Angina and Sudden Fatal (Arrhythmia) Cardiac Disorders that affect People with the Presence of Risk Factors that Show a Change in the Electrical Conductivity of the ECG

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Abstract

The work was from realistic academic applied practice for research in the General Teaching Hospital/ Specialized Center for Chronic Diseases and Diabetes Mellitus on a group of patients in the city of Samawah-Iraq for the period (2019-2020). The total number of patients is (1250) patients divided (500 young men of both sexes) (and women are 350 patients after 50 years old) (and men 400 patients after 50 years) the research focused on heart disorders) arrhythmia) That threaten human life, especially in a middle-income country, and the detection and strengthening of medical capabilities and reduce deaths and the occurrence of sudden death, the work was focused on arrhythmia, And to the different heart diseases that help their emergence, to the real causes that arise from them (exocardil and endocardil) and to the calculation of the formula that calculate the pulse, respiration, oxygenation, cardiac output, blood pressure and the number of arrhythmia (heart disorders) per minute, hour or day, in addition to laboratory and radiological analyzes, Physical examination and the formation of a scientific formula, and we have adopted three important strategies in our work.. Cases decreased arrhythmia By controlling basic heart disease, the primary treatment is the major disease that causes it arrhythmia According to its cardiac or extra cardiac origin, the mortality rate decreased, in emergency cases and resuscitation (I.C.U) because of AF, in general and critical cases, the cost of treatment and health for the patient and for the state has decreased and the types arrhythmia, It was completed according to the program and the used treatment protocols.

Keywords: *Arrhythmia, Angina pastors, ECG, Factor risk, Echocardiography.*

Introduction

Introduction

The main objective is the early control of cardiovascular diseases, especially the Arrhythmia, and their types that cause sudden cardiac death (SCD) before and after angina pectoris and the chronic diseases that accompany them and which contribute greatly to the development of the Arrhythmia and irregular heartbeat that affects young people and the elderly without discrimination, and we contribute to the calculation and equation of cardiac changes and finding ways Therapeutic treatment for preventing and treating heart disorders.

Due to the rise in cardiovascular diseases that cause the death of many people, especially in the country of Iraq, the focus and work was on the most basic problems as a result of the violent conflict of life, pollution, wars, their remnants, and the various risk factors surrounding the place, where a third of men and a quarter of women die of ischemia heart disease and their stroke [1] A group of signs appear that shows lack of access to the necessary amount of oxygen to the heart muscle crossing it, and they constitute a clinical syndrome, not a disease[6]. It may occur when there is an imbalance between the delivery and required oxygen supply to the heart muscle. Coronary stenosis and sclerosis are the most common cause of angina pectoris .. and associated cardiac disorders (Arrhythmia): Arrhythmias are a disturbance in the electrical rhythm of the heart. Arrhythmia is often a manifestation of structural heart disease, [2,3] but it may also occur in the normal heart context. Symptoms are more likely to occur if the arrhythmia is associated with the maximum heart rate.[5] An arrhythmia can cause palpitations, dizziness, fainting, chest tightness,

