Chronic Pain and Depression:

A Complex Relationship

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Pain performs a protective function; ensuring our survival. Chronic non-cancer pain (CNCP) is pain that persists beyond its biological usefulness. Left untreated, the central nervous system becomes sensitized, resulting in prolonged pain, disability and pain that is refractory to treatment. One of the most common confounding factors in the treatment of CNCP is the presence of comorbid psychiatric illness.

Major depression (MD) is the most common comorbid disorder affecting patients with CNCP. Although pain includes negative emotions and unpleasant sensations, MD is more than dysphoric mood, but includes specific findings, natural history and treatment. A full discussion of the diagnostic criteria for MD can be found in the Diagnostic and Statistical Manual of Mental Disorders-IV Text Revision (DSM IV-TR). While depression can present as a comorbid psychiatric disorder in patients with chronic pain, pain can present as a symptom of primary MD.

Epidemiology

CNCP affects 29% of the Canadian population. The lifetime prevalence of a major depressive episode in the general population is 12.2%. In a population of patients with CNCP, 30% to 55% will have depressive symptoms and one-third will have MD.

Consequences

Left untreated, both MD and CNCP can have a significant negative impact on a patient's physical health status. MD is associated with an increased risk for stroke and cardiovascular disease.

Patients with CNCP suffer a profound reduction in physical, psychological and social well-being. Patients with a combination of MD and CNCP have more pain and suffering than found in each condition alone.

Patients with CNCP report suicidal ideation three times more often than does the general population. The presence of MD in patients with CNCP increases the likelihood of completed suicide.

Assessment

When pain symptoms predominate, it can distract a clinician's attention away from the examination for depression. If all primary care patients presenting with pain were assessed for MD, a positive diagnosis would be made in six out of 10 patients. Gallagher reports that a positive response to the following two questions has a sensitivity of 90% in identifying patients with a mood disorder:

1. Do you have a depressed mood or sadness most days for two or more weeks?
2. Do you lack enjoyment or interest in doing things most days for two or more weeks?

More in-depth screening instruments are available in the public domain through the Medical Algorithm Project (www.medal.org). However, to fully diagnose MD, patients can be referred to a psychiatrist or GP skilled in the assessment of psychiatric illness. The SIGECAPS scale can be helpful in making the diagnosis (Table 1).

Screening for suicidal ideation and intent is essential in a patient with MD. The risk of suicide can be determined through the use of such scales as the SADPERSONS Scale (Table 2).

Table 1
SIGECAPS scale for the assessment of depression

Definition	Assessment Issue
Sleep	The presence of insomnia. Atypical depression can present with hypersomnia
Interest	Anhedonia: The loss of interest and motivation in doing activities
Guilt	Feelings of guilt possibly related to the impact that the pain-related disability has on other family members
Energy	The presence of low energy
Concentration	The presence of problems related to concentration. Pain and depression can affect concentration, independently of one another
Appetite	The presence of reduced appetite. Check for weight loss. Atypical depression can present with hyperphagia (overeating)
Psychomotor	The presence of psychomotor retardation or agitation
Suicidality	The presence of suicidal ideation and suicidal intent

Major depression: depressed mood or interest and 4 SIGECAPS factors for ≥ 2 or weeks
Dysthymia = depressed mood or interest and 3 SIGECAPS factors most days for 2 ≥ years

Other factors that increases lethality in a suicidal patient include:

- access to a weapon,
- the occurrence of a recent life-altering event (*e.g.,* death, divorce),
- command hallucinations,
- religious preoccupation,
- a persistent hostile environment and
- frightened friends and family.

Treatment recommendations

Once a patient with chronic pain is identified as having MD, it is important to treat the mood disorder. The choice of antidepressant is informed by the recognition that all antidepressants impact mood, but not all impact pain. Dual action antidepressants, those that act on serotonin and norepinephrine, appear to have an impact on pain.

In general, the pharmacologic management of depression in patients presenting with pain can begin with a trial of a tricyclic antidepressants like nortriptyline or amitriptyline.

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Table 2

The modified SADPERSONS scale[1]

Parameter	Finding	Points
Sex	Male	1
	Female	0
Age	< 19	1
	19 to 45	0
	> 45	1
Depression or hopelessness	Present	2
	Absent	0
Previous attempts or psychiatric history	Previous suicide attempts or psychiatric care	1
	Neither	0
Excessive alcohol or drug use	Excessive	1
	Not excessive or none	0
Rational thinking loss	Lost due to organic brain syndrome or psychosis	2
	Intact	0
Separated, divorced or widowed	Separated, divorced or widowed	1
	Married or always single	0
Organized or serious suicide attempt	Organized, well-thought out or serious	2
	Neither	0
No social supports	None (no close family, friends, job or active religious affiliation)	1
	Present	0
Stated future intent	Determined to repeat, or ambivalent about the prospect	2
	No intent	0

Results analysis:

Score	Management
0 to 5	May be safe to discharge, depending on circumstances
6 to 8	Emergency psychiatric consultation
9 to 14	Probably requires hospitalization

Screening for suicidal ideation and intent is essential in a patient with major depression.

These medications have antidepressant effects and can provide analgesia. Athough these medications are relatively inexpensive, at antidepressant doses, patients are more likely to discontinue treatment due to side-effects (as compared to selective serotonin reuptake inhibitors [SSRIs]). However, most SSRIs appear to have little impact on pain.

An alternative is to combine a SSRI with a tricyclic. The tricyclic improves the antidepressant effect of the SSRI and provides analgesia.

In general, the pharmacologic management of depression in patients presenting with pain can begin with a trial of a dual-action tricyclic antidepressant, like amitriptyline.

Another option to consider is the use of a dual-action antidepressant like venlafaxine. Venlafaxine has been demonstrated to be effective in the treatment of primary depression, with pain as a symptom and specific painful conditions.

For primary depression, psychotherapy has been shown to improve the effectiveness pharmacotherapy. For patients with CNCP and MD, a multidisciplinary pain program combined with pharmacotherapy for the MD is recommended. Primary goals of such programs include rehabilitation and helping "patients to develop a sense of control over their pain and minimize its negative impact on their daily lives."

Conclusion

Pain is often associated with depression resulting in a significant negative impact on affected individuals. The combination results in additional impairment and disability and renders treatment more challenging. Patients with a primary mood disorder often present with pain as the primary symptom. Although an absolute cause-effect relationship has not been demonstrated between pain and depression, they do share common neuromodulators and neural pathways. Clearly, the relationship is an intimate one requiring the treating practitioner to be vigilant for the presence of a mood disorder in patients presenting with pain.

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Resources

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For more resources, please contact **cme@sta.ca**