

High systolic BP in patients with chest pain linked with favorable prognosis

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New research finds that there is an inverse association between the level of supine (lying face up) systolic blood pressure measured on admission to an intensive care unit for acute chest pain and risk of death at one year, with those patients having high systolic blood pressure having a better prognosis after a year, according to a study in the March 24/31 issue of *JAMA*.

High blood pressure (BP) when measured after a resting period is among the best studied and established risk factors for cardiovascular disease, according to background information in the article. "However, little is known about the relationship between BP under acute stress, such as in acute chest pain, and subsequent mortality," the authors write.

Fredrik H. Nystrom, M.D., Ph.D., and colleagues from Linkoping University, Linkoping, Sweden, examined the death rate in relation to supine systolic BP measured at admission to an [intensive care unit](#) (ICU) for chest pain from 1997 through 2007. The study included analysis of data from 119,151 patients in a registry that includes all Swedish hospitals. Results from this study were presented according to systolic BP quartiles: Q1, less than 128 mm Hg; Q2, from 128 to 144 mm Hg; Q3, from 145 to 162 mm Hg; and Q4, at or above 163 mm Hg. Average follow-up time was 2.5 years.

The researchers found that the one-year mortality rate, after adjustment for various factors, showed that participants in Q1 of systolic BP had highest risk for death; conversely, patients in Q4 had the best prognosis.

"Corresponding adjusted absolute risks were a 21.7 percent lower absolute risk for death within 1 year for patients in Q4 compared with Q2. The mortality risk was 15.2 percent lower for patients in Q3 compared with Q2 while the risk for patients in Q1 was 40.3 percent higher for mortality compared with that in Q2," the authors write.

"High supine systolic BP measured in patients with acute chest pain was associated with a favorable 1-year prognosis," they write. "There is an inverse association between admission supine systolic BP and 1-year mortality rate in patients admitted to the medical ICU for chest pain. This finding also applies to those patients who are diagnosed with ischemic heart disease and those who eventually develop [heart attack]."

More information: JAMA. 2010;303[12]:1167-1172.

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