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Resolution of Migraine with Aura Associated with Warfarin Use: A Case Report

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ABSTRACT

Warfarin is recommended for patients who typically require anticoagulants. Myocardial infarction (MI), deep vein thrombosis (DVT), and stroke are among the common conditions for which warfarin is prescribed. Many physicians choose warfarin because it allows for direct monitoring. Additionally, it is available in a variety of dosages, allowing healthcare professionals to monitor the international normalized ratio (INR) and guarantee the best possible anticoagulation for their patients. Warfarin inhibits the production of several coagulation factors by acting as a vitamin K antagonist. Warfarin also has the advantage of being reversible with vitamin K. Reports from the literature have shown that warfarin helps some adult individuals with migraine headaches. This case study demonstrates how individuals with migraine headaches may benefit from continuing warfarin therapy, regardless of the medication's original indication. We describe a case of a 52-year-old man for whom warfarin was crucial in preserving the abortive advantage of migraine headaches and associated visual abnormalities, even though these outcomes are rare and incidental. Based on our case and others documented in the literature, warfarin therapy may be beneficial for individuals with migraine headaches and associated aura. The rapid initiation of warfarin therapy in reducing migraine symptoms is encouraging and deserves further investigation.

Keywords: Warfarin, Migraines, Visual aura, Abortive therapy, Anticoagulation

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Introduction

Warfarin has been shown in the literature to help people with migraine headaches [1-6]. The discovery is typically accidental, even if the mechanism of warfarin does not support its effectiveness for migraines [7-9]. This case report details the unanticipated findings of a 53-year-old man whose warfarin treatment relieved his aura and migraines.

Case Report

This 53-year-old man has a history of myocardial infarction (MI), migraines with aura, hypertension (HTN), and type 2 diabetes mellitus (T2DM). Warfarin was prescribed in September 2020 for the patient's MI following the implantation of a bare metal stent. **Table 1** is an illustration of a list of patient medicines.
Below is a paraphrased version of the provided tables from the case report, maintaining the original structure and content but rephrased for clarity and conciseness.

Table 1. Medications in September 2020

Medication	Dosage	Frequency
Vitamin D3	1000 IU capsule	One capsule orally daily
Vitamin B12	1000 mcg tablet	One tablet orally daily

Metformin HCl	750 mg extended-release tablet	Two tablets orally daily
Warfarin	5 mg tablet	One tablet orally daily as directed
Lisinopril	10 mg tablet	One tablet orally daily
Atorvastatin	40 mg tablet	One tablet orally daily

Following the patient's visit to cardiology in September 2021, aspirin was begun, and warfarin and clopidogrel were stopped. When using warfarin for the previous 12 months, the patient did not report any indications or signs associated with migraine headaches.

The patient reported experiencing more frequent headaches and visual field disruptions around the end of September 2021, which were relieved by taking two 500 mg tablets of paracetamol twice a day. The patient was referred to neurology for additional evaluation after reporting taking daily dosages of paracetamol for headaches. Neurology sent the patient to ophthalmology for an eye examination after reporting normal computed tomography (CT) scanning. After a normal eye exam, the patient was told to see their primary care physician again. **Table 2** shows the drug list for the patient during this appointment.

Table 2. Medications in September 2021

Medication	Dosage	Frequency
Vitamin D3	1000 IU capsule	One capsule orally daily
Vitamin B12	1000 mcg tablet	One tablet orally daily
Metformin HCl	750 mg extended-release tablet	Two tablets orally daily
Lisinopril	10 mg tablet	One tablet orally daily
Atorvastatin	40 mg tablet	One tablet orally daily
Aspirin	100 mg tablet	One tablet orally daily
Paracetamol	500 mg tablet	Two tablets orally twice daily

When paracetamol and ibuprofen failed to alleviate his weariness, visual difficulties, and worsening migraines, he visited the emergency department (ER) in November 2021. Without hypoglycemia, the laboratory results showed an HbA1c of 6.3%, which was not noteworthy. The patient had worries about his idea that taking a 5 mg oral tablet of warfarin once a day for a year would control his migraines. The medication was resumed, and the patient was sent home to see his primary care physician. **Table 3** displays the patient's medication list for this appointment.

Table 3. Medications in November 2021

Medication	Dosage	Frequency
Vitamin D3	1000 IU capsule	One capsule orally daily
Vitamin B12	1000 mcg tablet	One tablet orally daily
Metformin HCl	750 mg extended-release tablet	Two tablets orally daily
Lisinopril	10 mg tablet	One tablet orally daily
Atorvastatin	40 mg tablet	One tablet orally daily
Aspirin	100 mg tablet	One tablet orally daily
Warfarin	5 mg tablet	One tablet orally daily as directed

During the three weeks after the warfarin restart at the main care appointment in December 2021, the patient stated that the headaches and visual problems had stopped. Along with additional drugs, warfarin treatment was continued with an international normalized ratio (INR) target of 2.5.

In January 2022, the patient's bimonthly follow-up visit with the anticoagulation clinic revealed that he was taking warfarin without experiencing any bleeding, headaches, or vision impairments. For appointments in December 2021 and January, the INR was 2.7, 2.6, 2.7, and 2.5, respectively.

Results and Discussion

We provide an accidental discovery of warfarin's effectiveness in migraine headaches with visual aura and symptom return after discontinuing warfarin. This article illustrates how people with headaches and migraines could gain from taking warfarin after their signs have been stopped for a year and their visual abnormalities have returned as a result of stopping the medication.

Similar cases with comparable patient presentations have been documented in the literature, despite the paucity of data supporting warfarin's effectiveness for migraine headaches [1-6]. There have been documented instances of warfarin helping migraine sufferers completely or partially eradicate their migraine symptoms.

Researchers conducted a retrospective observational investigation to investigate the link between warfarin medication and migraine signs [10]. Participants in the experiment included those using ergotamine or sumatriptan in combination with acenocoumarol/phenprocoumon or acetylsalicylic acid, which are coumarin derivatives that have vitamin K antagonistic effects comparable to those of warfarin. The study found that vitamin K antagonism significantly lowered the severity of abortive migraine treatment by 40% compared to 4.7% in the acetylsalicylic acid group ($P<0.004$).

Acenocoumarin and propranolol did not vary in their effectiveness in treating migraine headaches in a crossover experiment [11]. When the same patients were given acenocoumarin again, they saw no improvement in their migraines, according to another case series investigation of two patients receiving warfarin medication [12].

A male patient with a target INR of 2.5 who was prescribed warfarin medication for MI was included in our case. It is unknown if treating adult patients' migraine headaches with a lower or higher INR might have an abortive effect. Furthermore, whether the abortive advantage of warfarin medication is long-lasting is unclear.

Conclusion

Warfarin treatment may help individuals with migraine headaches and the accompanying visual aura, according to our case and other cases documented in the literature. Warfarin therapy's quick start in easing migraine symptoms is encouraging and merits more research.

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Conflict of Interest: None

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