

Research & Reviews: Journal of Pharmaceutical Quality Assurance

A Review on Heart Attack

Chandra sekhar rao.T*

Department of Cardiology,

Research Article

Received: 27/10/2016
Accepted: 22/12/2016
Published: 23/12/2016

*For Correspondence

Corresponding author
affiliation.

Keywords: Coronary artery,
blood coagulation, Heart attack

E-mail:
rohith.talluri@gmail.com

ABSTRACT

A heart attack happens when a conduit to the heart turns out to be completely blocked and blood stream to part of the heart is halted. This denies the heart of oxygen, and part of the heart muscle begins to bite the dust. Early medicinal treatment is basic to guarantee this harm is not perpetual.

Coronary artery disease is blockage of the coronary supply routes, the veins that give blood to the heart. Much of the coronary artery disease individuals experience is brought on by atherosclerosis, which is also known as hardening of the arteries. Coronary artery infection can grow gradually and take decades before it produces symptoms, or it can come on suddenly. Left untreated, it can prompt angina or intense myocardial dead tissue. Treatment for coronary artery disease can include lifestyle changes, solutions, or surgical and insignificantly obtrusive techniques.

INTRODUCTION

A heart attack is a genuine medicinal crisis in which the supply of blood to the heart is abruptly blocked, normally by a blood coagulation^[1-4]. The absence of blood to the heart can genuinely harm the heart muscles. On the off chance that left untreated, the muscles will start to bite the dust. The therapeutic term for a heart attack is myocardial dead tissue.

Side effects of heart Attack

- mid-section torment: the mid-section can feel like it is being squeezed or crushed by an overwhelming item, and the agony can transmit from the mid-section to the jaw, neck, arms and back
- shortness of breath
- overpowering sentiment nervousness

Heart attacks and coronary disease

Most heart attacks happen in individuals with coronary illness, which is brought about by atherosclerosis. Atherosclerosis is a genuine condition where the supply routes get to be contracted and solidified by the development of bunches of cholesterol, called plaques^[5-8].

The two veins that supply the heart are known as the coronary corridors. Individuals with solidified and limited coronary courses are said to have coronary illness (CHD).

Hazard components for CHD include:

- smoking
- high-fat eating routine
- diabetes
- being overweight or stout

Risk Factors

As you can envision, there are an extensive variety of heart attack hazard variables. Be that as it may, as specified in EMG's Heart Attack: An Introduction article, atherosclerotic plaque break is the reason for ~90% of heart attacks [9]. The staying 10% are brought on by whatever else that can briefly or for all time diminish blood stream to the heart, for example, vein disease, loss of blood, other heart harm, and medication use (cocaine, amphetamines, and so on.) among others. Therefore, this article will essentially concentrate on danger elements for atherosclerotic plaque development.

There are two wide classes of heart attack hazard variables: wild heart attack hazard elements and controllable heart attack hazard factors.

Wild Heart Attack Risk Factors

Hazard considers that can't be controlled incorporate age, male sex, family history of early coronary vein disease (<45 year old male or <55 year old female), and male example sparseness.

Controllable Heart Attack Risk Factors

Hazard figures that can (and ought to) be controlled incorporate smoking or different types of tobacco use, diabetes, hypertension, high LDL cholesterol or low HDL cholesterol, stoutness, absence of activity, anxiety, poor dental cleanliness, and sort An identity^[10-20]. Dial for an ambulance quickly in the event that you think that you or somebody you know is showing at least a bit of kindness attack^[21,22]. Paramedics would much rather be shouted to discover that an innocent misstep has been made than be gotten out when it is past the point where it is possible to spare a man's life.

Awaiting for Ambulance

You ought to then sit and rest while you Await for the ambulance to arrive. In the event that you are not susceptible to headache medicine and have some by you, or if there is somebody with you who can get them for you, bite one grown-up ibuprofen tablet (300mg). Be that as it may, on the off chance that they are not adjacent, the individual ought to stay with you - they ought not go chasing for headache medicine^[23-28]. Try not to get up and look around for a cerebral pain pharmaceutical. This may put superfluous strain on your heart.

