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TO DETERMINE THE UNDIAGNOSED DIABETES MELLITUS FREQUENCY IN HERPES ZOSTER INFECTED PATIENTS

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Abstract:

Objective: *To evaluate the incidence of undiagnosed diabetes mellitus in herpes zoster patients.*

Study design: *A Descriptive cross-sectional study.*

Methods: *All patients of 18 years old or above and of both genders, diagnosed as herpes zoster, registered to the Medicine Unit II and Dermatology Department of Services Hospital Lahore for one-year duration from May 2018 to May 2019 were included.*

Results: *Most of the subjects i.e., above 50 years of age were 59(59%), the males from them were 62(62%) while undiagnosed diabetes mellitus frequency in herpes zoster patients was noted in 44(44%) patients while no findings were observed in 56(56%) of undiagnosed diabetes mellitus.*

Conclusion: *The incidence of undiagnosed diabetes mellitus is advanced in herpes zoster infected patients. Therefore, it is suggested that all patients came with symptoms of herpes zoster be selected for screening of diabetes mellitus. However, it is as well necessary that each configuration be monitored to know the frequency of the problem.*

Key Words: *Herpes zoster, undiagnosed diabetes mellitus, frequency.*

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INTRODUCTION:

Herpes zoster (or simply zoster), usually called shingles, is a viral disease categorised by tender skin rash with pain and blisters in a confined region of the body, usually in the form of a strip[1-2]. This is due to the latent varicella zoster virus (VZV) reactivation in the sensory nerves dorsal root ganglia, which is common in the aged, but sometimes occur after an intrauterine infection or in younger patients. In the United States, herpes zoster occurs in approximately one million people per year, causing serious morbidity[3-4]. The cumulative incidence for life is about 10 to 20% of the population. Incidence rates gradually increase with age, possibly due to a decrease in specific cellular immunity of VZV. DM consists of a group of metabolic disorders that share the phenotype of hyperglycemia[5]. In the last 20 years; DM incidence has increased. The frequency and severity of infection is higher in people with DM. Almost only a few rare infections are seen in the diabetic population. Causes include phagocyte functions associated with cell-mediated immunity abnormalities and hyperglycemia. Un-detected DM, particularly type II, usually occurs with 5 to 7 years delay between the diagnosis and onset of disease. 50% of population are estimated to be ignorant of their illness. The undiagnosed DM incidence increases with time of life[6-7]. The undiagnosed fraction size of diabetic adults is an important problem of public health highlighted by the indication that the later stage may be long and complications may occur related to diabetes mellitus[8-9]. In our daily clinical practice, while treating a large number of patients suffering from herpes zoster virus, most of whom are diagnosed with diabetes mellitus, a significant proportion is undiagnosed diabetes mellitus, but we plan to study this. The undiagnosed diabetes frequency can be recorded in cases of Herpes zoster.

MATERIALS AND METHODS:

A total of 100 cases of herpes zoster admitted to the Dermatology and Medicine Unit II of Services Hospital Lahore for one-year duration from May 2018 to May 2019 were included in the study. Patients of any age 18 years and older were included in the study. Patients with diabetes mellitus history and identified immunosuppressive ailments (chemotherapy, HIV infections, neoplastic disorders, transplantation) and medications that increased blood sugar levels (beta blockers, corticosteroids, thiazides and thyroid hormones) were excluded. Informed consent was obtained from patients to include their data in the study. Demographic data of the patients including symptoms, dermatoma, related systemic disease and problems were recorded in a pre-designed form. CDC guidelines were followed with history and clinical examination for the diagnosis of the disease. All people without a history of diabetes were evaluated for diabetes mellitus. Twelve hours of fasting blood samples were taken from each of them to measure FPG with a standard laboratory test. Subjects were considered not to be diagnosed with diabetes when the FPG level was same to or higher than 126 mg / 100 ml. In SPSS version 18.0; data were analysed and recorded. The percentage and frequency of undiagnosed diabetes mellitus were recorded and presented when assessing FPG levels. Frequency and percentage for sex distribution were also calculated. Mean and standard deviation for age were calculated.

RESULTS:

The age distribution of the patients shows 17 percent were between 18-30 years, 24 (24%) between 31-50 years and 59 (59%) between> 50 years. ± SD was calculated as 39.43 ± 5.32 (Table 1).

Table 1: Age distribution of the subjects (n=100)

Age	n=	%age
18-30	17	17
31-50	24	24
Above 50	59	59

Means± SD : 39.43+ 5.32

The gender distribution of the patients is presented in Table 2, where 62 (62%) were male and 38 (38%) were female (Table 2).

Table 2: Gender distribution (n=100)

Gender	n=	%age
Male	62	62
Female	38	38

The incidence of undiagnosed diabetes mellitus in herpes zoster patients was recorded in 44 (44%) patients, while 56 (56%) had no undiagnosed diabetes findings (Table 3).

Table 3: Frequency of undiagnosed diabetes mellitus in patients with herpes zoster (n=100)

Undiagnosed diabetes mellitus	n=	%age
Yes	44	44
No	56	56

DISCUSSION:

Herpes zoster (HZ) or shingles is a common infectious disease. Prior to varicella vaccine discovery, the natural infection prevalence was above 90%. After VZV infection of acute phase, a latent infection is found in the sensitive nodes[9-10]. Elderly people, subjects with neoplastic disorders (mainly

lymphoproliferative cancers), immunosuppressed patients, and people who are HIV seropositive have high risk of HZ due to transformed cellular immunity[11]. Diabetes mellitus (DM) is mostly supplemented by worsening mediated cellular immunity, and earlier analysis have shown that patients with DM have much frequent infections than people without DM[12]. Loss of cellular immunity is probably associated with DM duration and impaired glycemic control. Therefore, the HZ risk is expected to increase in patients with DM, and especially in cases with poor glycemic control and long-standing DM. In this study, we investigated the incidence of undiagnosed diabetes mellitus in herpes zoster patients. Age distribution was the majority of patients, ie> 50 years, 59 (59%), 62 (62%) males, whereas the prevalence of diagnostic diabetes mellitus in herpes zoster patients was 44 (44%), 56 (56% 56)[13]. The findings of our study on the incidence of undiagnosed diabetes mellitus are included in an Indian study that determines whether undetected DM is much usual than in HZ patients. DM was present in 19.7% of HZ and control groups. There was strong relationship between undiagnosed DM and HZ (OR = 2.28, 95% CI: 1.28–4.06). In other analysis, about 140 patients with HZ, DM was noted in 13.5% of patients which was higher significantly than the overall incidence of 2%. According to the age of the patients, the incidence increases to 17% during stratification. In the Cerny study, twelve cases with repeated HZ were examined[14]. DM was observed in 3 patients. In 31 HZ cases with neurological complications; Smoking with diabetes is a presumed risk factor of 53%. Another analysis indicates that type 2 diabetes mellitus is related with high HZ risk (OR = 1.53; 95% CI 1.44-1.62) 17, which indicates that diabetes mellitus is a risk factor of herpes zoster infection[15]. Another local study to evaluate the herpes zoster frequency in Liaquat University Hospital, Hyderabad, and noted that diabetes mellitus is among the most common systemic diseases observed with herpes zoster.

CONCLUSION:

However, the incidence of undiagnosed diabetes mellitus in herpes zoster patients is significantly higher, and early diagnosis of diabetes mellitus should be made possible in order to start the appropriate treatment in time and prevent complications.

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