or shortness of breath, and it can lead to heart failure or even sudden death.) Which forms the focus and the bulk of our research Knowing the real causes of death, the concrete results, the pathological anatomy, and the correct direction for doctors to study the cases by using the method to reduce them before and after the angina when it occurs, or the various chronic diseases that cause sudden cardiac arrest, therefore treatment and prevention strategies [22] have been returned to undergo strict evaluation based on the rule, evidence and evidence in clinical work And academically, it is useful to immediately recognize and protect people before most people are affected by various causes and from the transition of coronary artery disease and other diseases to an advanced stage, Before noticing the patients who have symptoms, but some of the people do not have a complaint, but the risk factors are present and they are ready for infection in addition to their family history, and the patients who show symptoms and periodically review the hospital and they have a file we have under control all according to the degree of severity, our main goal Protecting the patient from sudden heart attacks that do not distinguish between the young and the elderly,[4,8] especially after cardiac conditions that cause systolic arrest, ventricular arrhythmia, tremors, mechanical heart loss, and insufficient blood flow to the heart. We approved early clinical diagnosis, in addition to laboratory and radiographic, ECG,[9,10] Eco-cardiograph, cardiac –Angiography coronary, Halter, treadmill test ., cardiac stress test, cardiac catheterization PCI (Angioplasty) and ICD (pacemaker –implantable cardiac defibrillator) . And in cases that require immediate resuscitation, because the patient is exposed to unconsciousness and pulse, breathing may take some time to stop completely after cardiac arrest. Physical death is unless immediate treatment is provided to him[11] The cause of sudden cardiac death (SCD) is usually the development of catastrophic heart disorders. AF (atrial fibrillation) And the most dangerous VF (vertical fibrillation And all the Arrhythmia in which lack of follow-up, initial medical advice, and coronary artery patients are the most common due to the risk factors surrounding the patient (high blood pressure, lifestyle, dietary behavior, increased cholesterol and triglycerides, atherosclerosis and diabetes mellitus,stares, Obesity and medications) The angina is stable or unstable, which develops myocardial infraction (MI) damage into the heart (necrosis) (STEMI, NSTMI),[12] That is why we were very interested in arithmetic, because it is one of the most common causes of death, Among the most famous of them are the arthritic according to the division of the pulse (Tachycardia, Bradycardia) and its various forms, but people may not feel symptoms, That lead sudden cardiac death (SCD) About 80% (VF) The patient may lose consciousness and die, But there are many types of Arrhythmia, The disease may not feel symptoms Just Heart palpitations, And pulse upon palpation pose line, Of different ages, but the most common in the elderly, VF, AF and those who highlighted the risk disorder .[17,21] And on the high importance of studying future cases in outpatient clinics and emergency .. We find that most of the people who have Arrhythmia 25% are treated with a digitalis medicine that comes to them by Arrhythmia-who are subjected to general anesthesia 50 % Are exposed to Arrhythmia, and 80% to patients after Acute Myocardial Infraction.[14] And neurological conditions that acute as coronary artery spasm (prinzmetal s" angina (vasospastic), in addition to anti-depressant drugs, and congenital malformations of the heart,[7,15] but the most famous and most severe cases

Table (1): Of the most famous and most reasons that lead Arrhythmia

No.	The main reason	Results
1.	Heart attack (myocardial infarction)	Part of the heart gets to him damage .
2.	Change in heart structure	Change in the shape of the heart valves, cardiac enlargement, cardiac aneurysm .
3.	Coronary artery disease	Coronary artery stenosis or blockage.
4.	Smoking and stress	Be the cause of the Arrhythmia .
5.	Drinking too much alcohol or caffeine	Possible reason Arrhythmia .
6.	Drug abuse and electrolytes imbalance	Possible change in electrolyte balance .
7.	Certain medication (such as digitalis)	Some medicines like, digitalis, anti-depressant, Erythromycin, clarithromycin, pentamidine, moxifloxacin, levofloxacin.
8.	Overactive thyroid gland (hyperthyroidism) or Hypo secretory (hypothyroidism)	Some patients have an overactive thyroid gland (tachycardia) or hypothyroidism (Bradycardia)

A heart rate of more than 100/minute is called a tachycardia and a heart rate of less than 60/minute is called a bradycardia . [16,19] But not all tachycardia or bradycardia means that he has a problem, for example, during exercise, stress and muscle exertion, There are doctors who differed in the division Arrhythmia ..But the most common and the most famous are types Arrhythmia, It is the University of Oxford, and we will only talk about the most famous, most frequent and their effects on the heart in the research:[18,20]

