



Non-Valvular Atrial Fibrillation Patients: A Review

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ABSTRACT

Studies conclude that "NVAF is affecting an increasing number of individuals". In addition, studies have also concluded that the therapy attempts to prevent systemic emboli. All of these treatments should be given some thought. Studies have also concluded that each of these treatments has been analyzed in terms of the potential benefits as well as the potential risks that are linked to them. If symptoms are present, it is typically possible for rate-directed therapy alone to safely control the symptoms. Thus, in our review, we have discussed NVAF in terms of symptoms, complications, treatment, rate control, rhythm control, cardioversion, management SR, and the risk of prophactic AART.

Key words: NAVF, Complication, Treatment, Rate Control, Rhythm control, AART.

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INTRODUCTION

Several studies have also found that the "prevalence of AF, a common condition, increases with age".[1] Studies also concluded that , in US, "AF affects just 0.05% of people in their 40s, whereas the prevalence of the condition increases to around 9% of people in their 80s".[1,2] Studies have also concluded that, compared to hypertension and CAD, CHF and AF are both less prevalent. Several studies have also found that the condition known as AF may be quite severe. The presence of AF is associated with an increased risk of death, as well as an increased risk of having a stroke and systemic emboli. [1-5] Studies have also concluded that as our population ages, AF will become a more common condition, and it will become more necessary to understand how to treat this condition. Several studies have also found that VAF, sometimes referred to as RMS, refers to AF that takes place in the presence of CVS. Studies have also concluded that when there is neither valvular prosthesis nor MS present, AF is referred to as NVAF. Studies have also concluded that since the prevalence of VHD has been on the decline, the relative prevalence of NVHF has significantly increased. At the present time, NVAF is responsible for more than 70 percent of all cases of AF that are diagnosed in the United States. [6] Several studies have also found that patients who have atrial fibrillation often appear with one of the following three patterns: solitary, paroxysmal, or chronic. Studies also found that IAF is a type of atrial fibrillation that is sudden, secondary, and "isolated" from another atrial condition or illness, like hyperthyroidism, pneumonia, a pulmonary embolism, or surgery. Studies have further concluded that after the underlying condition has been addressed and sinus rhythm has been restored, it is very unlikely that this specific pattern of AF will return, since it is exceedingly unlikely that this exact pattern will reappear.[7] Studies have also concluded that paroxysmal AF, on the other hand, is characterized by intermittent episodes of AF that are unrelated to an acute event or illness. Studies have also concluded that the third pattern of AF is known as chronic AF, and it is characterized by the presence of AF as the predominant rhythm. Despite the fact that this scientific statement does not include formal clinical recommendations or a list of levels of evidence, it does provide clinical practice implications that are based on data from the most current research in the area.[7] Thus, in our review, we have discussed NVAF.

SYMPTOMS [7]

Additionally, according to a number of studies, AF frequently arises by accident and may not exhibit any symptoms. Some of the symptoms that are related to AF include palpitations, fatigue, shortness of breath, chest tightness, and lightheadedness. However, they may be more common in patients whose heart rates are more than 120 beats per minute. The prevalence of symptoms in patients with AF and a high heart rate is unknown. Because the symptoms of AF may not be easily distinguishable from those of other conditions, it may be difficult to diagnose this condition in patients who are also suffering from concomitant HD or lung disease. According to a number of studies, patients with AFHR may have a HR that is higher than 150 beats per minute.[7] In patients with underlying CAD, such tachycardia may

worsen angina symptoms and result in palpitations or chest tightness. Studies have concluded that HR may result in insufficient CO and increased LAP as a result of the shortened filling time during diastole. Studies have found that these hemodynamic disturbances, which can also cause those symptoms, may be the cause of lightheadedness and other CHF symptoms. The "atrial kick," or the contribution of AC to ventricular filling, is also lost when there is no structured AC activity. Studies have concluded that patients with hypertensive heart disease and other conditions that cause lower ventricular compliance may have cardiac output that is largely reliant on the atrial kick, and these patients may have symptoms even when their heart rates are normal.[7]

