8th Global

Cardiologists & Echocardiography Annual Meeting

July 18-20, 2016 Berlin, Germany

Metalloproteinase 9 levels of the extracellular matrix and ambulatory blood pressure monitoring in individuals with pre-hypertension

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The term pre-hypertension is employed when systolic blood pressure ranges from 120 to 139 mmHg or diastolic blood pressure ranges from 80 to 89 mmHg. This new classification was introduced due to the excessive mortality and high conversion rates to clinical hypertension among individuals with a marginal increase in blood pressure. Besides being associated with an increase in the incidence of cardiovascular events, prehypertension is an intermediate pathway to full hypertension, which makes adequate diagnosis and treatment essential. Ambulatory blood pressure monitoring is a good tool for the evaluation overall of cardiovascular risk and important to the diagnosis and prognosis of hypertension. This measure can contribute to the stratification of individuals with prehypertension based on variables such as central blood pressure and arterial stiffness with the aim of defining individuals with prehypertension that could benefit from treatment. Moreover, aspects involved in vascular remodeling and arterial stiffness are highlighted among the different physiopathological mechanisms that characterize the multifactor etiology of high blood pressure. Recently, there has been increasing interest in the study of proteolytic enzymes, such as metalloproteinases (MMPs), which are found at elevated levels in patients with poor cardiovascular outcomes. The increased activity of MMPs can impair vascular relaxation and consequently contribute to hypertrophy of the arterial walls, leading to vascular dysfunction and contributing to an increase in arterial stiffness in populations with different degrees of arterial stiffness in populations with different degrees of arterial hypertension, especially those with prehypertension.

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Azithromycin (ARMOR) must replace benzathine penicillin for treatment and prophylaxis of rheumatic fever

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The standard and age-old treatment of RF/RHD is a single injection of Benzathine Penicillin G given intramuscular after sensitivity test in a dose of 1.2 million units. For secondary prophylaxis, this is followed by Injection Benzathine Penicillin given intramuscular, each time after sensitivity test, after every 21 days (3weeks), in the same dose of 1.2 million units. Use of Penicillin Injection in this day and age must be banned as it can cause death from anaphylaxis, serious allergic reactions, great pain, discomfort, fever, rashes, arthritis etc. many of which are features of RF/RHD itself. The compliance at best is 40%. There is no treatment of ARF that has been proven to alter the likelihood of developing, or lessened the severity of RHD. In a study of 1790 patients from 11 countries, RF recurred in 8 (.45%) in those who received Benzathine Penicillin prophylaxis compared with 11 of 96 (11.5%) who did not comply. This shows that recurrence may occur even with best prophylaxis and that compliance is very important. The drug of choice for the past 60 odd years has been Penicillin in different forms namely: Phenoxymethyl Penicillin 500mg oral twice daily or Amoxycillin 1g daily divided in 3 doses, Injection Procaine Penicillin IM twice a day, or Benzathine Penicillin G single dose IM 1.2 million units. Alternative to above drugs are Erythromycin Cephalosporins and Tetracyclines, Sulphadiazine, macrolides and Azalides etc. If this treatment is started within 9 days of onset of sore throat almost all cases of ARF will be prevented. But all above drugs have a big list of disadvantages of using in RF/RHD. This fact is extremely important if we want to shift to a better drug for primary prevention and also to treat recurrent attacks of ARF as well as for the secondary prevention in terms of safety, availability, compliance, efficacy, affordability and tolerability. The only drug with all these properties is Azithromycin. ARMOR: Arati's Regime for Management of RF: Modern day treatment is to give tablet Azithromycin 500 mg once daily for 5 days consecutively, followed by prophylaxis with 1 tablet of Azithromycin 500 mg only once a week i.e. say every Sunday morning for, 1 year only. We have been using this regime for more than 8 years in our hospital with miraculous results. In most parts of India this is the regime being used though text books still stick to a toxic and dangerous drug like Penicillin.