The Importance of Stroke Prevention in Atrial Fibrillation: Literature Review

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Strokes caused by atrial fibrillation are a worldwide issue that has caused significant debilitation and even death in thousands of individuals. Due to atrial fibrillation causing many severe strokes, approximately one in every seven strokes, there needs to be better stroke prevention (CDC, 2020). The purpose of this literature review is for improved and optimum preventative treatment of atrial fibrillation-related strokes to stop strokes from occurring, rather than waiting for a stroke to happen.

Stroke prevention in atrial fibrillation

To summarize, this article discusses the importance of preventative treatments for strokes caused by atrial fibrillation. The article breaks stroke prevention down intro three significant parts. Part one of the article includes identifying stroke risk in patients with atrial fibrillation. Next, part two establishes a system to recognize the phase before atrial fibrillation signs and symptoms occur. Finally, part three is to achieve and implement successful treatment through the use of vitamin K antagonist (VKA) medications and appropriate monitoring of the international normalized ration (INR), strict adherence to prescribed thromboprophylaxis drugs, and stabilize treatments for a long duration and even for life (Freedman et al., 2016). Further, this article ties together the importance of risk factor identification and administering the right therapy, oral anticoagulants (OACs), to prevent stroke in the setting of atrial fibrillation (Freedman et al., 2016).

This study raises concern and emphasizes the need for better stroke prevention in atrial fibrillation-related strokes. Approximately 85% of ischemic strokes are associated with and traces back to the origins of atrial fibrillation (Freedman et al., 2016). This article reports that in

over 25% of strokes, stroke is the first clinical manifestation of undiagnosed atrial fibrillation (Freedman et al., 2016). Stroke prevention includes the utilization of appropriate oral anticoagulation (OAC) therapy; OAC therapy includes either a vitamin k antagonist (VKA) or novel oral anticoagulant (NOAC) (Freedman et al., 2016). Many strokes that have an undetermined cause, now labeled as cryptogenic, should be considered to be defined as an embolic stroke of undetermined source (ESUS) (Freedman et al., 2016). This article points out that a large proportion of patients with ESUS have paroxysmal atrial fibrillation that was previously undiagnosed (Freedman et al., 2016).

Various studies have shown more reliance on antiplatelet drugs with OAC treatments; this shows underuse of OAC in patients diagnosed with atrial fibrillation who are at greater risk of stroke (Freedman et al., 2016). Also, this study states that replacing aspirin with OACs, and prescribing OACs for the 20% of high-risk patients with known atrial fibrillation who receive no OAC treatment comprises a reasonable solution to reduce the atrial fibrillation for the burden of stroke (Freedman et al., 2016). In addition, this article stressed the importance of the effectiveness of OAC treatments in reducing the risk of stroke from 4% to 1% after only 1.5 years compared with no treatment (Freedman et al., 2016).

Many patients who suffer from atrial fibrillation-related strokes are not adequately anticoagulated when they should be, which may lead to significant loss of function or death (Freedman et al., 2016). Patients who maintain compliance with prescribed oral anticoagulants such as warfarin is crucial to stroke prevention (Freedman et al., 2016). However, the researchers discovered that 21-50% of patients discontinue vitamin K antagonists after one year of prescription (Freedman et al., 2016). In addition, many patients are non-persistent with medication that prevents atrial fibrillation caused by strokes (Freedman et al., 2016).

Key Points

Patients need to adhere to taking their prescriptions for oral anticoagulants or thromboprophylaxis drugs (Freedman et al., 2016). By adhering to prescriptions, patients will successfully prevent strokes from occurring. Case studies and testing need to identify atrial fibrillation with or without symptoms readily. Finally, tests such as international normalized ratio (INR) need monitoring to ensure drug therapy is safe and effective (Freedman et al., 2016). The study found that stroke prevention was successful and accurate in all patients when patients and staff followed the three concepts mentioned (Freedman et al., 2016).

