

269. Combined spinal cord and subcutaneous electrical nerve stimulation for the treatment of lower extremity and testicular pain

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Introduction: We describe a case of neuropathic testicular pain, which was treated with pharmacological, neuromodulation and behaviour modification therapies but was unresponsive. In this case we tried subcutaneous electrical nerve stimulation (SENS) in the testicular area in combination with percutaneous epidural spinal cord stimulation.

Case: A 59-year-old unemployed male with an eight-year history of testicular pain following injury of his back while lifting bricks at work was referred to our service. He also complained of left leg pain radiating from his thigh to his knee. His neurological examination was normal apart from the area of hyperalgesia overlying the lateral surface of his left scrotum. As a result of his unresponsiveness to conventional pain therapy electrodes were placed percutaneously in the epidural space and advanced to T9 just to the left of the midline. This facilitated paraesthesia and pain relief (>50%) of his left lower extremity. Repeated attempts (three) failed to achieve pain relief of both his scrotal and leg areas together using this technique. Simultaneously an ANS Quattrode electrode was advanced subcutaneously in the medial third of the inguinal canal and advanced towards the pubic symphysis. Both leads were anchored to the fascia locally and a trial of stimulation ensued. Total pain relief of his testicular pain and greater than 50% of his lower extremity pain facilitated our decision to implant a permanent IPG system namely GENESIS XP which allows a separate program for each of his testicle and left lower extremity.

Discussion: We discovered by trial and error he needed the spinal cord stimulation to palliate his leg pain and in addition the subcutaneous placement of ANS Quattrode electrode for his testicular pain. We postulate that the subcutaneous electrode hyperpolarizes the subcutaneous innervation of the scrotal area and therefore abolishes his pain and hyperalgesia. Similar concept was used by Goroszeniuk. This we achieved and now we are describing a new therapy namely a combination of SCS and SENS.

Conclusion: Subcutaneous stimulation of the area with hyperalgesia and allodynia by electrical stimulation can relieve pain. This mechanism needs further validation by prospective studies.

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271. Short-term neuromodulation trial via stimulating catheter in coccydynia treatment

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Introduction: Coccydynia is a distressing common pain syndrome that is characterized by pain localized to the tailbone, which radiates into the lower sacrum and perineum. Pain management has always presented a challenge and surgery does not offer a suitable answer. Following our successful experience with percutaneous peripheral neuromodulation, we describe the use of targeted stimulation technique in the treatment of this syndrome.

Case: A patient with over a 10 year history of severe coccydynia, with the intensity of pain 8-10 on VAS. Usual combination of analgesic regimes was tried without significant improvement. Two courses of local infiltrations (total six interventions) provided him with 3 to 7 seven days of pain relief only. A short neuromodulation trial developed in our Center was applied subcutaneously to the coccyx resulting in almost complete pain relief.

Following the successful trial, a stimulating catheter (Pajunk) was inserted percutaneously over the coccyx, targeted to the painful area, under stimulation and fluoroscopy control. Catheter was tunneled and connected to an external simple stimulating unit (Pajunk) with 2Hz and 2.5mA.

Initially trial was intended for one-week duration, but with no signs of infection this was extended for further ten weeks. Patient is using the stimulation for 20 minutes per day, which is providing him with good pain control 1-2 on VAS. He is currently waiting for the permanent implant via the same approach.

Discussion: The implantation of the trial peripheral electrode over the posterior part of coccyx is a simple procedure, and as is shown in our case, it is very effective in providing the patient with good pain control. As has been documented in our previous reports, the slow frequency is the probably most optimal stimulation pattern. The external, directly targeted neuromodulation can offer an interesting and simpler alternative to sacral roots stimulation via epidural space, which has been recently advocated. Further studies are needed to establish the role of neuromodulation techniques in treatment of coccydynia.

References:

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