Widespread body pain and mortality: prospective population based study

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FROM ABSTRACT

Objective:
To determine whether there is excess mortality in groups of people who report widespread body pain, and if so to establish the nature and extent of any excess.

Design:
Prospective follow up study over eight years. Mortality rate ratios were adjusted for age group, sex, and study location.

Setting:
North west England.

Participants:
6,569 people who took part in two pain surveys during 1991-2.

Main outcome measures:
Pain status at baseline and subsequent mortality.

Results:
1005 (15%) participants had widespread pain, 3176 (48%) had regional pain, and 2388 (36%) had no pain.

During follow up mortality was higher in people with regional pain (mortality rate ratio 1.21, 95% confidence interval 1.01 to 1.44) and widespread pain (1.31, 1.05 to 1.65) than in those who reported no pain.

The excess mortality among people with regional and widespread pain was almost entirely related to deaths from cancer (1.55 (1.09 to 2.19) for regional pain and 2.07 (1.37 to 3.13) for widespread pain).

The excess cancer mortality remained after exclusion of people in whom cancer had been diagnosed before the original survey and after adjustment for potential confounding factors.
There were also more deaths from causes other than disease (for example, accidents, suicide, violence) among people with widespread pain (5.21, 0.94 to 28.78).

Conclusion:
There is an intriguing association between the report of widespread pain and subsequent death from cancer in the medium and long term.

This may have implications for the long term follow up of patients with “unexplained” widespread pain symptoms, such as those with fibromyalgia.

**What is already known on this topic:**

(1) Widespread body pain, the cardinal symptom of fibromyalgia, is common.

(2) An organic basis for symptoms is found in only a small proportion of people.

(3) Treatment is difficult, and studies with short term follow up have shown that symptoms commonly persist.

**What this study adds:**

(1) This was the first study with long term follow up of people with widespread pain in the community.

(2) These people experience an increased mortality and the excess is principally related to deaths from cancer.

**THESE AUTHORS ALSO NOTE:**

Widespread pain in the body is the cardinal symptom of fibromyalgia. Studies of patients with fibromyalgia show that it is a difficult condition to treat and symptoms rarely resolve.

Studies on patients with fibromyalgia find that only a small proportion have an organic basis for their symptoms.

This is a population based, prospective cohort study that involved 6569 people.

Widespread pain was defined according to the American College of Rheumatology criteria for fibromyalgia, which requires axial skeleton pain in addition to pain in two contralateral body quadrants.
Participants who reported pain but who did not meet the widespread pain definition were classified as having regional pain.

Results

Of the 6569 participants:
1005 (15%) had widespread pain
3176 (48%) had regional pain
2388 (36%) had no pain

In total there were 654 deaths among participants during the 8 year follow up period.

“Mortality was lowest in those who originally reported no pain (10.1 per 1000 person years).”

“Mortality was increased across regional pain (13.1/1000 person years) and widespread pain (16.2/1000 person years) groups.”

“Most of the deaths in the study cohort were due to cardiovascular disease (40%), cancer (31%), or respiratory disease (16%), with only 11% due to other diseases.”

Those with regional pain were three times more likely to die than pain free subjects during the follow up period. [From all causes, not just cancer].

Those with widespread pain were five times more likely to die than pain free subjects during the follow up period. [From all causes, not just cancer].

However, “there was no relation between pain status reported on the original survey and subsequent mortality from either cardiovascular or respiratory disease.”

“The excess risk was almost all due to deaths from cancer.”

“After adjustment for age group and sex, participants with regional pain and widespread pain were significantly more likely to die from cancer during the follow up period compared with those with no pain.”

This increased death from cancer persisted after the researchers removed 236 participants who had been diagnosed as having cancer at the start of the study.

Also, after adjusting for smoking status and level of psychological distress, those with widespread pain still had double the risk of death from cancer.
The three most common fatal cancers in the study were lung cancer, gastrointestinal tract cancer, and female breast cancer.

