Section: General Medicine

Original Research Article

FIRST TIME PRESENTATION OF TYPE 2 DIABETES WITH ATYPICAL PAIN AND ITS CORRELATION WITH HBA1C LEVEL

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ABSTRACT

Background: New cases of Diabetes are increasing daily worldwide (>800 million currently as in Lancet/WHO)(7) , so it is very important to diagnose the new case of Diabetes without fail on first visit. Not all patients going to present with common symptoms We found such Atypical pain in these patients on their first time presentation in OPD and its significant correlation with high level of HbA1C level.

Materials and Methods: Total of 50 Patients with first time detected Diabetes were studied for presenting symptoms and their HbA1 level were correlated.

Results: Significant number of patients were presented with Atypical pain and this symptom were significantly correlated with HbA1c level.

Conclusion: The study shows importance of Atypical pain with Age and other presenting symptoms as screening parameter for Diabetes Mellitus.

Keywords: First time, Diabetes, Atypical pain, HbA1C.

INTRODUCTION

DM and its complications produce a wide range of symptoms and signs; those secondary to acute hyperglycaemia may occur at any stage of the disease, whereas those related to chronic hyperglycaemia typically begin to appear during the second decade of hyperglycaemia.[1-5] Because of long delays in clinical recognition, individuals with previously undetected type 2 DM may present with chronic complications of DM at the time of diagnosis. The history and physical examination should assess for symptoms or signs of acute hyperglycaemia and screen for chronic microvascular and macrovascular complications and conditions associated with DM.[6-8]

As we all know symptoms of hyperglycaemia include polyuria, polydipsia, weight loss, fatigue, weakness, blurry vision, frequent superficial infections (vaginitis, fungal skin infections), and slow healing of skin lesions after minor trauma. Metabolic derangements relate mostly to hyperglycaemia (osmotic diuresis) and to the catabolic state of the patient (urinary loss of glucose and calories, muscle breakdown due to protein degradation and decreased protein synthesis).[3] Blurred vision results from changes in the water content of the lens and resolves as hyperglycaemia is controlled. After the risk factors like inactivity, family history, age, etc. signs and symptoms are helpful in diagnosing Diabetes. Other symptoms like nausea, drowsiness, dry skin, hunger can also be there in diabetes. Before asking for the complaint it is important to see for the risk factors for diabetes like strong family history, age > 40, BMI > 23 and waist > 88cm, previous history of gestational diabetes or PCOS.[5]

In a patient with established DM, the initial assessment should include a review of symptoms at the time of the initial diabetes diagnosis. This is an essential part of the history that can help define whether the correct type of DM has been diagnosed. Diabetes-related complications may affect several organ systems, and an individual patient may exhibit some, all, or none of the symptoms related to the complications of DM. Pain in various parts of the body In Diabetes is due to multiple factors like neuropathy, inflammatory, ischemic, etc.[9-14]

MATERIALS AND METHODS

This is Retrospective study. Patients who came to OPD and diagnosed as DM first time was included in the study. Than checked for their symptoms written in their OPD case paper. The details were entered in

proforma like presenting symptoms, RBS, HbA1c, etc. Then symptoms were also correlated with their HbA1c level. High HbA1c level considered as >9. Patients already diagnosed for DM were not included in the study. Other comorbidities were not considered. Patients with Body pain as a symptom were presented with pain in back, legs, foot, large joints and muscular pain.

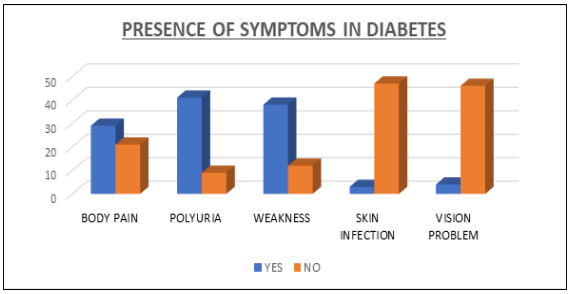

Table 1: Presence of symptoms and its correlation with HbA1c levels

Symptoms	Patient count	Percentage	HbA1C > 9	HbA1C < 9	p value
Body pain	29	58	23	6	0.003
Polyuria	41	82	29	12	0.000013
Weakness	38	76	26	12	0.0276
Skin infection	3	6	3	0	0.544
Vision problem	4	8	4	0	0.287