Another critical point is the replacement of aspirin with oral anticoagulants. According to the article, oral anticoagulants and vitamin K antagonist treatments have a higher rate of successful stroke prevention than aspirin (Freedman et al., 2016). Furthermore, the article explicitly reiterates that VKA treatment is significantly beneficial with INR ranges and overall treatment than aspirin or placebo.

Assumptions

The main assumptions underlying the author's thinking are that patients with atrial fibrillation want to have their unidentified atrial fibrillation diagnosed and then subsequently obtain OAC treatment or medications to prevent strokes (Freedman et al., 2016). In addition, the authors seem to assume that patients with atrial fibrillation know atrial fibrillation and its associated risk factors for stroke (Freedman et al., 2016). Therefore, patients will have the resources to undergo diagnostic testing, seek consultation with a heart specialist, and then be able to pursue further treatment or prevention strategies (Freedman et al., 2016).

Deficit/Conclusion

The researchers of this article want to raise awareness of how undertreated atrial fibrillation is. Also, the article emphasizes that unrecognized atrial fibrillation causes severe debilitation and even fatality (Freedman et al., 2016). Yes, I accept the author's line of reasoning due to how many stroke patients I worked with during clinical. Interestingly, most of the stroke patients I came into contact with had a past medical history of atrial fibrillation. Most of their strokes traced back to atrial fibrillation and the need for stroke prevention going forward. The main implication is that better treatment of atrial fibrillation will prevent atrial fibrillation-related strokes from occurring and lower this specific patient population (Freedman et al., 2016). Another imperative implication of the study is which treatment is the most successful, which the researchers found to be VKA and OAC treatments compared to placebos and antiplatelet drugs (Freedman et al., 2016). Suppose nursing fails to accept this line of reasoning for better stroke prevention. In that case, the outcome could be detrimental to patient care, and more patients may suffer atrial fibrillation-related strokes and thereby lose bodily functions or die. The recognition of atrial fibrillation and assessing each patient's risk factors are essential for better patient outcomes and to lessen the burden of medical costs of stroke and hopefully improve patient's quality of life or at least lessen the suffering by reducing the risk for stroke.

Effectiveness and safety of apixaban versus warfarin in nonvalvular atrial fibrillation patients in "real-world" clinical practice. A propensity-matched analysis of 76,940 patients

The purpose of this study is to compare and contrast the success of apixaban and warfarin in patients with atrial fibrillation (Li et al., 2017). It is imperative to know that apixaban is a non-vitamin K antagonist oral anticoagulant (Li et al., 2017). In contrast, warfarin is a vitamin K antagonist (Li et al., 2017). The two essential criteria when comparing and contrasting apixaban are stroke prevention and bleeding risk (Li et al., 2017). Researchers stated that the ARISTOTLE

trial was a foundation for this study (Li et al., 2017). This trial revealed a decrease in stroke and major bleeding in non-valvular atrial fibrillation (NVAF) patients when treated with apixaban compared to warfarin (Li et al., 2017). Warfarin and other vitamin-K antagonists increase significant bleeding risk, narrow therapeutic range, and react with many other drugs and foods (Li et al., 2017). The ARISTOTLE trial inspired researchers to delve deeper into the effectiveness and safety of apixaban and warfarin (Li et al., 2017). The researchers hope to discover which medication is best for stroke prevention in atrial fibrillation patients (Li et al., 2017).

In the study, researchers analyzed 76,940 patients, split equally 38,470 atrial fibrillation patients received warfarin therapy, and the other 38,470 patients received apixaban therapy for a year (Li et al., 2017). According to the research, the incidence of stroke events in patients prescribed apixaban was 2.3 per 100 persons; whereas, patients on warfarin had a higher incidence of stroke at 3.5 (Li et al., 2017). Between apixaban and warfarin, there is a 1.2 lower stroke incidence in apixaban than warfarin (Li et al., 2017). Stroke prevention is the main priority in patients with atrial fibrillation, so the data suggests that apixaban is a better choice than warfarin (Li et al., 2017). Furthermore, apixaban had a 33% lower incidence rate of stroke in patients with atrial fibrillation within one year of treatment beginning (Li et al., 2017). Thus, in one year, apixaban can significantly lower the risk of strokes in atrial fibrillation patients, potentially saving thousands of lives through stroke prevention (Li et al., 2017). Even in the higher risk subgroups of patients over the mean age of 71, apixaban showed a 34% lower risk of stroke, where warfarin showed a 32% lower risk of stroke (Li et al., 2017).

