THERAPEUTIC APPLICATION OF COMPUTER-ASSISTED ELECTROSTIMULATION IN RHEUMATOLOGY AND PAIN MANAGEMENT

Outline By:
Julio E. Lergier Saliva, M.D., F.A.C.P.

I. INTRODUCTION

*Arthritis and chronic pain impact on society
*Mechanism of action

II. PATIENT EVALUATION AND SELECTION

*When to treat, when to refer
*Classification of chronic pain states (Emory pain estimate): Based on disease pathology (Exam, Lab, X-Rays, EMG, CT) and pain behavior (clinical observation-pain intensity, verbal/non-verbal, physical activity, drug intake [narcotics, tranquilizers, steroids], work/home disability syndrome).

EXAMPLE - worst prognosis, consider referral

1. LEARNED PAIN SYNDROME:

   Pain behavior in excess of pathologic findings, reinforced by consequences. Operant pain - multidisciplinary pain center.

2. SEVERE PATHOLOGY

   *osteoarthritis hip, knee, total joint replacement
   *acute severe joint effusion-arthrocentesis
   *cervical or lumbar herniated disc with motor weakness/reflexes 0-laminectomy
   *lumbar spinal stenosis with neurologic deficits, neurosurgery, epidural steroids.

III. GENERAL TECHNIQUE

1. Treat area of pain mainly, add adjacent peripheral nerves, motor trigger points and primary referral areas (cervical spine, lumbosacral spine).

2. Minimum 6 treatments, better 10 treatments optimal 15-20 treatments for chronic pain. May have delayed or slow response over 20 treatments.

3. Modality--General Electro-Acuscope 0.5 Hz - 500 micro amp. 10-15 min.

   Muscle spasm--Myopulse - 40 Hz - 600 micro amp, 10-15 min.
   Anxiety depression--Electrosleep

IV. SPECIFIC CONDITIONS

1. Osteoarthritis - knee, hands, hips, cervical and lumbosacral spine (case #1).

2. Rheumatoid arthritis (case #2)

3. Soft tissue rheumatism
Generalized - "primary fibromyositis" (case #3)
Regional myofascial pain syndrome - cervical, lumbar, motor trigger points (Ex. gluteus medius, case #4)

4. Local
Subacromial tendinitis/bursitis
Elbow lateral epicondylitis
Hip - trochanteric bursitis
Knee - anserine bursitis

5. Special Topics
*Pain in neck, low back (discogenic vs. non-discogenic check motor strength reflexes)
*Feet/hand pain (Carpal Tunnel Syndrome)
*Neuropathic pain (diabetic, idiopathic, post-herpetic, neuroma) (case #5)
*Headache chronic muscle tension, migraine, mixed

V. SUMMARY AND CONCLUSIONS:

VI. QUESTIONS AND ANSWERS:

<u>CASE REPORTS</u>

Case #1 - C. R. (Osteoarthritis knee)

Sixty year old white female teacher with four year history of severe bilateral knee pain crepitus and limited motion.

X-rays show severe Osteoarthritis knee. Treated with Electro-Acuscope twice weekly for ten treatments. Immediate marked improvement after first treatment. Totally pain free after ten treatments, has remained pain free with one monthly maintenance treatment. Had multiple steroid joint injections and multiple anti-inflammatory drugs without persistent improvement in the past.

Case #2 - G. C. (Rheumatoid Arthritis)

Fifty-one year old P.R. female housewife with six year history of adult onset, classic Rheumatoid Arthritis involving knees, PIP, MCP, wrist, shoulder and ankle joints bilaterally.

Exam shows severe joint swelling and classic Rheumatoid changes in above joints. Had been treated in the past with multiple anti-inflammatory drugs, steroid joint injections and gold salts without improvement. When seen she was on Ketoprofen (Orudis 75 mg) twice daily and Prednisone 10 mg daily and had severe joint pain, unable to function very well, "It had been a very sad experience, since I almost could not move or stand on my legs. I had visited many doctors but I felt no improvement."

The patient was started on Electro-Acuscope treatments twice weekly and after four treatments began to show improvement which continued to increase after eight treatments. "I can now stand on my legs for longer time and the pain in my hands, shoulders and ankles are gone, I have recovered my appetite and can sleep well."

The patient was continued on the same medications she took and showed this improvement with Electro-Acuscope as the primary treatment modality.

Case #3 - I. V. (Primary Fibromyositis)

Thirty-four year old white female university planning researcher with eight month history of severe progressively worsening muscular pains involving neck, shoulders, arms, low back and legs. Over ten tender points, bilateral symmetrical characteristic of Fibromyositis (lateral elbow, trapezius, medial thigh), tired, poor sleep, depressed, not working for three months, could not drive a car, emergency room visits. Started on treatment with Electro-Acuscope once weekly, pain levels eight on scale of 1-10 at start, dropping to 4-5 by five treatments and 0/10 by ten treatments. Continued biweekly and monthly maintenance treatments until she completed 20 treatments. Full return to work, no pain, driving car. Discharged from treatment September, 1986, remains pain free.

Case #4 - G. S. (Myofascial Pain Syndrome Gluteus Medius)

Thirty-eight year old white male executive with two week history of severe left buttock pain radiating to posterior thigh, past history of low back pain in 1979 for three months and in 1982 had similar left buttock pain lasting for three months, treated with analgesics and physical therapy with very slow improvement.

At the time of initial evaluation had recurrence of severe disabling pain was unable to walk or drive a car, pain was described an agonizing, unbearable, intensity ten in scale of 0-10. Used cane for support and was brought to the office limping and bent over assisted by his wife. Treatment consisted of naprosyn B.I.B. with mild temporary improvement, local xylocaine steroid injection to left buttock gluteus medius trigger point with referral of pain to posterior thigh. Injection gave temporary relief but pain returned. Injection repeated three days later with same result, recurrent pain. Treated with Electro-acuscope to left buttock and posterior thigh with partial improvement, pain decreased to 5 - 6/10. Five days later, second treatment with Myopulse to same areas, there was 8/10 pain intensity before treatment after 15 minutes, patient states that the pain was gone. Pain has not returned after a six week follow-up with one weekly Myopulse treatment twice, then Q-2 weekly for two, then D/C.

Case #5 - L. R. (Neuropathic Pain - [Neuroma] - Rheumatoid Arthritis)

Fifty-one year old P.R. female with 18 year history of Rheumatoid Arthritis treated with gold salts, corticosteroids and multiple anti-inflammatory drugs without improvement. Seventeen years ago developed exquisitely painful tender spot above right medial malleolus, operated one year later for "removal of neuroma" pain became worse, no improvement, actual increase in pain with non-steroidal drugs and Tylenol.

In 1983, (three years before treatment) a neurosurgeon performed right tarsal tunnel release for "compression to medial plantar branch of posterior tibial nerve," pain worsened, in early 1986, seen at St. Vincent's Hospital, New York City, with confirmed diagnosis of neuroma, treated with local steroid xylocaine injections and physical therapy without improvement, no further surgery can be done, poor prognosis. Seen in July, 1986, no improvement with any treatment, including surgery and injections, cannot sleep, cannot walk, even sensitive to air currents. Conventional T.E.N.S. led to worsening of symptoms. Pain level 9/10 at start of treatment with Electro-Acuscope, down to 5/10 after four treatments all pain gone, 0/10 at eight treatments can now walk well, sleeps well. On maintenance Q-2 weeks, without pain as of March, 1987.