RESULTS

Out of 50 patients 29(78%) had body pain in their presenting symptoms. With their HbA1c level it was found to have significant correlation with high values of HbA1c level. Other symptoms like Polyuria (82%), Weakness (76%), Skin infection(6%), Vision problems (8%) were also noted and correlated. There is significant co-relation between high HbA1C level (>9) and presence of Body pain in symptom with 'p' value of 0.003. There is also significant correlation between high HbA1c level and presence of Polyurea ('p'value = 0.000013) and Weakness ('p' value = 0.0276) as presenting symptoms in Diabetes patients.

DISCUSSION

Findings of this retrospective study highlight key insights into the presentation of type 2 diabetes mellitus (DM) at first diagnosis, particularly emphasizing the role of atypical body pain as a significant symptom correlated with elevated HbA1c levels. Traditionally, classic symptoms of hyperglycemia such as polyuria, polydipsia, unexplain weight loss, and fatigue have formed the cornerstone of diabetes screening and diagnosis. However, this study underscores the importance of considering atypical presentations like body pain, which was present in 58% of patients and significantly associated with a higher HbA1c (>9), indicating poor glycemic control at diagnosis.

Screening for diabetes and early diagnosing is always necessary as early detection can give lower HbA1c level and it also reduces morbidity and mortality related to diabetes[17].

One study on clinical features of Diabetes type 2 with respect to gender done by Javeria Ali et al. also showed symptom of muscular pain in higher frequency in female. One large nationwide study done by Veronica Brady et al. also found pain among the common symptoms in T2DM.[16]

Studies done by Daisy Duan, et al on screening of Diabetes showed significance of presence of risk factors[15].

Various studies had been done for identifying screening criteria and to diagnose Diabetes in population earlier like involving community pharmacies, Genetic screening[18] etc. All the approaches are effective and methods should be used as per the level of centre for early detection and prevention of diabetes.

The prevalence of body pain, reported in various forms including back, leg, foot, large joints, and muscular pain, is notable because such symptoms are often overlooked or misattributed to other chronic conditions, especially in middle-aged and older adults with risk factors such as family history, elevated BMI, and waist circumference. The significant correlation between body pain and high HbA1c suggests that metabolic derangements due to prolonged and uncontrolled hyperglycemia may contribute to musculoskeletal and neuropathic pain. This finding advocates for increased clinical vigilance and consideration of diabetes in patients presenting with unexplained musculoskeletal pain, potentially allowing earlier diagnosis and intervention.

In addition to atypical pain, classic symptoms such as polyuria and weakness showed strong association with elevated HbA1c levels, reaffirming their diagnostic value. The link between skin infections and vision problems with higher HbA1c was not statistically significant in this study, possibly due to the smaller number of affected patients, but these symptoms remain important clinical markers of diabetes complications.

This study contributes to the growing evidence that diabetes can present with a broad spectrum of symptoms beyond the classical manifestations. Incorporating atypical symptoms like body pain into screening protocols, especially among at-risk populations aged above 40 with obesity or family history, may improve early detection rates. Early diagnosis is critical to prevent long-term

complications and to initiate timely glycemic control measures.

Limitations of the study include its retrospective design and lack of consideration of comorbid conditions, which may also influence symptom presentation. Future prospective studies could further elucidate mechanisms linking hyperglycemia and atypical pain, and assess the impact of early recognition of these symptoms on diabetes outcomes. Overall, this research highlights the importance of a holistic approach to diabetes screening that includes atypical pain symptoms alongside classical signs, supporting more comprehensive and sensitive diagnostic strategies to effectively identify type 2 diabetes at an earlier stage.

CONCLUSION

The study shows importance of Atypical pain with Age and other presenting symptoms as screening parameter for Diabetes Mellitus.

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