**INTRODUCTION**

Chronic pain is a complex experience comprising two different components: sensorial and affective components of pain. Chronic pain can become maladaptive and incapacitating leading to a worsening in the prognosis, the response to treatment and reducing life quality of patients. Furthermore, many psychological factors get worse the affective component of pain leading to depressive symptoms. However, little is known about the possible modifications of pain processing when chronic pain condition manifests symptoms of depression. Noradrenergic system is a pivotal candidate projecting descending and ascending regulating sensorial and emotional aspects of pain, respectively. In the present study, we assessed the effect of desipramine (DMI), a tricyclic antidepressant versus DSP-4, a noradrenergic neurotoxin on the sensorial and emotional components of pain in rats submitted to chronic pain and/or depression.

**METHODS**

Neuropathic pain model: The Chronic Constriction Injury (CCI) was performed (Bennett and Xie, 1986).

Model of depression: Chronic Mild Stress (CMS) (Wilner, 2005).

Sensorial component: Mechanical allodynia was measured using von Frey (Berrocoso et al, 2011).

Affective component: Place escape avoidance test was performed (LaBuda and Fuchs, 2001).

**RESULTS**

1. **DMI prevented mechanical allodynia while DSP-4 did not show any effect in pain threshold**

![Graph showing pain threshold differences between groups: DMI, Sham, CCI, and DSP-4.](image)

2. **The negative pain experience was prevented by DMI and exacerbated by DSP-4**

![Graph showing negative pain experience differences between groups: DMI, Sham, CCI, and DSP-4.](image)

3. **Anhedonia was prevented by DMI while DSP-4 triggered anhedonia-like state**

![Graph showing anhedonia differences between groups: DMI, Sham, CCI, and DSP-4.](image)

4. **DMI and DSP-4 decrease the body weight**

![Graph showing body weight changes between groups: DMI, Sham, CCI, and DSP-4.](image)

**CONCLUSION**

In conclusion, depression highly determines affective-pain experience and this effect is prevented by inhibition of noradrenaline reuptake. On the other hand, the destruction of noradrenergic system in neuropathic rats, enhanced the negative pain experience leading to a concomitant state of chronic pain and depression. Overall, these results suggest that noradrenergic system play a major role regulating the affective interpretative pain experience.