Materials and Method

The work was done based on the data and what were caused by heart disease disorders, the academic clinical work was done in the Teaching Hospital/and the Specialized Center for Chronic Diseases and Diabetes in the city of Samawah - Iraq for the period (2019-2020) to collect the largest number of patients and the disease history of different ages(Young men of both sexes 500), women 350 patients after the age of 50 years (and men 400 patients after the age of 50 years) randomly from different segments of society 1250 patients The main goal was to reduce and maintain early angina pectoris and accompanying cardiac disorders And to protect against sudden cardiac arrest, the act was to prevent angina pectoris and malignant heart disorders) rhythm, Rate) that develop without the patient's awareness. - Therefore, the formula was calculated :

The rate of Arrhythmia = number of Arrhythmia in (ECG) x Time (minute, hour, day)

And the calculation of the quantity and times and their type come in the form of repeated or continuous shifts and how many are the number, if there are more than 10 per hour it is considered a disease condition (Extrasystoles, any type of Arrhythmia or persistent) is determined with its quality, It means normal breathing per minute from 12 to 16, i.e. the number of breaths per minute x 4 beats. To help us to determine the quality of breathing and pulse, and calculate the

Volume of blood per minute= =[Heart rate x stroke volume] 70 x 70 mL = 4,900 blood volumes per minute

To know the insufficiency of cardiac impulse, And the cardiac cycle (major and minor) - the cardiac cycle is one major cycle Systemic But the blood is divided into (To nourish: the carotid brain cycle, Pulmonary cycle, clinic ileum cycle, Liver Portal Circulation (portal), The blood circulation cycle in the body in the case of sports activity where there are sensors to increase blood, or in the case of sexual intercourse blood collects in the pelvis for an erection Therefore, in normal cases we do not feel the work of these devices inside the body, except in abnormal cases that appear and the patient feels gases and stomach pain .. The pulse is fast or slow, depending on the state of sleep. Jogging, resting, being a difference in the pulse that links there are causes Extracardial and the reasons for Endocardial are important in the application of the arrhythmia rate formula :

(AR) = [ECG algorithm (Pulse-Oxygen) + Chronic Disease + Recurrence status + Factor Risk + Completion + Treatment].

In addition to laboratory analysis, radiological, Echo-study, treadmill test, Halter, Stress test, ECG, diagnostic and therapeutic cardiac catheters, catheters Ablation, pacemaker, ECG, Effort test, physical Excemtation, DC-shock (electric), Atherosclerosis (Retiring automaticity TO (SA--NOD), Carotid Massage, Valsalva manoeuvre(vagal), Bp, Pharmacology Test (Using atropine 0.5 diluted with water intravenously to see the extent of the increase in the pulse in the case of the block and the decrease in the heart rate), **1) strategy-** The early system of prevention and treatment, the dimensions of risk factors and the true cause of arrhythmia, **2) strategy-** The patient is included in the periodic program of Intensive Cardiac program (I.C.P) making a check-up every 3 months, **3)Strategy-** The most effective treatment chosen is the most effective depending on the calculation of the dose: Initial dose, therapeutic dose, maintenance dose, lethal dose, And the safe dose that does not cause side effects to the patient, we used medicines : For stomach, colon (GIT) and constipation: PPI Omprazole 20 mg. Colon Spasmen tablets, for Anti-constipation Laxdale tablets, lactulose syrap, Enema, Anti-fungal, anti-inflammatory of the urinary tract, anti-inflammatory pulmonary, and antihypertensive and heart medications group: ACE, Angiotensin II receptor(ARB_S), Ca_2^+ Channel Blockers, diuretic, sotalol tablet, (Amidaron 200mg Pills limited time 2 days off holiday in weak), Antioxidants, denxit (Antidepressant), Isosorbide dinitrate, Isosorbide mononatrat 20, 10, 5mg, propafenone, flecanide, aspirin, Plavix, Warfarin, Heparin, thrombolytic Acetylates in Resuscitation, Anti-libedemia statin, vibrate, Mg supplement tablet, Omega 3 tab, Vit B_{12}, Diabetes medications (metformin tab 500mg, diaonl tab 5mg, Ameral tab 1-6 mg, insulin soluble, mixture, lente), Digoxin 0.25, hydrocortisone, anti-allergic drug, fluid

