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Research Article

**AN OBSERVATIONAL STUDY ABOUT ABNORMAL
HEMATOLOGICAL CHANGES OCCURS IN CHICKEN POX IN
ADULT PATIENTS**¹Dr. Iqra Shahid, ²Dr. Qurat Ul Ain, ³Dr. Talha Rashid, ⁴Dr. Aftab Azam¹WMO, BHU Bhikhi Shareef, Mandi Baha ud Din²Basic Health Unit Qadir Abad, Okara³Rawalpindi Medical College⁴PGR Nephrology, Sir Ganga Ram Hospital Lahore**Abstract:**

Objective: The aim of the study was to know hematological abnormalities in patients with varicella.

Study Design: An Observational Study.

Place and Duration: In the Dermatology Department of BHU Bhikhi Shareef, Mandi Baha ud Din for 1 year period from March 2015 to March 2016.

Patients and methods: In the study 60 male patients aged 15-50 years were selected. Complete blood count (CP) was performed in all cases in the first presentation of the disease with platelet count. After two weeks again blood CP was done. Total leukocyte count (TLC), Blood hemoglobin (Hb) and platelet count (PC) were recorded and comparison done with matched healthy individuals for age and gender.

Results: Hb and platelet count values were found to be normal in patients with bullous chickenpox, but the relatively low platelet count baseline was found. Significant improvement was observed in platelets when Hb and TLC showed a slight change after two weeks ($p < 0.05$). Only platelet counts were significantly different when compared to healthy subjects ($p < .001$).

Conclusion: In varicella anemia is not recorded, but a relative leukopenia may be noted as in other viral infections. In these patients, thrombocytopenia is the most prominent form of varicella, probably due to the antiplatelet autoantibodies production. In patients having thrombocytopenia with varicella Platelet-specific autoantibodies are probably the cause and in these patients look more closely at the platelet count.

Key Words: chickenpox, thrombocytopenia, chicken flower, chickenpox-zoster virus.

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INTRODUCTION:

Varicella (chickenpox) is contagious disease and occur in acute form. This disease is a general rash of vesicles that develop rapidly and in successive cultures turn into crusts and pustules. Chicken pox is a primary infection manifestation with varicella-zoster virus. When acute infection has diminished, the virus herpesviruses remains dormant in a secret form. For this highly contagious virus, people are the only source of infection. Individualized transmission usually occurs through direct contact with varicella or zoster patients, sometimes with secretions of respiratory tract which were airborne and occasional zoster lesions. In the womb Infection can occur also. In a home usually varicella-zoster virus infection causes infection in almost all individuals who are susceptible to infection. In pediatric units Nosocomial transmission are documented in large scale, but infestation in newborn infants is rare. Immunity usually lasts for a lifetime. Symptomatic reinfection is rare in healthy subjects, but symptomatic reinfection occurs. Approximately 90% varicella reported cases occur in 14 years of age, but in young adults and adolescents varicella can spread. Water flowering is most common in early spring and winter. Asymptomatic acute infection is not very common. People with primary (varicella) or zoster recurrent infection who are immunosuppressed are at high risk of serious illness. Because the duration of the chickenpox incubation lasted 10 to 21 days, the cases of uterus that had started from the first 10 days of life were seized. Aquatic plants are also described by the appearance of fire and rash. The speck characteristically turns to the head, center, head skin or on the face and spreads rapidly on the body, but the extremities are not suffered. They start as red macules, but they transform into the cuticles and crusts. Pruritus occurs in most of the cases. There is a potency for new lesions to appear. Childhood infections are mostly benign; However, the in adults disease squal may be severe. Up to 20% of cases Pneumonia cause complications and 40% mortality rates occurs sometimes. Another complication is myocarditis, encephalitis, adrenal insufficiency, pericarditis, hepatic impairment, thrombocytopenic purpura and glomerulonephritis. Chickenpox is usually diagnosed clinically. For confirmation Laboratory tests can be used, but not always mandatory. The WBC level may be low, normal or slightly high. very high leukocytes suggests secondary infection. Growing base vesicles are performed to detect viruses by direct immunofluorescence staining and electron microscopy at the base of the V-Z lesion, but it is usually not necessary. Although it is a good indicator of immunity when there is positive chickenpox, a

clinical disease negative history is not reliable. Treatment of Chickenpox is usually symptomatic. Hot water baths, oats or corn starch can provide comfort and reduce the itching. For dry skin lesions topical Topical calamine lotion can be used. (Acyclovir) Systemic Antivirals are necessary only for those who have chickenpox complications and immunosuppressed people or patients. Passive immunization with VZIG for susceptible individuals is effective for varicella when administered after exposure within 96 hours. Uncomplicated chicken pox prognosis of is excellent. In adults, the varicose veins mortality rate is significantly higher in patients with immunodeficiency and in immunocompromised patients.