COMPLICATION

Studies have also concluded that a well-known risk factor for both systemic emboli and stroke is the presence of AF in the patient. [3,4,8] In addition to this, studies also concluded that patients who have AF but are not receiving treatment have a rate of roughly 5% per year of having a stroke. This is nearly five times the rate of patients who do not have this ailment. [2,9] Another study concluded that it was shown to be responsible for almost a third of all strokes in people over the age of 80. The percentage of strokes that can be directly attributable to atrial fibrillation increases with age. [2] Studies have also concluded that it is largely agreed upon that emboli were the root cause of any arterial occlusions seen in patients who had been diagnosed with a condition known as atrial fibrillation.[5,10,11,12,13] Studies have further concluded that thrombi have the ability to develop along the walls of a fibrillating left atrium, and if they have formed, they may get dislodged and enter the arterial circulation. As well as visceral or peripheral ischemia and infarction, the emboli that are formed may also result in a stroke. Studies have also concluded that because many patients with AF also have concurrent CVS disease, it is sometimes difficult to pinpoint the true etiology of a stroke when one occurs. Studies that examined the rates of thrombotic and embolic strokes in people with nonvalvular atrial fibrillation discovered that embolism is responsible for about two-thirds to three-quarters of these strokes. Thrombotic strokes have a higher prevalence. [14,15] Studies have also shown that a similar percentage of strokes in people with atrial fibrillation should be avoided, according to these calculations. Because patients diagnosed with this condition are sometimes assumed not to be at an increased risk of stroke, the condition known as "LAF" warrants particular notice when discussing the risk of stroke. Studies have further concluded that LAF is a broad term that refers to AF that does not occur in conjunction with any other structural HD or concurrent illness. Studies have also concluded that people with a LAF rhythm have a four-fold higher risk of stroke as compared to those with sinus rhythms.[16] In contrast, studies have also concluded that patients who were diagnosed with LAF did not have an increased risk of stroke. Studies have also concluded that when discussing the risk of stroke, it is important to pay particular attention to the condition known as "LAFS." Studies have also concluded that this is due to the fact that patients who have been diagnosed with this condition are often thought to not be at an increased risk of stroke.[7] Studies also concluded that AF is referred to as "LAF" when it does not occur in conjunction with any other structural heart disease or concurrent illness. This is a common expression that refers to atrial fibrillation that does not occur, and it describes the condition well. According to the findings of a study, those who had a LAF rhythm had a four-fold increased risk of suffering a stroke as compared to people who had sinus rhythm.[16] On the other hand, studies also concluded that patients who visited and were diagnosed with a LAF did not have an increased risk of having a stroke.[7]. Studies have also concluded that, unfortunately, these two major studies characterized LAF in different ways, and the various outcomes that they observed have led to a great deal of confusion as a result of the discrepancies that have been identified as a result of these disparities. According to the findings of one study, AF occurred in adults and was not due to an acute precipitating factor such as CAD, CHF, RHD, or high BP. [7] Studies have concluded that patients who were diagnosed with DM and COPD were much older and had a significantly greater number of comorbid conditions in comparison to these individuals. On the other hand, studies have shown that individuals who participated in the study and who were young, healthy, and free of any structural heart disease or even hypertension performed fairly well in the experiment. It is quite probable that the phrase "LAF" needs to be taken out of use so that it does not contribute to the establishment of any more misconceptions. Studies have also concluded that, the risk of stroke in people with an AF event was investigated in the SPAF trial. Furthermore, studies concluded that it has been shown that the presence of high BP, h/o of previous strokes, and recent CHF are major risk factors for recurrent strokes. Additionally, studies have also concluded that the presence of even a single risk factor increased the annual rate of stroke from around 2.5% to approximately 7.2% per year. In addition to this, studies also concluded that the presence of two or three risk factors increased the annual rate of stroke to more than 17% per year. A second study found that participants with normal left ventricular function and left atrial size and who did not have any of the three main clinical risk factors mentioned earlier had an annual stroke rate of less than 1%. This was the case even though these individuals did not have any of the major clinical risk factors [17].

TREATMENT [7]

Studies have also concluded that AF treatment has two primary objectives: first, to relieve symptoms, and second, to lower the patient's chance of developing emboli.[7] The difficulty is in achieving these objectives without inflicting unnecessary suffering on the patients. In order to achieve this result, one must have knowledge of the advantages and disadvantages of the therapies that are most often used. Studies have also concluded that the three primary foci of therapy for atrial fibrillation may be easily divided into one another as controlling the rate, controlling the rhythm, and controlling the clots.[7] Studies have concluded that there will be some overlap in the perceived benefits, even if they are not validated, across these different groups. Furthermore, studies have concluded that the purpose of rate control is to achieve the aims of avoiding rate-related symptoms and reducing the intensity of those symptoms by maintaining a HR that is within a normal range.[7] Additionally, studies showed that restoring sinus rhythm aims to lessen or eliminate the symptoms brought on by irregular heartbeats. Another goal of rhythm control that is generally accepted is the reduction or elimination of the risk of having a stroke. Studies have concluded that, although it may seem intuitively reasonable, the goal of avoiding strokes by restoring sinus rhythm has never been demonstrated.[7] Studies have further concluded that clot control therapy, sometimes known simply as clot control, is the third and final kind of treatment, and its primary focus is on prevention. Drugs that impede the coagulation of blood and the activity of platelets are often used in the treatment and prevention of embolic events. Concomitant clot control may be required for individuals who are being treated with drugs that are aimed at either the rate or the rhythm of the heartbeat.[7]