Concerning the risk of significant bleeding, the group of patients prescribed apixaban had an incidence score of 4.5, while warfarin had a primary bleeding risk incidence rate of 7.5 per

100 persons (Li et al., 2017). Bleeding risk is an essential consideration for patients on apixaban or warfarin, as it can cause severe complications (Li et al., 2017). However, the study and data recommend apixaban over warfarin due to the lower significant bleeding risk incidence difference of 3.0 (Li et al., 2017). Such a large difference indeed proves not only the effectiveness of apixaban but that it is also safer for a majority of patients to take than warfarin.

Key Points

A vital point of the study is that apixaban has a lower incidence of stroke events, 1.2 lesser than warfarin (Li et al., 2017). As stroke prevention is a top priority for atrial fibrillation, a 1.2 decrease difference in stroke events is an imperative improvement (Li et al., 2017). In other words, the study recommends apixaban over warfarin for the prevention of strokes in atrial fibrillation patients. Another critical point is that apixaban is also more beneficial for a decreased primary bleeding risk rate of 4.5, in comparison to warfarin which scored a 7.5 (Li et al., 2017). A difference of 3.0 is a remarkable statistic and suggests that apixaban is more reliable to prevent a significant risk of bleeding (Li et al., 2017). Thus, overall, apixaban is more effective than warfarin in stroke prevention and significant bleeding risk.

Assumptions

An imperative assumption of the author is that patients with atrial fibrillation comprehend and know the difference between medications like apixaban and warfarin. Differentiating which medication is better, apixaban or warfarin, is crucial for stroke prevention in patients with atrial fibrillation. Patients must know that apixaban’s brand name is Eliquis, and warfarin’s brand names are Coumadin or Jantoven. Another assumption the author implicates is that atrial fibrillation patients understand how detrimental ischemic or hemorrhagic strokes can be.

Furthermore, patients need to understand that medications like apixaban will prevent strokes only if taken correctly (Li et al., 2017).

Deficit/Conclusion

In the discussion or conclusion of the article, the researchers compare their study to the ARISTOTLE trial, which is the first major study to compare the effectiveness and safety of apixaban and warfarin (Li et al., 2017). To summarize, both this study and the ARISTOTLE trial were similar in that both studies found apixaban superior to warfarin in stroke prevention and significant bleeding risk (Li et al., 2017). As mentioned prior, even in the subgroup, apixaban worked better to prevent strokes and risk of major bleeding in both studies (Li et al., 2017). Researchers utilized four large datasets to evaluate the effectiveness and safety of apixaban and warfarin (Li et al., 2017). Through the large datasets, the researchers increased the statistics and other evidence in the study to generalize the results and relate them to most of the U.S. population (Li et al., 2017). The findings of this study, most notably the success of apixaban over warfarin, can aid primary care providers and atrial fibrillation patients when selecting stroke prevention therapy (Li et al., 2017). I do accept the authors' line of reasoning mainly because of how prevalent atrial fibrillation caused strokes. This research can significantly encourage other health experts to explore better anticoagulant medications like apixaban. Comparing this study and the ARISTOTLE trial strengthened the authors' line of reasoning and, therefore, my acceptance of the reasoning. The implications for this article are the rising number of individuals contracting atrial fibrillation (Li et al., 2017). The study mentions that atrial fibrillation prevalence may be 12.1 million in 2030, with an annual increase of 4.3% (Li et al., 2017). This statistic alone is proof enough that more research needs to continue about apixaban and warfarin. It is clear that as the number of patients with atrial fibrillation increases, the need for stroke

prevention and treatment will increase. Suppose nursing fails to accept this line of reasoning. In that case, hundreds of thousands of patients will be at stroke risk, patient outcomes will decrease, and proper research about the use of apixaban versus warfarin will decrease. This research is hugely beneficial to providers and atrial fibrillation patients alike. For nursing to not accept it would cause more harm to patients and decline better stroke prevention.