Reasons for a heart attack
Hypertension

If your blood pressure is consistently higher than it should be, it is called high blood pressure (on the other hand hypertension) [29-32].High circulatory strain is not an sickness in itself. However, it can lead to an increased risk of heart sickness and strokes. Throughout the years, hypertension slowly damages the blood vessels by making them narrower what's more, more unbending. This implies your heart needs to work harder to push the blood through your blood vessels, and the overall pulse rises, making it simpler for clusters to get caught and for fatty debris (atheroma) to block your blood vessels. This is the thing that happens in heart attacks and strokes.

High cholesterol level

At the point when the cholesterol level in your blood is high, it adds to the greasy develop in the covering of your veins, called atheroma, which expands your danger of coronary illness and strokes^[33-42]. Most specialists use hazard evaluation graphs to recognize your danger as far as that you are so liable to create heart or stroke issues later on. In view of your other danger calculates, your specialist will choose what cholesterol level is ok for you.

Diabetes

Diabetes is one of the real hazard elements for coronary illness and stroke. Individuals who have diabetes are somewhere around 2 and 5 times more prone to create coronary illness and stroke than individuals who don't. Uncontrolled diabetes adds to harm to the veins and the development of greasy stores in the courses, which builds the danger of coronary illness and stroke. Individuals who have Type 2 diabetes will probably have high LDL ('terrible')l. cholesterol, which is a danger element for coronary illness and stroke. Individuals who have Type 2 diabetes are likewise more prone to have hypertension – another danger variable for coronary illness and stroke^[42-48]. On the off chance that you as of now have other cardiovascular danger considers, your dangers duplicate. The uplifting news is that there are things you can do to control your diabetes and decrease your cardiovascular dangers.

Smoking

The poisons that are contained in cigarettes both slender the carotid courses and harm them, which makes individuals who smoke more helpless against coronary illness. When you smoke, around 4,000 chemicals are discharged. These incorporate no less than 80 disease bringing on chemicals, several toxic substances and nicotine (a very addictive medication). In the event that you show some kindness condition, smoking may aggravate your manifestations. Smoking makes the smooth covering of veins unpleasant. This empowers the development of atheroma, the greasy material that strait and squares veins^[49-54]. Smoking builds the measure of fibrinogen (blood thickening operator) in the blood and makes it stickier. This builds the possibility of blood clusters shaping that can bring about heart attacks and strokes.

Not getting enough work out

Getting more practice can: expand your activity resilience which empowers you to accomplish more as you get to be fitter, lower cholesterol levels, lower hypertension, help you shed pounds, keep you supple and more versatile. fortify your muscles, joints and bones diminish pressure, empower unwinding and advance rest give you a feeling of prosperity and certainty reduce tension and discouragement. Keep in mind that the heart is a muscle and it should be practiced to keep it solid. When you are sitting still, it barely needs to work by any stretch of the imagination. The less you do, the less you can do.

Being overweight

Being overweight expands the work the heart needs to do, adds to hypertension, and may prompt anomalous levels of fat in the blood. It is likewise connected with diabetes, respiratory diseases, nerve bladder issues and a few diseases. Having the capacity to control your weight and keep it inside sound levels can lessen your danger of cardiovascular sickness and keep incessant infection from intensifying. It is a smart thought to be as close as you can to your optimal weight. This is best accomplished by controlling your weight through a parity of eating steadily and keeping as dynamic as possible. Your body mass Index (BMI) and your midriff estimation are both exact methods for evaluating if your weight is inside the typical reach.

Drinking too much alcohol

It is important to moderate your liquor consumption as drinking vigorously expands your blood pressure, affects your cholesterol level and can make you gain weight^[55-60]. Binge drinking, that is drinking large amounts over a short period of time, is particularly harmful. The quality of liquor is measured by the rate of liquor by volume (%ABV).