RATE CONTROL

Studies have also concluded that the prevention and relief of symptoms connected to the rate are the goals of rate control. Studies have further concluded that digitalis glycosides, calcium antagonists, and 3-adrenergic antagonists are the three kinds of medicine that are most widely used to control the rate of AF.[7] Studies have also concluded that these drugs have the effect of slowing down the conduction via the AVN, and as a result, they reduce the VRR to the AF.[7] The majority of researchers consider a resting HR of fewer than 95 to 100 beats per minute to be a satisfactory response to treatment. Studies have also concluded that digoxin, which is the digitalis glycoside that is used the most often, operates both directly and indirectly to slow conduction via the AV node.[7] Studies have also concluded that, in the absence of renal impairment, the digoxin dosage is adjusted to control the short resting heart rate without causing any signs of gastrointestinal or cardiac toxicity. Studies have also concluded that digoxin may be administered intravenously under observation.[7] When the ventricular response is quick, a total dosage of up to 1 mg may be given in many doses spread out over a period of several hours. Less than 0.375 mg per day is the usual dosage for maintenance.[7]

According to the findings of a number of studies, "the use of calcium antagonists and 13-blockers, either alone or in combination with digoxin, is preferable to the use of digoxin by itself. [18,19,20] Studies have also concluded that it has been widely shown that digoxin is unable to "control" the ventricular rate during strenuous physical activity, acute sickness, or any other situation in which catechol levels are elevated.[21,22] Studies have also concluded that the concept of having appropriate control over one's heart rate is fairly murky as a consequence of the fact that tachycardia may be a natural physiological response in some situations.[7] This fact makes the notion of having adequate control over one's heart rate extremely unclear. On the other hand, studies have also concluded that the heart rates that are plainly too rapid are the ones that are creating symptoms or hypotension in the patient. Studies also concluded that digoxin may not be as effective in situations such as these as calcium channel blockers and 13-blockers. It is regrettable that not enough randomized controlled studies have been carried out to explore the impact that these medications have on the symptoms or quality of life of those who have atrial fibrillation.[7]

Studies have also concluded that, in the absence of evidence about which agent is best, medication for rate control may be chosen using a clinical elegance strategy.[7] In addition to this, studies also concluded that patients who suffer from both high blood pressure and coronary artery disease may benefit from calcium antagonists and P-blockers.[7] It is best to avoid using usual I blockers in patients who have DM, or reactive airway disease. Studies have also concluded that patients who have RI should take digoxin with extreme care; nevertheless, patients who have poor left ventricular function may find that taking digoxin is a preferable alternative. Fortunately, all three kinds of medications have experienced widespread use, and when taken as advised, it is possible to avoid any adverse effects associated with their use.[7]

RHYTHM CONTROL[7]

Studies have also concluded that the restoration and maintenance of SR are considered by many to be the best therapy for patients with AF. Studies have also concluded that the restoration of SR should result in a

return to a normal HR, an improvement in heart filling, and the absence of symptoms associated with both the heart's rate and its ventricular rhythm. It is not yet known whether or not the restoration of sinus rhythm is safer or more effective in controlling symptoms than rate control alone. The goal of sinus rhythm is also thought to reduce the danger of emboli associated with atrial fibrillation; however, the efficiency of this approach for the purpose of reaching this goal has never been shown.[7]

CARDIOVERSION [7]

Studies have also concluded that the electrical or pharmacological restoration of sinus rhythm is referred to as cardioversion. The word "cardioversion" is used to describe this process. The success rates of cardioversion are widely reported; however, they may vary quite a bit. Because the bulk of the published research is uncontrolled case series, it is nearly impossible to compare the different procedures and drugs that may be used for cardioversion. Studies also concluded that patients who suffer from AF of recent or distant origins, solitary, paroxysmal, or chronic AF, and atrial flutter are examined together, as if these distinct diseases were a single condition instead of separate ones. Furthermore, studies concluded that AF has recently started, paroxysmal AF, or both really often resolve back to SR on their own. Additionally, atrial flutter reacts more quickly to cardioversion than AF does. Studies have also shown that it is probable that the reported rates of therapeutic success of cardioversion for AF may be overestimated when patients who have these conditions are included in research studies.[7]

