LBS 3 EMBARGOED Media Briefing 7:30-8:30 am CT, Saturday, Nov. 14, 2020.

[LBS 3 Briefing Speakers](https://newsroom.heart.org/_gallery/get_file/?file_id=5facb97d2cfac23264b15500&file_ext=.docx&page_id=) (doc)

HARMONY REYNOLDS – HARP-MINOCA

I'M PLEASED TO PRESENT THE AMERICAN HEART ASSOCIATION STUDY CALLED CORONARY OCT AND CARDIAC MRI TO DETERMINE UNDERLYING CAUSES OF MANUKA IN WOMEN. >> HERE ARE MY DISCLOSURES. WHAT IS MYOCARDIAL INFRACTION WITH NON-OBSTRUCTIVE CORONARY ARTERIES >> THERE BLOCKED LESS THAN HALFWAY ARE NOT PLUCKED OF ALL THERE ARE THREE TIMES MORE COMMON THAN MEN WITH HEART ATTACK AND IN THE FOUR YEARS AFTER A MINOCA EVENT THE PRIOR STUDY SHOWS THE RISK OF A MAJOR ADVERSE CARDIOVASCULAR EVENTS OVER FOUR YEARS IS 24% AND THE RISK OF DEATH OVER FIVE YEARS IS 11%. RIGHT NOW, DOCTORS TOLD PATIENTS DIFFERENT MESSAGES ABOUT MINOCA AND ME AND CORRECTLY SAY THAT IT WAS NOT A HEART ATTACK . I HAD A PATIENT WAS TOLD ARTERIES ARE OPEN . MINOCA HAS SEVERAL CAUSES. IN THE UPPER LEFT YOU CAN SEE PLAQUE RUPTURE AND A RATION AND THAT IS BASICALLY CHOLESTEROL, PLAQUE AND BODIES AND THOSE ARE THE CAUSES OF THE LARGE MAJORITY OF HEART ATTACK EVENTS THAT HAVE ABSTRACT CORONARY DISEASE WITHIN MINOCA THESE ARE CAUSES AND THERE'S A WIDER RANGE OF ADDITIONAL CAUSES AND ONE OF THOSE IS CORONARY ARTERY SPASM AND HAVE A MUSCLE LINING IN A GO INTO A MUSCLE CRAMP TEMPORARILY BLOCKING THE ARTERY AND THAT IS THE SPASM AND CORONARY DISSECTION IS A COST HARDER CLIENT DISTRICT HEART ATTACK BLEEDING INTO THE WALL OF THE ARTERY. SOME PATIENTS HAVE BLOOD CLOTS THAT FORM IN THE ARTERIES OR TRAVEL TO THE ARTERIES FROM OTHER PLACES. SOME OF THE PATIENTS DO NOT HAVE A HEART ATTACK AT ALL AND INSTEAD HAVE MYOCARDITIS AND INFLAMMATION OR INFECTION OF THE HEART MUSCLE OR THEY MAY HAVE A DIFFERENT PROBLEM AFFECTING THE HEART MUSCLE NOT RELATED TO BLOOD FLOW. THESE THINGS ARE TREATED DIFFERENTLY SO THE --WHEN WE FIND THE MECHANISM , WE LIKE TO TREAT THAT SPECIFIC MECHANISM AND YOU CAN SEE LISTED HERE ARE THE DIFFERENT POTENTIAL TREATMENTS FOR THE MECHANISMS. OUR OBJECTIVE THEN TO DETERMINE THE FREQUENCY OF VASCULAR CAUSES OF MINOCA ON CORONARY AND MYOCARDIAL OF THE REALITIES ON CARDIAC MRI THEY COULD BE ISCHEMIC, RELATED TO BLOOD FLOW OR NONISCHEMIC NOT RELATED TO BLOOD FLOW WE WANTED TO UNDERSTAND HOW COMMON EACH OF THE UNDERLYING CAUSES ARE BASED ON THE IMAGING TESTS. WE ENROLLED WOMEN WITH HEART ATTACK OR REFER FOR CARDIAC CATHETERIZATION BECAUSE THEY WERE THOUGHT TO BE VASCULARIZATION AND IF IT SHOWED AT LEAST HALFWAY NARROWED ARTERIES, A MY WITH CONSTRUCTIVE --OBSTRUCTIVE CORONARY DISEASE OR ABSENCE OF A CORONARY DISSECTION THEY WERE NOT ELIGIBLE. IF INSTEAD THEY HAD MINOCA THEY WERE TO HAVE CORONARY OCT TARGETED TO ALL THREE VESSELS AND CARDIAC MRI TARGETED IN ONE WEEK. THE IMAGES WERE INTERPRETED AS SEPARATE CORE LABORATORIES WHERE THE READERS WERE BLENDED TO DETAIL CLINICAL INFORMATION AND THE RESULTS OF THE OTHER IMAGE TEST. OCT USES LIGHT TO MAKE IMAGES OF THE ARTERY WALLS USING AN IMAGING CATHETER PLACED INSIDE THE ARTERIES AND OCT CAN SHOW PLAQUE AND BLOOD CLOTS EVEN IF THEY ARE NOT SEEN ON ANGIOGRAM AND A CARDIAC MRI USES STRONG MAGNETIC FIELD TO MAKE DETAILED IMAGES OF THE HEART BEFORE AND AFTER CONTRAST WAS GIVEN AN OUNCE EMR THE ENHANCEMENT