For example:

There is 1 unit of alcohol in a solitary measure (25mls) of soul of 37.5% vol. There are 1.5 units of alcohol in one small glass (125mls) wine then again champagne of 12% vol. There is 1 unit of liquor fifty-fifty a pint of standard strength (3.5% vol) beer or lager. Some individuals still feel that 1 drink = 1 unit. This is not valid! Remember, it is the strength and size of a drink that determines how many units it contains. You have to read the label to be accurate. Home measures are often more generous than those in a pub or restaurant. For example, a large 440ml bottle or can of strong beer (6.5%) has 3 units of alcohol in it.

Unhealthy food

There are some key changes you can make to your eating designs which have been ended up being of advantage in decreasing your danger of stroke. Some of these progressions especially apply to individuals with contributing variables, for example, hypertension and elevated cholesterol. Eating a more beneficial eating regimen may just include rolling out little improvements in suppers you as of now eat – eating somewhat more of a few things and less of others. A sound changed eating routine ought to incorporate nourishments from all nutrition types – sugars, (for example, pasta, rice, potatoes, root vegetables and bread), proteins, (for example, meat, eggs, fish and poultry), dairy items, leafy foods.

The general adhering to a good diet message is to:

- eat no less than 5 parts of products of the soil every day
- expand the admission of fiber in your eating routine
- Decrease the fat in your eating routine, supplanting immersed fats with unsaturated fats or oils.
- eat less sugar
- moderate your salt admission
- check the sustenance names – this gets you used to comprehending what is in the nourishment you are eating

Drug abuse

Some recreational medications – like cocaine, amphetamines (velocity) and bliss – can bring about your pulse to rise. Some recreational medications can expand your circulatory strain, and numerous illicit medications thus called 'legitimate highs' influence the heart. And also loads of different consequences for your cerebrum and body, they can bring about raised pulse, expanded heart rate and an unpredictable pulse. Cocaine causes your coronary veins to choke, raising your pulse and decreasing the blood supply to your heart. Amid the main hour after cocaine utilize, the danger of a heart attack increments by about 24 times. The danger of coronary illness amongst cocaine clients is exacerbated by other danger elements, including smoking and drinking abundance liquor – the mix of every one of the 3 can be a deadly mixed drink.

Other danger components

You might be one of the general population who does not have any of these danger considers but rather still creates coronary illness. You may have other hereditary elements (that is, went on through families) that may improve the probability of you creating coronary illness. Other danger elements are known not the shot of creating coronary illness. These incorporate age and being male or female. On the off chance that a nearby individual from your family has been influenced by coronary illness, you ought to do everything conceivable to decrease your danger of coronary illness. It is additionally vital that your specialist completes a cardiovascular (CVD) hazard evaluation on you to discover a particular danger calculates that you may have.

Diagnosing a heart attack

On the off chance that a heart attack is suspected, you ought to be admitted to healing center promptly. You will as a rule be admitted to an emergency unit so that the analysis can be affirmed and treatment can start.

Starting tests

When rescue vehicle or therapeutic staff arrives, they will start tests to discover what is transpiring. These will include:

- ECG (electrocardiogram) - to demonstrate the measure of harm to your heart muscle and where the harm is. Treatment to reestablish blood stream and minimize the measure of heart muscle harm (this is called 'reperfusion') can be accomplished in various routes relying upon your ECG readings, so it is critical that you have an ECG at the earliest opportunity to indicate precisely what is going on^[61-63].
- evaluation of circulatory strain and blood oxygen levels
- blood tests

Setting up an analysis

An ECG will indicate which of the two principle sorts of heart attack you have had with a heart attack being distinguished by irregular changes on your ECG perusing, (that is, changes to the example of a typical heart beat). This is called ST height. The nearness and level of ST height demonstrates the seriousness of blockage in the blood stream to your heart.

Your ECG will demonstrate which of the two fundamental sorts of MI (heart attack) you have had. There are two conceivable situations:

- Your ECG demonstrates a complete blockage - this is known as ST Elevation Myocardial Infarction (STEMI).
- Your ECG demonstrates a fractional blockage, however some blood is still ready to stream (this may prompt a full blockage). This is known as Non ST Elevation Myocardial Infarction (NSTEMI).

Which kind of MI you have had will choose what crisis treatment is a good fit for you.