I.V, Glucagon Vial for hypoglycemia, Feroplex (Iron), And by using studied scientific strategies, treatment and correct orientation of the lifestyle, calculation and application of formula that focus on the arrhythmia, And its origin, the true cause, and the early prevention prematurely, which helped a lot to curb the arrhythmia disease in the reduction of heart disorders and through careful follow-up of patients, **Especially young people** of both sexes. And knowing the real reason for the inheritance and their arrival to a state of stability : 65% arising from a nervous source, cramps and constipation, especially irritable bowel, gas, and gastrointestinal disorders, hypo –hyper thyrodism, Thyroid gland 6.2%, discomfort, adequate sleep, mental state, hope, stress, anxiety, high temperature, and food regulation 36.3%, anemia 4.1%, polycythemia 3.2%, Incorrect use of drugs 6.1%, I.H.D. 0.8%, Myocarditis 0.001%, pericarditis 0.002, Cardiomyopathy 0.002, Myocarditis 0.002 >> Diseases of the heart valves 6.2%, rheumatic heart disease 2.1%, pericarditis 002%, Congenital heart disease 0.02%, heart failure 0.0001, pulmonary embolism 0.001, Hypertension 11%, Tachyarrthymia 3%, bradyarrthymia 4.1%, Atrial fibrillation(AF) 0.7%, ventricle fibrillation 0.0001%, Exstrasystoles (ectopic) 3.4%, prolong Q-T 0.6% . heart block 2.3%, .wolf Parkinson syndrome 0.02%, DC shock VT 1.2% Atrial flatter 0.0.01% . pacemaker (ICD Implantable cardiac defibrillator) 0.2%, Catheter ablation therapy 0.6%, As for the majority of **women after 50 years** of age, they are more prone to heart disease and pressure: - Anemia 7.2%, pressure BP 13.3%, diabetes 12.4%, ischemia heart disease 9.1%, stomach and intestinal disorders 7.1%, chronic diseases 12%, Tachyarrthymia 4%, bradyarrthymia 2.5.%, prolong Q-T 1.2%, Atrial fibrillation(AF) 4.7%, wolf Parkinson syndrome 0.01%, ventricle fibrillation 0.03%, Exstrasystoles (ectopic) 9.4%, STEMI 3.1%, NSTEMI 4%, ventricle tachycardia 5.3%, Atrial tachycardia 4.3%, Atrial breadycardia 2.1%, Aheart block 3.3%, Stroke 0.3%, Cardiac catheterization PCI 6.2%, DC cardioversion 0.8%, Catheter oblation therapy 5.1%, Arterial flatter 1.7%, Cardiomyopathy 0.4%, Diseases of the heart valves 6.2%, rheumatic heart disease0.7%, pericarditis s0.4%, Congenital heart disease 0.3%, heart failure 1.7%, pulmonary embolism 0.02%, - As for **men after 50 years**, they are more likely to suffer from stress and more care for them as a result of the health and economic conditions that have negatively affected them. More attention is needed, the most prominent of which are: anemia 1.6%, polycythemia 0.4%, ischemia 12.2%, pressure 12.1%, diabetes 15.2%, pacemaker (ICD) 1%, Catheter oblation 1.2%, DC cardioversion, Arterial fibrillation (AF) 3.1%, Ventricle tachycardia 5, 4%, Arterial tachycardia 4.1%, Arterial breadycardia2%, Ventricle Fibrillation 0.6%, Extrasystoles 6.2%, prolong Q-T 0.8% Heart Block 2.1% heart block 2.1%, L.V desfecation 9.2%, tachycardia 6.2%, bradycardia 0.6%, wolf Parkinson syndrome 0.001%, Arial flatter 2.6%, STEMI 4.2%, NSTEMI 6.1%, Cardiac catheterization PCI: 3%, catheter oblation 2.1%, Myocarditis 0.01%, Cardiomyopathy1.3%, Diseases of the heart valves3.2%, rheumatic heart disease1.2%, pericarditis0.2%, Congenital heart disease 0.3%, heart failure 7.1%, pulmonary embolism 0.0.1%, Hypertension 12.2%, Therefore, the work was as a key and an indicator of the dimensions of the risk factors and the real cause of the Arrhythmia, the calculation of the recombinant rates and the programs. (ICP) Intensive Care Program with the initial stability, And the early treatment plan for heart disease and the accompanying chronic diseases. As for patients who complain of heart valve diseases(transplantation), open-heart operations, congenital anomalies that need surgery, they are referred to heart surgery to stabilize their health condition.