Effectiveness and safety of apixaban compared with rivaroxaban for patients with atrial fibrillation in routine practice

This study compares the safety and effectiveness of apixaban versus rivaroxaban for nonvalvular atrial fibrillation (Fralick et al., 2020). Researchers decided to determine whether apixaban or rivaroxaban is more successful for patients (Fralick et al., 2020). Apixaban is more widely known as Eliquis, and rivaroxaban is known as Xarelto (Fralick et al., 2020). The study compared the safety and effectiveness of both apixaban and rivaroxaban (Fralick et al., 2020). Researchers conducted this study as there is not much data comparing the two anticoagulants (Fralick et al., 2020).

The number of patients studied over a year was split equally. 39, 351 patients received apixaban, and the other 39, 351 received rivaroxaban (Fralick et al., 2020). The researchers judged the effectiveness of apixaban and rivaroxaban based on stroke prevention (Fralick et al., 2020). In contrast, the researchers measured the safety of apixaban and rivaroxaban through bleeding prevention (Fralick et al., 2020). The researchers specifically discussed intracranial hemorrhage (ICH) and gastrointestinal bleeding (Fralick et al., 2020). As a result, ischemic stroke or systemic embolism was 6.6 per 1000 persons in the apixaban group compared to the rivaroxaban group, which was 8.0 per 1000 persons (Fralick et al., 2020). A difference of 1.4 fewer events is vast for stroke prevention and suggests that apixaban is better at preventing

strokes and systemic embolisms in atrial fibrillation patients (Fralick et al., 2020). In addition, the apixaban group has a lower rate of bleeding, 12.9 per 1000 persons; while, the rivaroxaban group had a much higher rate of 21.99 per 1000 persons (Fralick et al., 2020). A difference of 9.0 fewer events in bleeding is crucial (Fralick et al., 2020). The lower bleeding risk suggests that apixaban is the better option over rivaroxaban (Fralick et al., 2020). This study supports that apixaban is more effective and safer than rivaroxaban is (Fralick et al., 2020). Given this information, apixaban may be more beneficial to patients with atrial fibrillation, mainly to prevent stroke (Fralick et al., 2020).

Key Points

A vital point of this study is that apixaban is more effective and safer than rivaroxaban (Fralick et al., 2020). The other key point is that apixaban effectively prevents strokes and systemic embolisms and safer by preventing major bleeding such as ICH or gastrointestinal bleeding (Fralick et al., 2020).

Assumptions

One assumption underlying the researchers' thinking is the need for medications like apixaban and rivaroxaban. More research about apixaban and rivaroxaban will help promote these medications for therapy. Another assumption for this study is that patients know how to take these medications correctly. If a patient incorrectly takes medication, the effects can be detrimental.

Deficit/Conclusion

The conclusion of this article is short and straightforward. Patients prescribed apixaban had a lower rate of stroke prevention and bleeding than rivaroxaban (Fralick et al., 2020). Therefore, apixaban is the more effective and safer oral anticoagulant for atrial fibrillation

patients (Fralick et al., 2020). Yes, I accept the author's reasoning. The solid evidence to support that apixaban is more effective and safer compels attention and notice. The researchers make an emphasis on stroke prevention as many atrial fibrillation patients suffer from strokes (Fralick et al., 2020). Researchers conducted this study because medications like apixaban and rivaroxaban do not have much data (Fralick et al., 2020). If researchers, health professionals, and patients alike knew more about the effectiveness and safety of these oral anticoagulants, treatment could potentially improve drastically (Fralick et al., 2020). Stroke prevention is of the utmost importance in atrial fibrillation, and if a medication like apixaban can increase the prevention, that would benefit patients more (Fralick et al., 2020). There is not much research regarding apixaban versus rivaroxaban since both medications are relatively new (Fralick et al., 2020). Researchers conducted this study to discover the similarities, differences, and medication best for patients with atrial fibrillation (Fralick et al., 2020). Nursing may fail to accept this line of reasoning due to the newness of apixaban and rivaroxaban. Warfarin is a popular and decades-old medication for stroke prevention in patients with atrial fibrillation (Fralick et al., 2020). More providers and patients may utilize warfarin for stroke prevention therapy since warfarin is more familiar than apixaban (Fralick et al., 2020). However, medications such as apixaban and rivaroxaban do not have as much research. Due to the lack of research, apixaban and rivaroxaban may be more beneficial than warfarin, but not many patients may not want to take either (Fralick et al., 2020).