Infrequently, when mid-section torment happens abruptly, it is indistinct in the event that it is because of insecure angina or a heart attack, and after that another kind of treatment would be required.

Until tests affirm your finding, specialists may portray your condition as Acute Coronary Syndrome (ACS). Brief tests, examinations and determination are vital so that the fitting treatment can be given to you as fast as could reasonably be expected.

Blood tests

Routine blood tests include:

- Full blood number (FBC) - This test measures the levels of red platelets, white platelets and platelets. It additionally measures the hemoglobin (oxygen conveying segment of red platelets).
- Urea and Electrolytes (Us and Es) - Urea levels screen how the kidneys are functioning. Electrolytes (eg sodium, potassium) and minerals (eg calcium) settle the heart cadence.
- Glucose - This test measures the level of sugar in the blood.
- Liver and thyroid capacity - This test can demonstrate some other variations from the norm.

Other blood tests

These include:

- Troponin blood test - troponin is a protein which is discharged into the circulatory system when the heart muscle is harmed. The troponin level gives a snappy and precise measure of any heart muscle harm. It is utilized to analyze a heart attack and may should be gone up against admission to doctor's facility and/or 12 hours from the onset of indications.
- Checking for modified hormone levels - this can be a conceivable reason for hypertension
- Cholesterol level and lipid profile

Mid-section X-Ray

A mid-section X-beam can be valuable if the analysis of a heart attack is questionable and there are other conceivable reasons for your side effects, for example, a pocket of air caught between the layers of your lungs (pneumothorax). A mid-section X-beam can likewise be utilized to check whether any complexities have emerged from the heart attack, for example, a development of liquid inside your lungs (pneumonic oedema).

Echocardiogram

Infrequently alluded to as a 'reverberation', this is a ultrasound heart examine. Initial, a unique jam is connected to your mid-section. An administrator then lays a test on the mid-section and moves it around, on the jam, to get distinctive perspectives.

Sound waves ricochet data about the structure of the heart back to a PC to make a photo of the heart. This delineates for the specialist:

- the extent of your heart
- how well your heart muscle is functioning
- how well your heart valves are functioning

Coronary angiography

An angiogram is a X-beam examination of your heart (additionally called cardiovascular catheterisation), which is utilized to survey harm to your coronary veins.

A catheter (tube) is embedded, under nearby sedative, into a primary vein in your upper leg or lower arm and afterward passed delicately into your aorta (the expansive conduit which supplies the heart muscle with its own particular blood supply). A color is then infused which fills the veins of your heart (coronary conduits) and a X-beam picture is taken. This photo can then be contemplated to evaluate which supply routes are blocked and how extreme the blockages are.

You can't feel the catheter in your heart, yet a few people encounter a 'hot flush' when the color is infused. Mediations to treat a blockage can once in a while be performed in the meantime as an angiogram. This is called percutaneous coronary mediation (PCI) or angioplasty.
Treating a heart attack

Your treatment arrangement

Your treatment arrangement will rely on upon the sort of heart attack you have had.

There are two prompt means to the underlying treatment for a heart attack:

to alleviate torment and stun

to reestablish blood stream and minimize the measure of heart muscle harm (this is called 'reperfusion').

What treatment you get will rely on upon the kind of heart attack you have had.

Emergency treatment

This is as per the following:

- treatment to calm shock and pain
- antiplatelet treatment headache medicine
- Emergency reperfusion treatment

Early reperfusion minimizes the degree of heart muscle harm and jelly the pumping capacity of your heart.

Quick therapeutic consideration and assessment of your individual circumstance by rescue vehicle and/or medicinal staff, and your land access to treatment focuses, will decide the strategy best for you.

Treatment to calm Shock and Pain

This can incorporate infusions of solid torment calming medications, for example, morphine. This additionally unwinds your breathing and simplicity nervousness. There is likewise oxygen treatment (to help with your breathing and help your body to get enough oxygen) and medications to stop affliction and queasiness (hostile to emetics).