INDICATES WERE SEVERE DAMAGE AND HYPER INTENSITY OR ABNORMAL MAPPING INDICATING SWELLING OR EDEMA OF THE HEART. PATTERNS OF CMR CAN INDICATE A PROBLEM RELATED TO THE ARTERIES, VASCULAR PROBLEM OR PROBLEM NOT RELATED TO THE ARTERIES. WE FOUND OCT CORPORATE LESIONS IN 46% OF THE WOMEN WITH MINOCA. ON THE UPPER LEFT IS A NORMAL ARTERY . YOU CAN SEE HOPEFULLY THAT IT HAS GOT A NICE NEAT NARROW WALL THAT IS VERY REGULAR AND EVEN AND IN THE EXAMPLE ON THE RIGHT OF A NORM OR ARTERY WITH PLAQUE RUPTURE THE ARROW POINTS TO A BREAK IN THE CAP OVERLYING THE PLAQUE AND THE DOUBLE ARROW POINTS TO BLOOD CLOT FORMED IN THAT AREA AND THIS IS A COMMON MECHANISM OF HEART ATTACK BUT IN THIS CASE THE AMOUNT OF PLAQUE IS LESS THAN YOU WOULD EXPECT FOR SOMEONE WITH THE TYPICAL CORONARY DISEASE. THE SUBSEQUENT FINDINGS AFTER PLAQUE RUPTURE AND THE INTERPLAY CAVITY AND LAYER PLAQUE AND WE SAW THOSE TWO ALONG WITH THE SMALLER NUMBER OF OTHER PROBLEMS. THE CARDIAC MRI FINDINGS WERE ABNORMAL IN 74% OF THE WOMEN. 33% HAD INFARCTIONS SEEN HERE ON IT MRI EXAMPLE IN THE ROUND OF BLACK CIRCLES THE HEART MUSCLE AND THE WHITE IS THE AREA OF SCARRING TYPICAL OF HEART ATTACKS. AT 21% OF THE WOMEN HAD REGIONAL INJURIES SO THEY DID NOT HAVE THE ENHANCEMENT BUT THEY DID HAVE THE AREA OF SWELLING OF THE MYOCARDIUM THAT CORRESPONDED TO THE TERRITORY FOUNDED BY THE CORONARY ARTERY AND PRIOR STUDY SHOWN IF YOU TEMPORARILY CLOSE AND OPEN A CORONARY ARTERY YOU WILL GET A PATTERN THAT LOOKS LIKE REGIONAL INJURY SO THE FINDINGS ARE ISCHEMIC. MRI SHOWS NONISCHEMIC FINDINGS IN 21% AND 25% OF THE WOMEN HAD ABNORMAL CARDIAC EFFORTS. WHEN WE PUT THE OCT AND MRI TOGETHER WE WERE ABLE TO FIND THE CAUSE AN 85% OF THE WOMEN AND THREE QUARTERS OF THOSE WERE MYOCARDIAL INFARCTION AND THE OTHER WERE NONISCHEMIC. 15% OF THE WOMEN WE CANNOT IDENTIFY A CAUSE. AN EXAMPLE CASE SHOWN HERE REALLY ILLUSTRATES THE POWER OF THE IMAGING FINDINGS TO CHANGE THE CARE OF WOMEN WITH HEART ATTACK AND THIS EXAMPLE IS A 44- YEAR-OLD WOMAN WITH NO CORONARY ARTERY DISEASE WITH CHEST PAINS AND HEAVY MENSTRUAL BLEEDING AND SHE HAD A HIGH PEAK TROPONIN OF 3.25 AND UNEXPECTEDLY IN THIS YOUNG WOMAN WITH NO CARDIAC RISK FACTORS, SHE HAD A TYPICAL PLAQUE RUPTURE AND THE CARDIAC MRI SHOWED PERFECTLY CORRESPONDING TO THE TERRITORY OF THE ARTERY AND THERE WAS AN AREA OF HEART ATTACK AT THE END OF THAT ARTERY WALL AND THERE IS NO WAY TO MAKE THE DIAGNOSIS WITHOUT ADDITIONAL IMAGING AND IN THE ABSENCE OF IMAGING SHE WAS DEFINITELY WOULD'VE BEEN TREATED DIFFERENTLY. WHAT MAKES THE RESULTS IMPORTANT AND I'VE HIGHLIGHTED THE MAIN RESULTS. OCT AND CMR PROVIDE DIAGNOSTIC INFORMATION INDEPENDENTLY AND IN COMBINATION . IDENTIFY THE DETAILED DIAGNOSIS HELPS DOCTORS SELECT TREATMENT AND HELPS PATIENTS UNDERSTAND WHY MEDICATIONS MAY BE PRESCRIBED. OCT AND CMR TOGETHER PROVIDE SUPPORT THAT THE PLAQUE RUPTURE CAN CAUSE HEART ATTACK IN IT'S A MAJOR SCIENTIFIC CONTRIBUTION OF THE STUDY BUILDING ON THE PRIOR LITERATURE AND APPROXIMATELY HALF OF WOMEN WITH MIR REGIONAL INJURY HAD NO OCT CULPRIT IDENTIFIED IN THIS WAS LIKELY DUE TO CORONARY SPASM OF TRIBALISM OR PERHAPS OCT MISSED IT. MECHANISM OF MINOCA WERE SIMILAR TO MECHANISMS OF MI SO IT'S IMPORTANT TO THESE WOMEN TO RECEIVE MEDICATIONS FOR PREVENTION.

THANK YOU, VERY MUCH.