Cukurova Medical Journal
ÇUKUROVA ÜNİVERSİTESİ TIP FAKÜLTESİ

Cukurova Med J 2022;47(4):1784-1786
DOI: 10.17826/cumj.1170881

EDİTÖRE MEKTUP / LETTER TO THE EDITOR

Type 2 diabetes and atrial fibrillation could cause transient ischemic attack

Tip 2 diyabet ve atriyal fibrilasyon geçici iskemik atağa neden olabilir

Özden Gökdemir[1], Ülku Bulut Batur[2], Anıl Gürkan[3]

[1]Izmir University of Economics, Faculty of Medicine, Department of Family Medicine, İzmir, Turkey
[2]Aksaray University Faculty of Medicine, Department of Family Medicine, Aksaray, Turkey
[3]Independent researcher, İzmir, Turkey

Cukurova Medical Journal 2022;47(4):1784-1786

To the Editor,

Diabetes mellitus is still one of the common chronic problems of not only rural areas, but also urban cities[1,2] While the regulation of blood sugar metabolism is one of the most important tasks, the demands of patients living with DM can trammel primary care physicians. Primary care physicians (PCPs) are faced with a number of challenges when treating patients with type 2 diabetes (T2DM), including managing patients who are primarily asymptomatic in the early stages of the disease, and a complex range of complications as the condition worsens[3].

In primary care, where patients can receive care closer to home, routine diabetes management is increasingly provided. Understanding the variables that affect the effectiveness of diabetes management in primary care may help developing strategies for enhancing adherence to evidence-based care and adjusting quality improvement (QI) interventions to the situation at hand[4]. As the number of DM patients increases, so do the complications. These include blood clotting, diabetic retinopathy, hypertension, chronic kidney disease, and foot ulcers, all of which sharply decreases patients' productivity and life expectancy[5].

Transient ischemic attack (TIA) is a significant risk factor for stroke. The risk of having an ischemic stroke within 90 days of having a TIA is as high as 17%, with approximately half of these strokes occurring within 7 days[6].

In this case, 64-year-old female patient diagnosed with DM and hypertension for at least 5 years was attending the surgery for nuisance and dysuria. Bacteriuria was detected and blood sugar was 550 mg/dl WBC= 12.48 CRP: 7 HbA1C: 10.4 % Her neurologic examination was normal, except for her urinary incontinence. She was hospitalized with a diagnosis of DM, HT, and cystitis and prescribed Metformin 2x1gr, 1x 40 mg, ceftriaxone 2x1gr, insulin glargine. She was given Diabetic patient education. During follow-up, her blood sugar regulation had settled but she complained of palpitation, ECG was performed, and she was diagnosed with AF (atrial fibrillation). Her blood pressure was 120/80 and metoprolol infusion was made. INR: 1,44 sec PT=17sn creatine=0,9 mg/dl. Control ECG was at sinus rhythm. During recovery, she underwent an internal medicine consultation, and was due to be discharged. However, she complained about "not being able to talk". In her neurologic examination, her left arm was found to have lost of strength (3/5) and although she could hear and understand, she could not speak. She was transferred to another health center for detection and treatment as pre-diagnose of Transient Ischemic Attack (TIA).

Diabetes-related complications have traditionally included macrovascular conditions such as coronary

Yazışma Adresi/Address for Correspondence: Dr. Özden Gökdemir, Izmir University of Economics, Faculty of Medicine, Department of Family Medicine, İzmir, Turkey Email: gokdemirozden@gmail.com
Geliş tarihi/Received: 04.09.2022 Kabul tarihi/Accepted: 02.11.2022

heart disease, stroke, and peripheral arterial disease, as well as microvascular conditions such as diabetic kidney disease, retinopathy, and peripheral neuropathy.[7] The dramatic rise in the prevalence of type 2 diabetes is almost certainly due to the rise in the prevalence of obesity. The metabolic syndrome is thought to affect at least one in every five adults and is associated with an increased risk of type 2 diabetes and CVD. Diabetes, if not treated properly, can lead to a variety of serious complications.[8] As vascular disease mortality has decreased, cancer and dementia have become the leading causes of death among people with diabetes mellitus[7].

Harris et all reported that the most highly regarded strategy for achieving glycemic target levels was to reinforce lifestyle choices (79%)[3]. According to the guidelines, lifestyle medicine approach and social prescribing could be useful tools to overcome the onset of DM and its increasing range of complications[9]. It takes time to implement a maintainable lifestyle change that could straightforwardly address the underlying causes of the most challenging chronic health issues (rather than simply treating their obvious signs). Despite the great potential and demonstrated efficacy of lifestyle modification for prevention, management, and even reversal of the disease, some studies estimate very high non-adherence rates to lifestyle counselling. There are definitely various factors that both affect patients and healthcare practitioners that result in these unsatisfactory consequences (e.g., inadequate training in the field of lifestyle medicine, insufficient time for effective lifestyle interventions during primary care visits, and inadequate reimbursement) (for example, insufficient knowledge and low level of health literacy, low socioeconomic status)[10].

Basic neurologic physical examination is needed, not only in neurology clinics, but also in primary care. Although tools such as EMG, EEG may not be available in every clinic, it should be possible to carry out inspection, palpitation, percussion" and the "reflex hammer" in all circumstances.

