

Central sensitization is defined as hypersensitivity to pain and plays an important role, along with inflammation, in shaping the pain phenotype in patients with joint disease. The CSI is a screening tool to help clinicians identify patients with key symptoms associated with central sensitization (CS) and quantify the severity of these symptoms.

## Objective

To determine the presentation of central sensitization symptoms and its influence on clinical manifestations in patients with the most frequent rheumatic diseases: rheumatoid arthritis, osteoarthritis of the knee joints, and ankylosing spondylitis.

## Materials and methods

The study included 43 patients with reliable rheumatoid arthritis, 40 patients with knee osteoarthritis, and 40 patients with ankylosing spondylitis. The following parameters were assessed in all patients: age, duration of disease, pain syndrome severity according to VAS, central sensitization according to CSI scale, neuropathic component severity according to DN4 and Pain DETECT, anxiety/depression according to HADS scale, EQ-5D quality of life, and disease activity (DAS28, BASDAI) and WOMAC total index values in patients with rheumatoid arthritis and ankylosing spondylitis.

## Results

Signs of CS sensitization were detected in rheumatoid arthritis, in 62.7% (n=27), osteoarthritis of the knee joints in 60% (n=24) and ankylosing spondylitis in 37.5% (n=25). CS contributes to more intense pain, neuropathic features, and leads to a more pronounced decrease in quality of life and functional activity. Signs of CS have a close association with anxiety-depressive disorders

	CSI + RA (n= 27)	CSI - RA (n=16)	P
Age patients RA, age	51,0[42,0;59,0]	53,0[41,0;62,0]	0,9
Duration RA, age	7,0 [5,0;10,0]	9,0[2,0;18,0]	0,67
DAS28	5,2 [3,85;5,66]	4,46[3,65;5,35]	0,4
DN4	4,0 [ 2,0;5,0]	1,0[0,0;2,0]	0,003
Pain DETECT	14,0[6,0;18,0]	6,0[3,0;9,0]	0,007
VAS	60,0 [50,0;70,0]	60,0[40,0;70,0]	0,76
HADS (Anxiety)	10,0[7,0;11,0]	5,0[3,0;6,0]	0,001
HADS (Depression)	8,0 [6,0;10,0]	5,0[2,0;10,0]	0,06
EQ-5D	0,52[-0,02;0,52]	0,52[0,52;0,69]	0,02

	CSI + AS (n= 15)	CSI - AS (n=25)	P
Age patients AS, age	51,0[42,0;59,0]	53,0[41,0;62,0]	0,9
Duration AS, age	7,0 [5,0;10,0]	9,0[2,0;18,0]	0,67
DN4	4,0 [ 2,0;5,0]	1,0[0,0;2,0]	0,003
Pain DETECT	14,0[6,0;18,0]	6,0[3,0;9,0]	0,007
VAS	60,0 [50,0;70,0]	60,0[40,0;70,0]	0,76
HADS (Anxiety)	10,0[7,0;11,0]	5,0[3,0;6,0]	0,001
HADS (Depression)	8,0 [6,0;10,0]	5,0[2,0;10,0]	0,06
BASDAI	7,05 [5,7;8,3]	4,2 [3,5 ; 5,5]	0,01
BASFI	5,2 [3,0 ; 6,8]	2,8 [1,2 ; 4,9]	0,02

	CSI + OAk (n= 24)	CSI - OAk (n=16)	P
Age patients OAk, age	51,0[42,0;59,0]	53,0[41,0;62,0]	0,9
Duration OAk, age	7,0 [5,0;10,0]	9,0[2,0;18,0]	0,67
WOMAC	1367,0 [1051,0;1632,5]	860,0 [402,5;1132,0]	0,01
DN4	5,0 [4,0;6,0]	2,0 [1,0;3,0]	0,001
VAS	70,0 [60,0;80,0]	35,0 [30,0;50,0]	0,004
HADS (Anxiety)	11,0 [8,0;13,5]	7,0 [4,5;11,5]	0,04
HADS (Depression)	7,5 [5,0;10,0]	5,5 [2,5;9,5]	0,09

## Conclusion

Chronic joint pain has a mixed multicomponent character, CS along with inflammation plays an important role in pathogenesis and maintenance, which should be considered in therapy.