THE IMPACT OF NORTHEAST JAPAN EARTHQUAKE ON ACUTE MYOCARDIAL INFARCTION AND HEART FAILURE

Background: Tragic magnitude 9.0 earthquake hit Northeast Japan on 11 March 2011. Even at medical center in Chiba prefecture which is located 400 km away from a hypocenter have experienced a strong quake. City’s function was thrown into confusion for couple of days, but not so many people were reported to be dead in our medical district and population change was limited. According to the past statistics, in such a disastrous situation, tend to increase acute myocardial infarction (AMI) patients but relation with heart failure (HF) is unknown. Our objective was to investigate whether disaster stress will increase AMI and HF patients.

Methods: Retrospective study was performed at our medical center located at Chiba, Japan. We have compared 307 AMI patients and 800 HF patients who were hospitalized between Mar 11th to Aug 10th (6 month period) for years 2006 to 2012. Monthly figure stands for 11th of the month to 10th of next month. The age for AMI/HF was from 32 to 92 (mean 67.6±11.7) /26 to 99 (mean 73.1±11.7) and gender for AMI/HF were Male 273(80.8%) /514(64.2%). Study was made between “2006 to 2010 plus 2012” group and “2011” group.

Results: The number of AMI patient for “2011” March was 15 and average for “2006 to 2010 plus 2012” group was only at 5.7. The AMI number after catastrophe increased by 163% and strong correlation between the number of aftershock and AMI were seen. There were no significant difference between groups in age, gender, coronary risk factors, culprit lesions, onset to arrival time, maximum creatine kinase and systolic blood pressure at arrival. The number of HF patients in “2011” were 31.3, 36.4 and 27.4% larger for March, April and May figure comparing to the average of “2006 to 2010 plus 2012” group.

Conclusions: This study demonstrates that disaster stress might be the risk factor for AMI and increases hospitalized patients. Also we have experienced the importance of percutaneous coronary intervention facility running after the catastrophe since number of patients will increase. The effect of earthquake remained longer in HF patients. Over all, further investigation involving multiple centers are required.