

# THE EFFECTS OF TECAR THERAPY ON PAIN, DISEASE ACTIVITY, RANGE OF MOTION AND FUNCTION IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS

**Simeon Grazio<sup>1</sup>, Ana Giljanović<sup>1</sup>, Hana Skala Kavanagh<sup>1</sup>, Frane Grubišić<sup>1</sup>, Sonja Muraja<sup>2</sup>, Branko Markulinčić<sup>2</sup>, Ines Doko Vajdić<sup>1</sup>, Simeon Grazio<sup>1</sup>**

<sup>1</sup> Department of Rheumatology, Physical and Rehabilitation Medicine, Sestre milosrdnice University Hospital Center, Croatia

<sup>2</sup> Special Hospital for Medical Rehabilitation Stubičke Toplice, Croatia  
e-mail: [simeon.grazio@kbcsrn.hr](mailto:simeon.grazio@kbcsrn.hr)

## Background and Aims

The Transfer of Energy Capacitive and Resistive (TECAR) therapy is PRM modality that predominantly increases tissue temperature, promotes blood flow and improves oxygen and nutrient delivery while reducing swelling and pain. TECAR therapy is used for numerous indications, including low back pain, knee osteoarthritis, painful shoulder, myofascial pain syndrome and many others. The aim of this study was to evaluate the effect of TECAR, on pain intensity (VAS), disease activity (VAS-GDA and Bath Ankylosing Spondylitis Disease Activity Index - BASDAI), function (Bath Ankylosing Spondylitis Functional Index - BASFI), and the range of motion (Bath Ankylosing Spondylitis Metrology Index - BASMI), in individuals with axial spondyloarthritis (axSpA), immediately after stopping the therapy (T1) and one month thereafter (T2).

## Methods

TECAR was applied in 6 sessions during 2 or 3 weeks, alongside exercise for patients with axSpA.

## Results

The study included 33 individuals of both sexes, aged between 18 and 65 years. In comparison with baseline values in T1 visit there was an improvement in VAS-pain (median baseline 6 vs 3; the average decrease of 44.82%), VAS-GDA (the median 5 vs 3; the average decrease of 26.88%). Also, BASDAI decreased by an average of 34.58%, BASMI by 28.27%, and BASFI by 27.47%. When comparing the results of 20 patients between T0 and T2 the positive effects faded away for BASDAI (-5.47%), but partially persisted for VAS-GDA (28.6%), BASFI (16.78%) and VAS-pain (17.2%).

## Conclusion

In our study of patients with axSpA, TECAR therapy has proven to be successful in alleviating pain, decreasing inflammation, and improving range of motion and function. Also, data showed that the effect for the majority of observed outcomes might not be long-lasting. Future research is needed to determine the extent to which TECAR therapy can reduce analgesic use and to compare its effect with some other treatment modalities.

**Keywords:** Ankylosing, spondylitis, Axial, spondyloarthritis, Efficacy