

Abstract: Impact of Prodromal Symptoms on future adverse cardiac-related events: A systematic review

Background

Recognition of specific and nonspecific cardiac-related prodromal symptoms, indicative of myocardial ischemia, is critical for pre-emptive coronary heart disease (CHD) screening and effective diagnosis and treatment. In this systematic review, we examined whether prodromal symptoms were predictive of acute symptom presentations, cardiac events, or treatment interventions.

Methods

Studies that measured the association of prodromal symptoms with acute coronary syndrome (ACS) symptom presentation, acute cardiac event, and/or intervention in men and/or women with confirmed CHD were included.

Data sources

Electronic searches in the Cochrane Library, MEDLINE, PubMed, PsychINFO, Embase, CINAHL, and Scopus databases from 1990 to 2013 were conducted using medical subject heading terms including prodromal symptoms, ACS, acute myocardial infarction, unstable angina, and CHD. Keywords such as shortness of breath, anxiety, atypical pain, sleep disturbance, fatigue, and nausea/vomiting were also used. Abstracts, relevant journals, key authors, and reference lists were reviewed.

Results

Seven studies that included 6716 individuals with prodromal symptoms (65.7% women). Mean age was 68 T 13 and 58.5 T 9 years for women and men, respectively. Cardiac-related prodromal symptoms were predictive of patients' ACS-related symptoms and associated events from 3 to 24 months. Across studies, the prodromal symptoms consistently reported before cardiac event were chest discomfort/pain (n = 4, 57%), arm pain/discomfort (n = 6, 86%), jaw pain (n = 3, 43%), back/shoulder blade pain (n = 3, 43%), unusual fatigue (n = 7, 100%), shortness of breath (n = 6, 86%), sleep disturbance (n = 2, 29%), dizziness (n = 3, 43%), headache (n = 3, 43%), anxiety (n = 7, 100%), and gastrointestinal complaints (nausea, vomiting, indigestion; n = 5, 71%). Patients with prodromal arm, jaw, and back pain; fatigue; and shortness of breath had increased risk of experiencing similar symptoms during an ACS episode. Prodromal symptoms were predictive of adverse cardiac events and cardiac interventions. There is some preliminary evidence to suggest that prodromal symptoms of headache, sleep disturbance, and anxiety may predict ACS symptom presentation during an acute cardiac event.



Conclusion

Future research is warranted that would examine prospectively the predictive value of prodromal headache, sleep disturbance, and anxiety within this cardiovascular population on major adverse cardiac events. Pre-emptive screening for cardiac-related prodromal symptoms in men and women should be considered as a standard in clinical practice. This may potentiate early diagnosis, effective risk modification, timely pain management, and treatment intervention and decrease CHD-related morbidity and mortality.

O'Keefe-McCarthy S, Ready L. Impact of Prodromal Symptoms on Future Adverse Cardiac-Related Events: A Systematic Review. *Journal of Cardiovascular Nursing.* 2016;31(1):E1-E10. doi:10.1097/JCN.0000000000000207.

Table 1 Methodological Quality of the Studies Reviewed (n=7)

Methodological Quality Assessment Scale of Prodromal Studies

Study	Selection (Max = 2 ^a)	Comparability (2 ^a)	Outcome (3 ^a)	Total Score (Max = 7 ^a)
1. Hofgren et al, 1995	b	a	b	5
2. McSweeney et al, 2003	b	a	c	6
3. Graham et al, 2008	b	b	b	6
4. Lovlien et al, 2009	b	b	a	5
5. Cole et al, 2012	b	b	c	7
6. McSweeney et al, 2013	b	b	c	7
7. O'Keefe-McCarthy et al, 2013	b	b	b	6

Based on the Newcastle-Ottawa Quality Assessment for Nonrandomized Studies (Wells et al, 2001).

^a1 star

^b2 stars

^c3 stars

What's New or Important

- ♥ Individuals who experienced cardiac-related prodromal symptoms were more likely to report the same or similar symptoms during the ACS presentation.
- ♥ Early recognition of prodromal symptoms is imperative for effective targeting, screening, diagnosis and timely treatment to identify those at risk for future CHD-related events.
- ♥ Pre-emptive recognition of prodromal symptoms has the potential to reduce unnecessary healthcare burden, influence clinical practice, and improve cardiovascular-related outcomes for people living with CHD.