MATERIALS AND METHODS:

This observational study occurs in BHU Bhikhi Shareef, Mandi Baha ud Din for one year period from March 2015 to March 2016. In the study 60 total patients from both sexes aged 16-51 years were selected. The large number of the patients were servicemen of the armed forces and their families. In all cases, a full blood picture (PC) including the platelet count was performed in the first presentation after a complete narrative of the disease, the duration and nature of the rash was obtained. In the hospital most of the patients were admitted and were confined to hospital. To see resolution of the lesions (approximately two weeks later) second blood CP was made. Total leukocyte count (TLC), Blood hemoglobin (Hb) and platelet count (PC) were checked at both times. In addition, in thirty healthy subjects blood CP was performed and (Hb, TLC and PC) were recorded in these unaffected healthy subjects which have same results. In both groups the results were compared and data analyzed statistically by Student's t-test.

RESULTS:

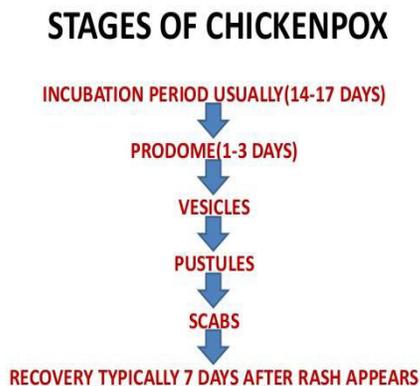
The patients were in a heterogeneous population. 52 were men and 8 were women. The majority of patients were between 20 and 30 years of age approximately in 48 of patients. 26.7 was the average age. After 1-3 days of first rash they reported. Initially, the investigations were on average 14.0 g Hb / dL TLC = $7.1 \times 10^9 / l \times 10^9 / l$ 159.6 platelets. the corresponding findings after the lesions (2 weeks later were 14.1 g / dl, $7.0 \times 10^9 / l$ $199 \times 10^9 / l$. TLC and Hb have not any big change; However, platelet count improvement was in large scale p less than 0.05. In healthy individuals mean findings matched by age and sex; Hb = 13.0 g / dL, TLC = $7.5 \times 10^9 / l$ and PC = $260.0 \times 10^9 / l$. In contrast, TLC, Hb may be in the same value again, but it is significantly lower P less than 0.001 in patients with chickenpox (both at

baseline and after disease resolution).



DISCUSSION:

Chickenpox virus is highly contagious transmitted through droplets and respiratory tract through. 90% of people without antibodies develop the disease approximately after exposure. Lesions in Infected patients occurs before 1-2 days, crusts occurs in all lesions. After 10 to 21 days of incubation period, a prodrome develops from systemic symptoms such as fever, headache and fatigue. After a day or two, a maculopapular vesicular rash develops. Redness follows a classical course every 2 or 3 days with some injuries. The whole journey lasts 6 to 10 days in whole time period of the disease. In primary infection, body is washed by an antibody response mediated by cells. After 2 to 5 days infection IgM, IgG and IgA appear and after 2 to 3 weeks reach at maximum level.



The IgG passes placenta and creates passive immunity. Although there is a significant change in the number of injuries, all primary infections are thought to suppress the immune system. There are several reports in the literature about the development

of recurrent clinical varicella. Most childhood infections are benign; However, the disease can have severe sequelae in adults. Pneumonia can be complicated up to 20% of cases and can be fatal. It is believed that varicella encephalitis is an autoimmune phenomenon and, fortunately, rare. Other complications include myocarditis, pericarditis, adrenal insufficiency, glomerulonephritis, hepatic dysfunction and thrombocytopenic purpura. Post-infectious and immuno-mediated thrombocytopenia may cause hemorrhagic complications 1-2 weeks after the disease. In one study, subclinical thrombocytopenia occurred in 45% of rubella, 30% in mumps, 30% in mumps, and 55% in 55% of affected children. These viral infections should depend on the production of antiplatelet antibodies. In another study, serum IgG antibodies or antibodies were mainly immunized with IgM, electrophoretic varicella and five normal thrombocyte-associated protein antigens with thrombocytopenic children. The glycoproteins GPIb, GPIIb, GPIIIa and other autoimmune mechanisms that cause transient thrombocytopenia are defined as 25-260 kilodalton (kDa) target antigens of other proteins. In another study of this superficial platelet V glycoprotein (GPV), it was discovered that autoimmune thrombocytopenia is the target antigen. The relative leukopenia observed in our patients was not statistically significant when compared with the matched healthy group. Thrombocytopenia did not present hemorrhagic attacks present in the majority of our cases, but was dangerous at low levels. In two closely followed patients, PC was found to be less than 100, but the number of patients increased according to other disease.

CONCLUSION:

Transient thrombocytopenia as an autoimmune phenomenon is a common condition in varicella

patients and has a fatal complication rarely. The doctor should closely monitor the platelet count in these patients.

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