

A systematic review of whether people with DM experience less chest pain when having a myocardial infarction

Abstract

Background

People with diabetes mellitus (DM) are more likely to have a myocardial infarction (MI) compared to people without diabetes. DM autonomic neuropathy may lead to alteration and so under recognition of infarction pain. There is conflicting research on this subject

Methods

Standard methods including searches of Pubmed / Embase using MOOSE criteria for meta analysis of observational data. Data was meta-analysed.

Results

Searches identified 1566 abstracts, 16 meeting our full criteria. Authors used a variety of classifications of symptoms such as absence of chest pain (CP), and typical /atypical (T/AT) classification. 16 papers identified patients with CP /no CP symptoms during an MI, those with DM having an odds ratio (OR) for CP during MI of 0.51 (0.51 to 0.52). (n=471723) However, one study dominates the review with 20 times the study size of all other studies. Conversely one study reported using T/AT showed a non significant increase in DM having typical symptoms OR 2.37 (0.84-6.67).

Seven papers identified other non pain symptoms such as increased breathlessness among DM (OR 1.46 (1.30-1.65 n=6069). For other symptoms such as sweating and extra cardiac pain (arm, neck pain) data is available but not yet analysed.

Conclusion

Patients with DM experience less CP, and more non pain symptoms such as breathlessness during their MI. Limitations of the review include issues around recruiting on the basis of CP (selection bias), identifying patients who are admitted to hospital (survivor bias) and gender, age and morbidity disparity between groups.