Conclusion

The primary purpose of all three articles is to discover which treatment is best to prevent strokes in patients with atrial fibrillation (Fralick et al., 2020) (Freedman et al., 2016) (Li et al., 2017). The first article discusses the multiple treatment options like oral anticoagulants and

vitamin K antagonists and how the healthcare system needs to improve the identification of atrial fibrillation to prevent strokes from occurring (Freedman et al., 2016). According to the first article, oral anticoagulants are the best option for stroke prevention in cases of atrial fibrillation (Freedman et al., 2016). The first article leads to the second article, which is more in-depth about oral anticoagulants. The second article talks about the safety and effectiveness of apixaban versus warfarin and which medication is more likely to prevent strokes and prevent significant bleeding risks (Li et al., 2017). In the end, the study found that apixaban was the safer and more effective drug for stroke prevention and bleeding prevention in atrial fibrillation patients (Li et al., 2017). Lastly, the third article was about the effectiveness and safety of apixaban versus rivaroxaban (Fralick et al., 2020). The researchers determined apixaban to be the more effective and safer drug for stroke prevention and bleeding prevention in atrial fibrillation patients in the third article (Fralick et al., 2020). Based on all three articles, the most successful and safest form of stroke prevention is oral anticoagulants (Fralick et al., 2020) (Freedman et al., 2016) (Li et al., 2017). More specifically, apixaban or, as it is widely known, Eliquis is the most successful therapy for stroke prevention (Fralick et al., 2020) (Freedman et al., 2016) (Li et al., 2017).

The three articles can help patient outcomes by selecting beneficial stroke prevention therapy such as apixaban (Fralick et al., 2020) (Freedman et al., 2016) (Li et al., 2017). All three studies numerically proved apixaban to be the most effective in stroke prevention (Fralick et al., 2020) (Freedman et al., 2016) (Li et al., 2017). With the support of all three articles, apixaban can improve patient outcomes substantially and prevent atrial fibrillation patients from stroke events (Fralick et al., 2020) (Freedman et al., 2016) (Li et al., 2017). These three studies apply to nursing practice because nurses must be knowledgeable about the best therapy options for stroke prevention in the setting of atrial fibrillation (Fralick et al., 2020) (Freedman et al., 2016) (Li et

al., 2017). The articles support the use of apixaban over alternative anticoagulants such as warfarin and rivaroxaban (Fralick et al., 2020) (Freedman et al., 2016) (Li et al., 2017). All the studies suggest that apixaban is most beneficial because it lowers stroke incidences and lowers bleeding complications (Fralick et al., 2020) (Freedman et al., 2016) (Li et al., 2017). Regarding evidence-based practice, all three articles provide support for newer medications like apixaban over older medications like warfarin (Fralick et al., 2020) (Freedman et al., 2016) (Li et al., 2017). In the second article, researchers discuss the difficulty of monitoring warfarin through blood tests like the international normalized ratio (INR) (Li et al., 2017). In contrast, the second article states how apixaban does not need as much testing as warfarin does (Li et al., 2017). Lastly, the three articles alter healthcare as a whole by providing evidence for alternative stroke prevention therapy (Fralick et al., 2020) (Freedman et al., 2016) (Li et al., 2017).. Warfarin may be challenging for patients to manage. Other medications like apixaban and rivaroxaban are excellent alternatives.

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