Table (2): Clinical coronary disease and pathology

No	Clinical problem	Pathology
1.	Stable angina	Ischemia due to fixed athermanous stenosis of one or more coronary arteries
2.	Unstable angina	Ischemia caused by dynamic obstruction of a coronary artery due to plaque rupture with superimposed thrombosis and spasm .
3.	Myocardial infarction (MI)	Myocardial necrosis caused by acute occlusion of a coronary artery due to plaque rupture and thrombosis.
4.	Heart failure	Myocardial dysfunction due to infarction or ischaemia
5.	Arrhythmia	Altered conduction due to ischaemia or infarction
6.	Sudden death	Ventricular arrhythmia, a systole or massive myocardial infarction

Discussion

The medical thinking stemmed from the analysis of laboratory and radiological data, method of examination, diagnosis, analysis of patients' cases, respiratory rate per minute, pulse and heart rate quality, blood analysis and electrocardiogram (ECG), Radiology, and all the necessary medical analyzes and supplies linked to the scientific references, the World Health Organization, international societies, and the approved work protocols were ready, present and organized in stages. We have adopted the creation of real equations that combine Information to help and develop a new technique surrounding fatal heart disorders, coronary artery disease, heart structure and curative solutions from their origin and to know the main cause of them. We worked with three early system strategies with the dimensions of risk factors and searched for real external causes such as chest infections, gastrointestinal disorders, hepatic, strokes, and inside the heart. Abnormalities or after myocardial infarction and myocardial emergence in dealing with them, their rate of occurrence, complete disease history and program Cardiac condenser and includes all supplies and diagnostic tests that help and stop the occurrence of germination and avoid it, And the patient's submission to the treatment plan and his response to it, and calculating the dose Initial dose, therapeutic dose, maintenance dose, The recurrence of the arrhythmia cases was of great importance to learn and review all measures to protect the patient and according to the cases that require transplantation pacemaker Or work catheter oblation Or open heart operations (CABH) By giving the appropriate medical decision . I am sure to take into account the patient's psychological and social condition and their family obligations. Among the most prominent arrhythmia at risk are: VF, AF, heart block, and Wolff-Parkinson-White syndrome, Extrasystoles to the many irregular and established origins arrhythmia AF, VF, Explained to us, it is determined on the ECG or ECG in the oblation catheter process that works by scanning the heart and determining the focus that causes the problem and ironing it and ending it with a thermal laser with a Keynes device to curb arrhythmia As for the majority of young people, it originated outside the heart, causes psychological states, and anomalies arrhythmia It was a clear and accurate indication for us to avoid it. As for women, they are the most different disorders of nervous origin, gastrointestinal disorders, colon and gynecological diseases, atherosclerosis, pressure, and coronary artery diseases. And chronic diseases associated with an increase or decrease in the thyroid gland. As for men, they are more prone to stress, work, nervous and muscle spasms, coronary artery diseases, and chronic diseases that negatively affect their lives. Inform the impact on emergence arrhythmia Therefore, the evaluation was useful in developing scientific and applied capabilities .