Antiplatelet treatment

Antiplatelet treatment is a type of medication that diminishes the blood and averts thickening. This begins the way toward disposing of the coagulation that is hindering a coronary vein as fast as could reasonably be expected. This is given paying little mind to what kind of heart attack you have had that is, in both STEMI and NSTEMI.

It comprises of:

- an underlying dosage of 300mg ibuprofen, either in the rescue vehicle or when you get to healing facility
- further antiplatelet treatment, contingent upon the consequences of your underlying tests.

CONCLUSION

Heart attack is a genuine infection that influences a large number of individuals. If not controlled, it can advance and prompt handicap and at times passing. Because of advances in pharmaceutical, social insurance suppliers can help you control heart disappointment. For most patients, treatment comprises of drugs and embracing more beneficial propensities. For a great deal of patients, taking day by day prescription is imperative in controlling heart disappointment. Your solution ought to be taken as endorsed and any reactions ought to be accounted for promptly to your specialist.

REFERENCES

1. Izgaryshev AV, Babich OO, Karchin KV, Bezyukov JE, Izgarysheva NV (2016) Hydrolysis of the Red Blood Cells of Pig and Cattle to Ensure Optimum Conditions for the Manufacturing of Iron-Containing Products Having Maximum Heme Iron. *Biol Med (Aligarh)* 8:330.
2. Wang Y, Huang Z, Chen B, Tong X (2016) Fresh Red Blood Transfusion as a Successful Erythrocyte Cholinesterase Supplement in Organophosphate Poisoning. *J Clin Toxicol* 6:312.
3. Santos Ribeiro JN, Lins de França JA, Monteiro MF, Santos Cavalcanti CB, et al. (2016) Behaviour of Blood Glucose Diabetes Type 2 on the Cardiac Stress Test: A New Paradigm? What is its Importance? *Diabetes Case Rep* 1:108.
4. Karki K, Ewing JR, Ali MM (2016) Targeting Glioma with a Dual Mode Optical and Paramagnetic Nanoprobe across the Blood-brain Tumor Barrier. *J Nanomed Nanotechnol* 7:395.
5. Hamid T, Zaman M, Rose S, Malik N (2016) Switching of Ticagrelor to Clopidogrel at 3 Months in

