

# Efficacy of memantine in the treatment of fibromyalgia

<b>Submission date</b> 25/06/2012	<b>Recruitment status</b> No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 03/08/2012	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 21/01/2019	<b>Condition category</b> Musculoskeletal Diseases	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Fibromyalgia is a long-term condition that causes pain all over the body. No effective treatments have been found so far. There is a need to develop of new and more effective treatments for fibromyalgia. New research has highlighted memantine's effectiveness at pain reduction with an extremely low incidence of side effects, even with prolonged use. The aim of this study is to assess the effectiveness of memantine in the treatment of fibromyalgia.

### Who can participate?

Patients aged between 18 and 65 with fibromyalgia.

### What does the study involve?

Participants are randomly allocated into two groups. One group is treated with memantine and the other group is treated with placebo (dummy) tablets. There are four visits during the study: at the start of the study, month 1, month 3 and month 6. During these visits patients fill in several questionnaires. At the start of the study and month 6 patients undergo brain scans.

### What are the possible benefits and risks of participating?

Not provided at time of registration.

### Where is the study run from?

Miguel Servet University Hospital & University of Zaragoza (Spain).

### When is the study starting and how long is it expected to run for?

September 2012 to May 2013.

### Who is funding the study?

Ministry of Health, Social Policy and Equality (Spain).

### Who is the main contact?

Dr José Javier García Campayo

## Contact information

**Type(s)**

Scientific

**Contact name**

Dr José Javier García Campayo

**Contact details**

Department of Psychiatry  
Miguel Servet University Hospital & University of Zaragoza  
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## **Additional identifiers**

**EudraCT/CTIS number**

2011-006244-73

**IRAS number****ClinicalTrials.gov number****Secondary identifying numbers**

EC11-387

## **Study information**

**Scientific Title**

Efficacy of memantine in the treatment of fibromyalgia: a double-blind randomised controlled trial

**Acronym**

NAP

**Study objectives**

Recent studies have demonstrated elevated levels of glutamate in different brain areas such as insula, hippocampus and posterior cingulate cortex in patients with fibromyalgia, suggesting the possibility of using N-Methyl-D-Aspartate Receptor (NMDAR) antagonist such as memantine in the treatment of this disorder. NMDAR antagonists possess significant pain-reducing and neuroprotective properties and are widely used in clinical practice. Dextromethorphan and ketamine have shown particular pain-reducing efficacy in fibromyalgia syndrome (FMS), although their use as longitudinal treatments is limited. New research has highlighted memantines effectiveness in the treatment of complex regional pain syndrome and phantom limb pain, suggesting that its quality of pain reduction is dependent on the type of pain being treated. Memantine exhibited an extremely low incidence of side effects in human clinical trials, and a recent trial extension demonstrated the drugs clinical tolerability even with prolonged use.

No effective treatments for fibromyalgia have been described. This is the first pharmacological treatment for fibromyalgia based on the physiopathology of the disorder. Previous preliminary studies of our group with memantine showed significant improvements in cognitive function, depression and global clinical impression.

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

Ethics Committee in Aragon (CEICA), 06/03/2012

**Study design**

Unicentric double-blind randomised trial

**Primary study design**

Interventional

**Secondary study design**

Randomised controlled trial

**Study setting(s)**

Hospital

**Study type(s)**

Treatment

**Participant information sheet**

Not available in web format, please use the contact details below to request a patient information sheet

**Health condition(s) or problem(s) studied**

Fibromyalgia

**Interventions**

Sample size for this study is 60 subjects recruited in the Mental Health Unit-Primary Care Center "Torrero" in Zaragoza. Patients will be randomly assigned to one of this groups:

1. Treatment group. Patients allocated to this group will receive 20 mg memantine daily (2 tablets of 10 mg each)
2. Control group. Patients in this group will receive placebo.