Results

We rely on results, data, and practical extrapolation of patients and disease cases that were dealt with and collecting the most prominent information that was a useful and beneficial indicator for patients :

Young people And knowing the real reason for the inheritance and their arrival to a state of stability : 65% arising from a nervous source, cramps and constipation, especially irritable bowel, gas, and gastrointestinal disorders, hypo –hyper thyrodism, Thyroid gland 6.2%, discomfort, adequate sleep, mental state, hope, stress, anxiety, high temperature, and food regulation 36.3%, anemia 4.1%, polycythemia 3.2%, Incorrect use of drugs 6.1%, I.H.D. 0.8%, Myocarditis 0.001%, pericarditis 0.002, Cardiomyopathy 0.002, Myocarditis 0.002 >> Diseases of the heart valves 6.2%, rheumatic heart disease 2.1%,pericarditis 002%, Congenital heart disease 0.02%, heart failure 0.0001, pulmonary embolism 0.001, Hypertension 11%, Tachyarrthymia 5%, bradyarrthymia 2.1%, Atrial fibrillation(AF) 0.7%, ventricle fibrillation 0.0001%, Exstrasystoles (ectopic) 3.4%,prolong Q-T 0.6% . heart block 2.3%, .wolf Parkinson syndrome 0.02%, DC shock VT 1.2% Atrial flatter 0..01% . pacemaker (ICD Implantable **.**

Women after 50 years of age: They are more prone to heart disease and pressure: Anemia 7.2%, pressure BP 13.3%, diabetes 12.4%, ischemia heart disease 9.1%, stomach and intestinal disorders 7.1%, chronic diseases 12%, Tachyarrthymia 4%, bradyarrthymia 2.5.%, prolong Q-T 1.2%, Atrial fibrillation(AF) 4.7%, venticwolf Parkinson syndrome 0.01%,ventricle fibrillation 0.03%, Exstrasystoles (ectopic) 9.4%, STEMI 3.1%,NSTEMI 4%,ventricle tachycardia 5.3%, Atrial tachycardia 4.3%, Atrial breadycardia 2.1%, Aheart block 3.3%, Stroke 0.3%, Cardiac catheterization PCI 6.2%, DC cardioversion 0.8%,Catheter oblation therapy 5.1%, Arterial flatter 1.7%, Cardiomyopathy 0.4%, Diseases of the heart valves 6.2%, rheumatic heart disease 0.7%, pericarditis s0.4%, Congenital heart disease 0.3%, heart failure 1.7%, pulmonary embolism 0.02%.

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Table (3): Results of the most prominent disease cases arrhythmia (cardiac disorders) according to data and practical extrapolation (ECG)

No.	Arrhythmia	Youth - % (20-50) year	Women after 50 years-%	Men after 50 years- %
1.	Sinus Arrhythmia	3%	4%	6.2%
2.	Sinus Bradycardia	2.1%	2.5%	1.7%
3.	Sinus Tachycardia	5 %	3%	6.2%
4.	Atrial tachyarrhythmia’s	2.3%	4.3%	4.1%
5.	Atrial breadycardia	2.1%	2.1%	2%
6.	Atrial flutter	0.01%	1.7%	2.6%
7.	Atrial fibrillation	0.7%	4.7%	3.1%
8.	Ventricle fibrillation	0.001%	0.03%	0.6%
9.	Ventricle tachycardia	4.1%	5.3%	5.4%
10.	Excrasystol (ectopic)	3.4%	9.4%	6.2%
11.	Long Q -T Syndrome	0.6%	1.2%	0.8%
12.	Heart block	2.3%	3.3%	2.1%
13.	Wolff-Parkinson-White Syndrome	0.01%	0.01%	0.001%
14.	STEMI	0.001%	3.1%	4.2%
15.	NSTEMI	0.003%	4%	6.1%