- Patients Treated for Acute Care Syndrome; Single Centre Experience. *Cardiovasc Pharm Open Access* 5:194.
6. Liu T, Li Z, Wang T, Zhu X (2016) Effects of Alfalfa Saponins on Cholesterol Metabolism in Broilers. *J Nutr Food Sci* 6:546.
 7. I Helim MA, Hashem S, Essam T, Omar M (2016) Cholesterol Lowering Capability of some Lactobacillus Strains and its Effect on Mice Fed a High Cholesterol Diet. *Clin Microbiol* 5:253.
 8. Boarelli P, Monclus M, Lancellotti TS, Cabrillana M, Simón L, et al. (2016) Simultaneous Study of Cholesterol and GM1 Ganglioside by Specific Probes: Lipid Distribution during Maturation, Capacitation and the Acrosome Reaction. *J Cytol Histol* 7: 412.
 9. Scicchitano P, Marzullo A, Ciccone MM (2014) The Role of Intimal Arterial Calcification in the Context of Atherosclerotic Plaque Stability. *J Cytol Histol* 5:e111.
 10. Ghadban R, Haddad L, An K, Thacker II LR, Salyer J (2016) Smoking Behavior in Arab Americans: A Systematic Review. *J Community Med Health Educ* 6:462.
 11. Shakeel S, Farrukh U (2016) Dental Patients' Apprehensions about the Effects of Smoking and Role of Dentists in Smoking Cessation Activities. *J Med Diagn Meth* 5:1000225.
 12. Decker KP, Peglow SL, Samples CR (2016) Medication Treatment for Smoking Cessation in Patients with Comorbid Medical or Psychiatric Problems during Substance Use Rehabilitation. *J Alcohol Drug Depend* 4:243.
 13. Keizer I, Gex-Fabry M, Croquette P, Khan AN (2016) A Short Motivational Program Based on Temporary Smoking Abstinence: Towards Increased Self-Efficacy to Quit in Psychiatric Inpatients. *J Addict Res Ther* 7:289.
 14. Kuzmenko T, Aryayev ML, Lowe JB (2016) The Role of Genetic Polymorphism of IL-4 (C-589T) and TNfa (G-308A) and Regular Passive Smoking in Clinical Manifestations of Pneumonia in Infants. *Clin Pediatr* 1:106.
 15. Apple RW, Greydanus DE, Merrick J (2016) Smoking Cannabis is Especially Dangerous for Youth Diagnosed with Attention Deficit/Hyperactivity Disorder (ADHD). *J Community Med Health Educ* 6:451.
 16. Chaowu Y, Xiangbin P, Zhongying X, Gejun Z, Hong Z, et al. (2016) Diastolic Pulmonary Arterial Pressure as a Prognostic Indicator for Closure of Atrial Septal Defect with Severe Pulmonary Arterial Hypertension . *J Hypertens* 5:231.
 17. Nole T, Lionel TDW, Cedrix TFS, Gabriel AA (2016) Ethnomedical and Ethnopharmacological Study of Plants Used For Potential Treatments of Diabetes and Arterial Hypertension by Indigenous People in Three Phytogeographic Regions of Cameroon. *Diabetes Case Rep* 1:110.
 18. Zha P, Sickora C, Chase SM, Erlewein M (2016) An RN/CHW Exemplar: Managing Hypertension in an Urban Community. *J Comm Pub Health Nurs* 2:135.
 19. Kabore T, Lazar J (2016) Prevalence and Risk Factors for Pre-Hypertension Among Adults in Burkina Faso, West Africa. *J Comm Pub Health Nurs* 2:130.
 20. Chalupova L, Halupova L, Zakovska A, Krejci G, Svestak M, et al. (2016) CTRP1: A Molecular Link between Obesity and Hypertension . *J Mol Biomark Diagn* 7: 289.
 21. Skog S, Linda W, Lindström V (2016) A Development of the Prehospital Emergency Care, The Registered Nurses' Role in the Ambulance Service – A Swedish perspective. *Emergency Med* 6:294.
 22. Crombie N, George A, McQueen C (2015) Role Allocation and Team Dynamics during Pre-Hospital Rapid Sequence Induction of Anaesthesia by a Physician-Critical Care Paramedic Team in the United Kingdom: A 12 Months Review of Practice. *J Anesth Clin Res* 6:507.
 23. Erbay H (2016) When does the Paramedics' Duty End? *J Clin Res Bioeth* 7:1000280.
 24. McTernan JL, Matthews E (2015) Measuring Paramedics' Understanding of and Attitude towards Chronic Diabetes Care: A Bridge to Community Health. *J Community Med Health Educ* 5:328.
 25. Hegg-Deloye S, Corbeil P, Brassard P, Prairie J, Larouche D et al. (2014) Work-related and Dietary Factors Associated with Weight Gain over the Period of Employment in Paramedics. *Occup Med Health Aff* 2:173.
 26. Zaidi SA, Ahme F (2016) Acupuncture in Primary Headache Disorders; Review of the Evidence. *J Neurol Disord* 4:288.
 27. Elisa A, Federica G, Nicoletta M, Irene S, Serena M, et al. (2016) Psychological Treatment for Headache: A Pilot Study on the Efficacy of Joint Psychoeducational Group and Relaxation Training. *J Neurol Neurophysiol* 7:379.
 28. Agatonovic-Kustrin S, Ortakand DB, Morton DW (2015) Migraine Headaches: Feverfew or Chamomile Leaves?. *Mod Chem appl* 3:169.
 29. Agudelo CF, Dvir S, Yilmaz Z, Kocaturk M (2016) Effect of Cuff Placement on Blood Pressure Measurement in Conscious Healthy Dogs. *J Vet Sci Technol* 2016 7:363.
 30. Soltani HM, Namayandeh SM, Latifeh J, Moghadam B, Maleknaz, et al. (2016) The Effect of Fasting During Ramadan on Blood Pressure in Patients with Controlled and Mild Hypertension. *J Hypertens*