RISK OF CONVERSION

Studies have also concluded that neither electrical nor chemical cardioversion is totally risk-free; both have their drawbacks. Furthermore, studies concluded that neither of these options is suggested. During the process of electrical cardioversion, the development of ventricular fibrillation, as well as the risks associated with anesthesia and sleepiness, are all possible. Furthermore, studies showed that chemical chemicals that are used in cardioversion may have a variety of negative side effects. These side effects may include symptoms that are not unique to the illness, proarrhythmia, or even death. In addition to this, studies also concluded that cardioversion itself is linked to a greatly higher risk of suffering a systemic embolism or having a stroke.[7]

Studies have also concluded that it has been reported that patients who have had previous embolic events, advanced age, coronary heart disease, cardiomyopathy, hypertension, and a long duration of atrial fibrillation are more likely to have a stroke or a systemic embolus as a consequence of electrical cardioversion. [23,24] Other risk factors include hypertension. This occurs in around three percent to five percent of the patients who have the surgery done.[24,25] It has been reported that strokes, which were attributed to the cardioversion therapy, may occur anywhere from a few hours to a few weeks after the procedure has been conducted. Because the return of normal atrial contractile activity may lag beyond the return of sinus rhythm, it is probable that this is the situation.[26] Short-term anticoagulation may lessen the risk of embolic events associated with cardioversion. According to three separate cohort studies, patients who received preventative anticoagulation with warfarin sodium were considerably less likely to suffer embolic events than patients who were not receiving anticoagulation. [23,24,25] Patients who had comorbidities that rendered them more likely to have embolic events, such as valvular heart disease, were more likely to have received anticoagulation in each of these studies, even though they were not randomized. This is a component that contributes to the overall improvement of the findings, which are in favor of anticoagulation.[7]

Studies concluded that anticoagulation with warfarin should be administered to all patients who are scheduled to have elective cardioversion performed, provided that there are no contraindications to this kind of therapy. The warfarin therapy is begun two to four weeks before the cardioversion, and it is continued for another two to six weeks following the cardioversion.[23] Studies also concluded that the assertion that patients who have recently obtained atrial fibrillation may be cardioverted without the use of anticoagulation appears to be false, given that emboli have been found in patients who have been cardioverted from atrial fibrillation after only a few days of having the disease.[23] Researchers came to the conclusion that transesophageal echocardiography can help find patients who can safely go through cardioversion with less anticoagulation or even without any anticoagulation at all. This may help rule out the presence of a left atrial thrombus. At this time, the only patients who should face the risk of not receiving short-term anticoagulation with warfarin are those who need urgent cardioversion and those who have obvious contraindications to anticoagulation.[7]

MAINTENANCE OF SR

Studies concluded that AF often returns even after a successful cardioversion. If prophylactic antiarrhythmic therapy (AART) is not administered, the relapse rate after one year is around 75%.[27] Studies have also concluded that although PAART considerably reduces the rate of rhythm relapse, it nonetheless remains somewhat high. The risk of AF recurrence appears to climb directly with age and the

amount of time that the AR was present before cardioversion was done, regardless of whether or not antiarrhythmic therapy is taken. This is the case even if AART is utilized. [28,29,30] It is yet unclear how the size of the left atrium affects the risk of atrial fibrillation relapse.[7]

RISK OF PROPHYLACTIC AART

Studies concluded that every AAR medication used to treat AF has the potential to cause possible side effects. Even low-dose amiodarone, which is generally well tolerated, produced side effects that were "severe" in 4% of patients and "significant" in an additional 13% of patients, according to one study.[31] Studies concluded that the discovery that AART for AF may increase a patient's risk of death is very worrying. [7] Patients who received quinidine were more than three times as likely to pass away than control patients (2.9% vs. 0.8%), according to the results of a meta-analysis of six randomized studies that many studies conducted. [30] Researchers have also found that while the difference in the number of deaths between quinidine-treated patients and control subjects (12 vs. 3) may have been statistically significant, the differences in the numbers of deaths from heart problems (6 vs. 2) and sudden deaths (3 vs. 0) were small and not statistically significant. The cause of death in five of the subjects treated with quinidine, however, was not ascertained, and these deaths may well have been cardiac in character.[7]

CONCLUSION

Studies have also concluded that patients who are older and have had atrial fibrillation for a longer period of time will be able to maintain SR for a prolonged period of time. Studies have also concluded that those patients who are asymptomatic, those patients whose symptoms are treated with rate-controlling therapy alone, and those patients who have CHF are the ones in whom AART seems to be the most damaging. So, before recommending the best course of action for an individual patient, it is vital to evaluate the potential drawbacks and benefits of all therapeutic options available.

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