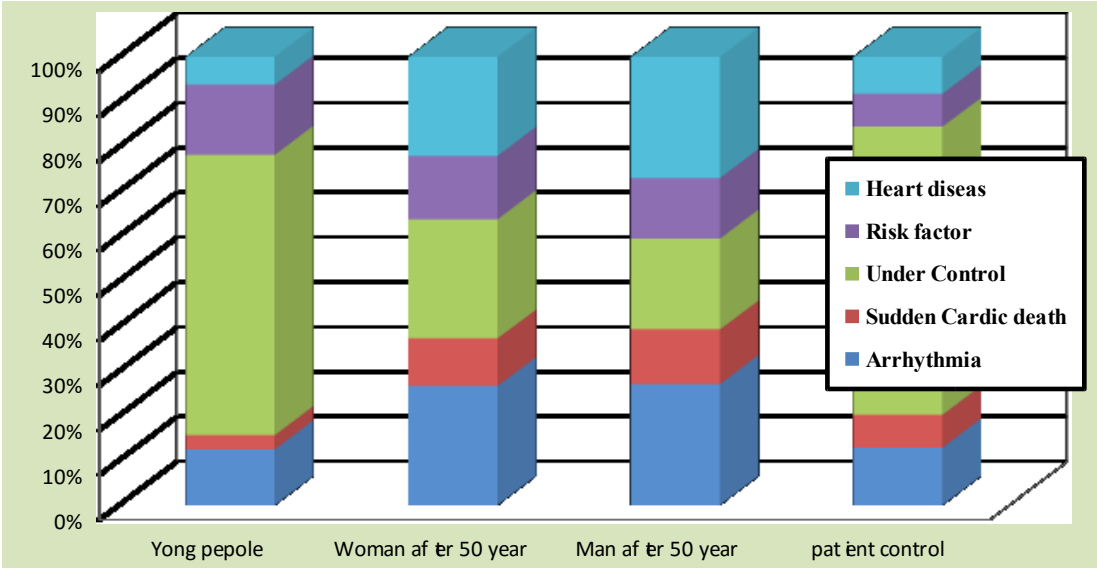
Table (4): Summary of treatment Anti-arrhythmic drug According to classification (Sigh Vaughan William) (Oxford university)

Class/Ion Affected	Agents	Physiologic Effect	Result on Electrophysiologic Parameters	Clinical Utility
Class I (Na^+ channel blockers)				
IA (intermediate)	Disopyramide Quinidine Procainamide	↓ Conduction velocity ↑ Refractory period	↑ QRS complex and ↑ QT interval	Atrial and ventricular arrhythmias
IB (fast)	Lidocaine Mexiletine	↓ Conduction velocity ↓ Refractory period	↓ QT interval	Ventricular arrhythmias
IC (slow)	Flecainide Propafenone	↓↓↓ Conduction velocity Ø Refractory period	↑ QRS complex	Supraventricular arrhythmias and ventricular arrhythmias
Class II (β-Blockers)	Metoprolol Esmolol Atenolol	↓ Conduction velocity ↑ Refractory period	↓ HR and ↑ PR interval	Atrial and ventricular arrhythmias
Class III (K^+ channel blockers)	Amiodarone Dronedarone Sotalol Dofetilide Ibutilide	Ø Conduction velocity ↑↑↑ Refractory period	↑ QT interval	Atrial and ventricular arrhythmias
Class IV (Ca^{2+} channel blockers)	Diltiazem verapamil	↓ Conduction velocity ↑ Refractory period	↓ HR and ↑ PR interval	Atrial and ventricular arrhythmias

Conclusion

The new scientific effort contributes to the development of work by treating patients safely, especially due to what our countries suffer according to the available capabilities to reduce heart disease and the essence of Arrhythmia Which was our main topic, which causes angina pectoris and when it leaves side effects on human health, work is limited to patients, causes outside and inside the heart.

((Statistical graph of patients))



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