To achieve appropriate follow-up conditions, it is essential to document "the findings". In this way, changes could be made , and the necessary approaches adopted [11]. For example, in this case, the patient was from a rural area, and in the first physical examination record, for the neurologic findings no positive reports were made except for incontinence.

The FAST algorithm (Face, Arm, Speech, Time) aids in the detection of individuals experiencing an acute stroke. According to Aroor et al "In a sensitivity analysis, the percentage of stroke patients who would be missed decreased from 14.1% to 9.9% if face weakness, arm weakness, or speech impairment on the evaluation period were taken into account in addition to a documented history of FAST symptoms". Therefore, it is possible that over 95% of ischemic strokes could be detected by BE-FAST (Balance, Eyes, Face, Arm, Speech, Time), and with the implementation of revised "learning tools" for practitioners and public, with well-structured education programs designed according to evidence-based studies[12] . According to the guidelines, lifestyle medicine approach and social prescribing could be useful tools to overcome the onset and the increasing complications of DM.

Yazar Katkıları: Çalışma konsepti/Tasarımı: ÖG; Veri toplama: ÖG; Veri analizi ve yorumlama: AG; Yazı taslağı: OG, ÜBB, AG; İçeriğin eleştirel incelenmesi: OG, ÜBB, AG; Son onay ve sorumluluk: ÖG, ÜBB, AG; Teknik ve malzeme desteği: ÖG, AG; Süpervizyon: ÖG, ÜBB; Fon sağlama (mevcut ise): yok.
Etik Onay: Bu çalışma olgu sunumu olması nedeniyle etik onay gerekmemektedir.
Hakem Değerlendirmesi: Editoryal değerlendirme.
Çıkar Çatışması: Yazarlar çıkar çatışması beyan etmemişlerdir.
Finansal Destek: Yazarlar finansal destek beyan etmemişlerdir.

Author Contributions: Concept/Design : ÖG; Data acquisition: ÖG; Data analysis and interpretation: AG; Drafting manuscript: OG, ÜBB, AG; Critical revision of manuscript: OG, ÜBB, AG; Final approval and accountability: OG, ÜBB, AG; Technical or material support: : ÖG, AG; Supervision: ÖG, ÜBB; Securing funding (if available): n/a.
Ethical Approval: Ethical approval is not required due to the fact that this study is a case report.
Peer-review: Editorial review.
Conflict of Interest: Authors declared no conflict of interest.
Financial Disclosure: Authors declared no financial support

REFERENCES

1. Aung WP, Htet AS, Bjertness E, Stigum H, Chongsuvivatwong V, Kjøllesdal MKR. Urban-rural differences in the prevalence of diabetes mellitus among 25-74 year-old adults of the Yangon Region, Myanmar: two cross-sectional studies. BMJ Open. 2018;8:e020406.
2. Gokdemir O, Ersil Soysal D. Brittle diabetes needs patient centered treatment and lifestyle modification in the rural. GMJ. 2022;33:270-2.
3. Harris SB, Ekoé JM, Zdanowicz Y, Webster-Bogaert S. Glycemic control and morbidity in the Canadian primary care setting (results of the diabetes in Canada evaluation study). Diabetes Res Clin Pract. 2005;70:90-7.
4. Riordan F, McHugh SM, O'Donovan C, Mtshede MN, Kearney PM. The role of physician and practice characteristics in the quality of diabetes management in primary care: systematic review and meta-analysis. J Gen Intern Med. 2020;35:1836-48.

5. Pham TB, Nguyen TT, Truong HT, Trinh CH, Du HNT, Ngo TT et al. Effects of diabetic complications on health-related quality of life ımpairment in vietnamese patients with type 2 diabetes. J Diabetes Res. 2020;2020:4360804.
6. Isaman DJM, Herman WH, Ye W. Prediction of transient ischemic attack and minor stroke in people with type 2 diabetes mellitus. J Diabetes Complications. 2021;35:107911..
7. Tomic D, Shaw JE, Magliano DJ. The burden and risks of emerging complications of diabetes mellitus. Nat Rev Endocrinol. 2022;18:525-39.
8. Chen R, Ovbiagele B, Feng W. Diabetes and stroke: epidemiology, pathophysiology, pharmaceuticals and outcomes. Am J Med Sci. 2016;351:380-6.
9. American Diabetes Association. 5. Lifestyle Management: Standards of medical care in diabetes-2019. Diabetes Care. 2019;42:46-60.
10. Baska A, Kurpas D, Kenkre J, Vidal-Alaball J, Petrazzuoli F, Dolan M et al. Social prescribing and lifestyle medicine-a remedy to chronic health problems? Int J Environ Res Public Health. 2021;18:10096.
11. Duvekot MHC, Kerkhoff H, Venema E, Bos HWDJC, Smeekes D, Buijck BI et al.. Medical attention seeking by suspected stroke patients: Emergency medical services or general practitioner? Clin Neurol Neurosurg. 2022;218:107297.
12. Aroor S, Singh R, Goldstein LB. BE-FAST (Balance, Eyes, Face, Arm, Speech, Time): Reducing the proportion of strokes missed using the fast mnemonic. Stroke. 2017;48:479-81.