**Abdominal Cutaneous Nerve Entrapment Syndrome. Case series and a proposed algorithmic approach to management.**

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**Introduction:** Abdominal Cutaneous Nerve Entrapment Syndrome (ACNEs) occurs when terminal branches of the lower thoracic intercostal nerves (8-12) are “entrapped” in the abdominal muscles, causing a severe localized neuropathic pain at ventral portions of the abdomen. When suspected, injection of a local anesthetic agent into the point of maximal tenderness can be both diagnostic and therapeutic(1,2). We present our experience with management of 9 cases diagnosed with ACNEs at our institution over the past 5 years. The main objective of this review is to demonstrate the various presentations of patients with ACNEs, advocate for a multidisciplinary approach and to propose a systematic management algorithm.

**Results:**

**Discussion:** ACNEs is a common cause of abdominal wall pain, and when identified early, may resolve with minimal interventions. Unfortunately, this diagnosis is rarely considered during the initial workup and patients undergo costly radiographic tests and invasive diagnostic procedures (endoscopic and surgical) prior to diagnosis. In our case series, the lag from onset of symptoms to Pain Clinic referral was on average 27 months. The persistence of unrelenting abdominal pain leads to chronic pain wind up phenomenon and development of psychosocial sequelae. It translates into a wider regional pain involvement and difficulty in achieving a lasting relief. Patients that suffer ACNEs present with reproducible parietal pain elicited during abdominal examination (Carnett’s sign and pinch tests). Nerve entrapment can occur anywhere along the intercostal nerves path through the trunkal muscles. Therefore diagnostic blocks need to start with the most distal locations (RSB) and move proximally (TAP or QL blocks).

In our case series, a combination of blocks were required in refractory patients to obtain sustained pain relief. Chemical neuroablation was employed in 3 cases. This option was only utilized in refractory cases. We employed 5% phenol or 33% dehydrated ethanol. Both agents were well tolerated when injected with local anesthetic agents. The duration of pain relief with these agents is extremely variable.

**Conclusion:** Increased awareness of ACNEs may prevent delay in diagnosis and avoid potentially harmful and costly procedures. An early application of the multidisciplinary approach may prevent unnecessary anxiety, pain, functional loss and development of central pain sensitization. Diagnosis can be made based on history, examination, and the response to local anesthetic infiltration. When conservative measures fail, a series of trunkal nerve blocks is attempted to treat this condition. The regional techniques are attempted from most distal to proximal nerve location under ultrasound guidance using local anesthetics with steroids. Neuroablation and compounded topical preparations are additional options for refractory cases.

**References:**