- 5:227.
31. Kawamoto R, Ninomiya D, Kasai Y, Kusunoki T, Ohtsuka N, et al. (2016) Influence of Oxidative Stress on Blood Pressure among Japanese Community-Dwelling Persons. *Endocrinol Metab Syndr* 5:242.
 32. Duong-Quy S, John Craig T, Tran-Phi D, Thi-Thao-Tram T, Ho-Viet-Thuy D, et al. (2016) Prevalence and Characteristic of Obstructive Sleep Apnea Syndrome in Subjects with High Blood Pressure: A Pilot Study in Vietnam. *J Vasc Med Surg* 4:273.
 33. Liu T, Li Z, Wang T, Zhu X (2016) Effects of Alfalfa Saponins on Cholesterol Metabolism in Broilers. *J Nutr Food Sci* 6:546.
 34. El Helim MA, Hashem S, Essam T, Omar M (2016) Cholesterol Lowering Capability of some Lactobacillus Strains and its Effect on Mice Fed a High Cholesterol Diet. *Clin Microbiol* 5:253.
 35. Heidari A (2016) Molecular Dynamics and Monte-Carlo Simulations for Replacement Sugars in Insulin Resistance, Obesity, LDL Cholesterol, Triglycerides, Metabolic Syndrome, Type 2 Diabetes and Cardiovascular Disease: A Glycobiological Study. *J Glycobiol* 5:e111.
 36. Wanyama FM, Kigundu CS, Mburu DN, Ngugi NN, Kiboi N (2016) Evaluation of High Density Lipoprotein Cholesterol as a Predictor of Diabetic Nephropathy in Type 1 Diabetic Patients. *Clin Med Biochemistry Open Access* 2:117.
 37. Boarelli P, Monclus M, Lancellotti TS, Cabrillana M, Simón L, et al. (2016) Simultaneous Study of Cholesterol and GM1 Ganglioside by Specific Probes: Lipid Distribution during Maturation, Capacitation and the Acrosome Reaction. *J Cytol Histol* 7: 412.
 38. Reyes-Escogido ML, Gómez-Navarro CM, Ramírez-Ardila SD, Martínez-Pérez F, Guardado-Mendoza R (2016) A Comparative Study of Some Functional Properties of Lactobacillus and Enterococcus Isolated from Feces of Normo and Hyper-Cholesterolemic Humans. *J Bacteriol Parasitol* 7: 274.
 39. Rivas MN, Ramírez IFP, Gallardo E, Peña JLG, Becerra JJ, et al. (2015) Characterization of Lipids in Femoral Atheroma from Diabetic Patients and Their Use as Clinical Descriptors. *J Bioanal Biomed* 7:144-155.
 40. Ayari H (2015) FABP4 Expression as Biomarker of Atheroma Development: A Mini-Review. *J Mol Biomark Diagn* 6:218.
 41. Ayari H (2014) Transforming Growth Factor- β Expression as Biomarker of Atheroma Development: A Mini Review . *Transcr Open Access* 4:139.
 42. Faber T, Rippey A, W Brian Hyslop, Hinderliter A, Sen S (2013) Cardiovascular MRI in Detection and Measurement of Aortic Atheroma in Stroke/TIA patients. *J Neurol Disord* 1:139.
 43. Tenenbaum HC, Nogueira G, Javed F (2012) Is there a Common Mechanism that Explains the Links between Inflammation and Coronary Artery Disease; Calcification of Atheromas. *Anaplastology* 1:e104.
 44. Chobanyan N, Allison Kruger K, Nebb S, Jackson G, Asin V, et al. (2016) Evaluation of Environmental Risk Factors for Type 2 Diabetes in Sint Maarten. *J Environ Anal Toxicol* 6:386.
 45. Rachel C, Thomas O, Steven H, Steve EH, Jeffrey WS, et al. (2016) The -765G>C Cyclooxygenase-2 Promoter Polymorphism is associated with Type 2 Diabetes Mellitus, Low High-density Lipoprotein and Manifest Angina. *J Diabetes Metab* 7:686.
 46. Bayramova AN (2016) Gastroenterological Diseases as a Complications of Type 2 Diabetes Mellitus. *J Gastrointest Dig Syst* 6:442.
 47. ang X, Tang Z, Zu Y, Fang W, Chen Q (2016) A Randomized Controlled Clinical Trial on the Treatment of Type 2 Diabetes with Depression by Wu Ling Capsule. *J Clin Trials* 6:273.
 48. Hernandez HE, Htway Z, Eichner A (2016) Baseline Anemia Analysis of Hispanic Dialysis Patients with and without Type 2 Diabetes . *J Mol Histol Med Physiol* 1:105.
 49. Cen J, Xiong Q, Yang X, Xu Z (2016) Study on the Features of Coronary Artery Atheromatous Plaque for Patients with Impaired Glucose Tolerance when Applying Intravascular Ultrasound. *Cardiovasc Pharm Open Access* 5:177.
 50. Rivas MN, Ramírez IFP, Gallardo E, Peña JLG, Becerra JJ, et al. (2015) Characterization of Lipids in Femoral Atheroma from Diabetic Patients and Their Use as Clinical Descriptors. *J Bioanal Biomed* 7:144-155.
 51. Ayari H (2015) FABP4 Expression as Biomarker of Atheroma Development: A Mini-Review. *J Mol Biomark Diagn* 6:218
 52. Ayari H (2014) Transforming Growth Factor- β Expression as Biomarker of Atheroma Development: A Mini Review . *Transcr Open Access* 4:139.
 53. Faber T, Rippey A, W Brian Hyslop, Hinderliter A, Sen S (2013) Cardiovascular MRI in Detection and Measurement of Aortic Atheroma in Stroke/TIA patients. *J Neurol Disord* 1:139.
 54. Tenenbaum HC, Nogueira G, Javed F (2012) Is there a Common Mechanism that Explains the Links between Inflammation and Coronary Artery Disease; Calcification of Atheromas.