The dose of 20 mg will be reached following this schema:

1st week: 5 mg daily

2nd week: 10 mg daily

3rd week: 15 mg daily

From 4th week up to 24th week: 20 mg daily

**Intervention Type**

Drug

**Phase**

Not Applicable

**Drug/device/biological/vaccine name(s)**

Memantine

**Primary outcome measure**

Improvement in clinical variables:

1. Pain threshold
2. Pain perception
3. Cognitive state
4. Health status
5. State of anxiety and depression
6. Quality of life and
7. Perceived improvement

**Secondary outcome measures**

Glutamate levels in different brain regions (insula, hippocampus and posterior cingulate cortex) assessed by Magnetic Resonance Spectroscopy (MRS) and by Quantitative Encephalography and Electroencephalic Cordance on a subsample of 30 subjects (15 from the control group and 15 from the treatment group).

**Overall study start date**

01/09/2012

**Completion date**

31/05/2013

## **Eligibility**

**Key inclusion criteria**

1. Male or female aged between 18 and 65 years
2. Ability to understand Spanish
3. Diagnosis of fibromyalgia carried out by a rheumatologist according to the American College of rheumatology criteria (ACR1990)
4. Ability to read and understand the Patient Information Sheet
5. Signature of Informed Consent Form
6. In the case of women of childbearing age, commitment not to become pregnant during the entire duration of the study

**Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

18 Years

**Sex**

Both

## **Target number of participants**

60

## **Key exclusion criteria**

1. Undergoing drug treatment for fibromyalgia. Patients in current treatment for fibromyalgia will stop treatment and perform a washout period of one week. During that week the patient may take, if necessary, analgesics such as tramadol or paracetamol to minimise the influence of medication on brain imaging.
2. Currently taking memantine or having taken memantine during the 2 months prior to recruitment
3. Another Axis I psychiatric disorder using Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) that might hinder adherence to the protocol (e.g.: dementia, alcohol and/or substance abuse/dependence, schizophrenia, chronic delirium, acute depression)
4. Pregnancy or breast-feeding
5. Hypersensitivity to the active ingredient, memantine, or to the excipients
6. Medical conditions that require special precautions when administering memantine according to the summary of product characteristics:
  - 6.1. Epilepsy
  - 6.2. Circumstances that may cause high urine pH owing to Proteus urinary infection, renal tubular acidosis or vegetarian diet, recent myocardial infarction, congestive heart disease and uncontrolled arterial hypertension
7. Clinically significant and active evidence of liver or kidney disease, haematological, respiratory, endocrine or cardiovascular disease or disorders (patients with controlled diabetes and patients with controlled hypertension and complete or incomplete right bundle branch block can be included in the study)
8. Use of prescription drugs that may cause relevant drug interactions with memantine according to the summary of product characteristics: NMDAR antagonists (amantadine, ketamine, dextromethorphan), L-Dopa, dopamine agonists and cholinergic agonists.
9. Use of non-permitted concomitant medication during the week prior to the first evaluation visit or where the patient is expected to require treatment (with at least one of the drugs not permitted during the study): antidepressants (duloxetine, venlafaxine, mirtazapine, bupropion, SSRI, etc.), analgesics (pregabalin, gabapentin, opiates, etc.)

## **Date of first enrolment**

01/09/2012

## **Date of final enrolment**

31/05/2013

## **Locations**

### **Countries of recruitment**

Spain

### **Study participating centre**

**Miguel Servet University Hospital & University of Zaragoza**

Zaragoza

Spain

50009

# Sponsor information

## Organisation

Aragon Institute of Health Sciences (Instituto Aragonés de Ciencias de la Salud) (IACS) (Spain)

## Sponsor details

San Juan Bosco, 13  
Zaragoza  
Spain  
50009

## Sponsor type

Government

## Website

<http://www.iacs.aragon.es/awgc/>

## ROR

<https://ror.org/05p0enq35>

# Funder(s)

## Funder type

Government

## Funder Name

Ministry of Health, Social Policy and Equality (Spain)

# Results and Publications

## Publication and dissemination plan

Not provided at time of registration

## Intention to publish date

## Individual participant data (IPD) sharing plan

## IPD sharing plan summary

Not provided at time of registration

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Protocol article</a>	protocol	03/01/2013		Yes	No
<a href="#">Results article</a>	results	01/12/2014	21/01/2019	Yes	No