DISCUSSION

“This study has shown that people who report widespread pain have an increased risk of death, mainly from cancer, over the subsequent eight years.”

“Of those with widespread pain, 83% satisfied the definition of ‘chronic pain’ from the International Association for the Study of Pain (IASP).”

The authors are not aware of any previous large scale population study examining pain status with future cause specific mortality.

In this study, the excess mortality from cancer was still evident after adjustment for age and sex.

Even after adjusting for smoking and psychological distress, the authors “still found an approximate doubling of risk of death from cancer among people with widespread pain.” [DOUBLE]

“Lifestyle factors subsequent to these adverse events, possibly in combination with changes in neuroendocrine function, may result in both an increased reporting of pain and an increased risk of cancer.” [WOW!]

“In summary, we have shown an association between the report of widespread pain and excess mortality from cancer in the medium and long term.”

“The risk increased from about one in 60 among people reporting no pain to one in 20 among those with widespread pain.”

THIS ARTICLE GENERATED THE FOLLOWING COMMENTARY, IN PART:

Commentary: An interesting finding, but what does it mean?

I K Crombie, head of department of Epidemiology and Public Health, University of Dundee, Ninewells Hospital and Medical School, Dundee DD1 9SY

“If this study's findings are true then having pain for at least one day can increase the risk of death from cancer by over 20%. The risk is higher in the group who have widespread as opposed to regional pain.”
“The finding needs to be taken seriously because the study seems to have been well conducted and competently analysed.”

THIS ARTICLE GENERATED SEVERAL LETTERS, INCLUDING, IN PART:

**Widespread body pain, oncological terrain, and cancer.**

Stagnaro Sergio, Specialist in Blood, Gastrointestinal and Metabolic Diseases Riva Trigoso (Genoa) Italy.

“G.J. Macfarlane et al have wrote an article really intriguing, that appears to me interestingly in agreement with “Oncological Terrain.”

“Oncological Terrain” is based on a derangement of different intensity of the Neuro-Psycho-Endocrine-Immunological System, which are factors linked to widespread body pain and cancer development.

**Other variables that could lead to cancer in patients with Fibromyalgia and Generalized pain**

Linda Carson, Registered nurse/Educator/Administrator, Cleveland Institute of Dental/Medical Assistants, Inc.

“This study was excellent in the content presented, however, if it had been taken a few steps further perhaps more answers would have been documented.”

“One area that deserves investigation is studying the immune system of the patient who complains of generalized pain and is given the diagnosis of fibromyalgia.”

“If the study included quarterly blood studies of the immune system, it could be proven or disproven that the compromised immune system leads to pain; pain experienced long term could cause a predisposition to cancer.”
KEY POINTS FROM DAN MURPHY

After adjusting for psychological stress (which impairs the function of the immune system [the immune system helps control cancer]), and smoking (which causes cancer), pain sufferers (83% has chronic pain):

(1) Regional pain sufferers were significantly more likely to die of cancer.

(2) Widespread pain suffers were twice as likely to die of cancer.

(3) These authors suggests that possible changes in neuroendocrine function may result in both an increased reporting of pain and an increased risk of cancer.

(4) [I believe that there is evidence that the post-traumatic subluxation complex alters the neuroendocrine system.]

(5) Only 36% of this random group of people reported no pain at the start of this study. [Interesting and amazing].

COMMENTS BY DAN MURPHY

Whiplash injuries cause pain, and often result in chronic pain.


Immune system function is an important factor in cancer control.

This article shows a very significant increase in cancer deaths among those who suffer from pain, and primarily chronic pain.

Does the post-whiplash traumatic chronic pain syndrome result in a dysafferentation to the central neural axis, that alters the function of the neuroendocrine system, that alters the hypothalamic driven sympathetic innervation of the immune organs (primarily the bone marrow), altering the quality and quantity of immune system cells that are responsible for both the innate and adaptive immune responses, allowing cancerous cells to proliferate and thereby increasing the probability of death from cancer in these patents?