Anaplastology 1:e104.

55. Wu C, Deng J, He G, Zhou R (2016) Metaproteomic Characterization of Daqu, a Fermentation Starter Culture of Chinese Liquor. *J Proteomics Bioinform* 9:049-052.
56. Ghaffar A, Ahmed B, Munir B, Faisal R, Mahmood Z (2015) Production and Characterization of *Streptokinase Enzyme* by Using *Streptococcus mutans* Strain in Liquid State Fermentation through Corn Steep Liquor (CSL) Substrate. *Biochem Physiol* 4:178.
57. Inam-ul-haq, Khan MT, Ramzan M, Masood-ur-Rehman, Mansoor Khan K, et al. (2015) Development of a Silo for High in vitro Digestible Silage using different Biomass and Rumen Liquor as Fermenting Agent. *J Veterinar Sci Technol* 6:238.
58. Weissgram M, Herwig C, Weber HK (2015) Biotechnological Generation of Value Added Products from Spent Pulping Liquors: Assessing the Potential of Extremophiles. *J Bioprocess Biotech* 5:241.
59. Nassef E, El-Taweel YA (2015) Removal of Copper From Wastewater By Cementation From Simulated Leach Liquors. *J Chem Eng Process Technol* 6:214.
60. Míguez-Burbano MJ, Bueno D, Rodriguez A, Vargas ME, Richardson E, et al. (2014) Thrombocytopenia, Liquor Use and Marijuana are Associated with Non-invasive Markers of Liver Fibrosis in People Living with HIV. *J Alcohol Drug Depend* 2:168.
61. Kalra A, Lowe A, Al-Jumaily AM (2016) Quantifying Skin Stretch induced Motion Artifact from an Electrocardiogram signal-A Pilot Study. *J Biosens Bioelectron* 7:204.
62. Dhayalan D, Nooray SS (2016) Intelligent Information Extractor through Artificial Data Analyzer Mechanism in Electrocardiogram Data. *J Pat Care* 2:107.
63. Omar HR, Helal E, Mangar D, Camporesi EM (2016) Delayed Cath- Lab Activation for STEMI Due to Erroneous Computer Electrocardiogram Interpretation: A Note of Caution for Emergency Physicians. *Emergency Med* 6:306.