of reference within two weeks after the start of the treatment. There are no clear routes to differentiate ITP (immune thrombocytopenia) from thrombocytopenia [25].

CONCLUSION:

Thrombocytopenia is a blood disease having association with varicella. The rate of this disease was very high in the patients having disease on the maximum part of their body. This disease has no association with the manifestation of the bleeding & it has no requirement for the transfusion of the bleeding & the count of the platelets increases to the level of reference with the treatment of the chickenpox.

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