

# Probing the Mystery of Undiagnosed Groin, Lower Abdominal and Pelvic Pain

## Grasping an Elusive Diagnosis

By PRAMOD WASUDEV, MD

Although “undiagnosed groin, lower abdominal and pelvic” (UGAP) pain is a common condition, it has not received sufficient clinical attention. The volume of patients, as well as the condition’s economic impact, is staggering. In the United States alone, millions of patients are reported as having UGAP pain. Nearly 15 million women have chronic pelvic pain,<sup>3</sup> and in this subset 46% experience dyspareunia (painful intercourse).<sup>4</sup> The annual medical cost of diagnosis and treatment is almost \$1.2 billion, and the cost of lost productivity is an estimated \$15 billion per year. Interstitial cystitis affects half a million to 1 million people in the United States.<sup>5</sup> Sportsman’s hernia affects 0.5% to 6.2% of all professional athletes.<sup>6</sup> Also, nearly 17% of patients suffer from late groin pain after repair of groin hernias.

UGAP mimics several different conditions. In women, it can present as vulvodynia, interstitial cystitis, chronic pelvic pain, sportsman’s hernia and dyspareunia. In men, it may present as radiating pain to the testis mimicking orchitis, as nonbacterial prostatitis and as sportsman’s hernia. In both male and female patients, it can present as acute or chronic lower abdominal and/or groin pain, mimicking appendicitis, diverticulitis and incarcerated groin hernias. Several patients have reported rectal symptoms of spasms, tenesmus and an ailment mimicking irritable bowel syndrome. Also, some have anal, lower back, gluteal, perineal, coccygeal and hip pain. These unfortunate patients are shuttled from one specialist to another and undergo expensive diagnostic tests (e.g., CT, MRI, bone scans, ultrasound, etc.). Endoscopies, laparoscopies and sometimes unnecessary operations (e.g., exploratory laparotomy, hysterectomy and inguinal herniorrhaphy) are performed. Countless health care dollars are spent on unnecessary diagnostic studies and interventions. Patients and physicians are equally frustrated because the diagnosis is elusive. Chronic pain causes emotional issues, sleep disturbances, low self-esteem and even depression.

### Method

The data set includes 203 patients seen in one office practice of general surgery between 1983 and 2006. All patients presented with atypical groin, lower abdominal and pelvic pain. The

age range was 16 to 90 years, the most common being between 30 and 60 years of age (58%). The problem presents more frequently in female patients (76%). Follow-up time frames ranged from four months to 15 years, with six patients lost to follow-up.

### Diagnosis

The diagnosis is straightforward and initially suspected within 25 to 40 minutes of clinical examination; few patients need an expensive diagnostic workup. Awareness of and strong suspicion of this condition can lead to a proper diagnosis. The following features in a patient’s history also can be indicative: pain increasing with physical activities, previous lower abdominal operations (especially multiple operations, enthesopathies (tendonitis) in other body parts (tennis elbow, plantar fasciitis), and these patients have few gastrointestinal symptoms.

The following innovated signs, along with a thorough local exam of the lower abdomen, groin and pelvis, have been helpful. Confirmation is conducted by administering a series of steroid injections.

#### In female patients: Wasu triad signs

- **Rectus flexion sign.** The examiner’s hand is placed on the insertion of the rectus muscle over the pubic bone, and if the patient experiences severe pain on flexion of the rectus muscle when attempting to sit up, it is considered a positive sign (Figure 1).
- **Adductor resistance sign.**<sup>7</sup> It is considered positive if the patient experiences pain when the examiner places a finger over the insertion of the adductor longus tendon and asks the patient to adduct the bent knee against the assistance hand.
- **Vaginal hook sign.** If the patient experiences pain over the suprapubic area on vaginal exam and hooking fingers anteriorly over the pubic bones, then this is considered a positive sign (Figure 2).

#### In male patients: Wasu triad plus one signs

- **Rectus flexion sign.**
- **Adductor resistance sign.**
- **Spermatic cord traction sign.** The patient is examined in a standing position on traction of the spermatic cord. If the patient experiences radiating pain over the pubic bone (Figure 3), then this is considered a positive sign. The spermatic cord itself is not tender when examined when supine.

- **Paraprostatic sign.** On digital rectal exam, there is mild or no pain over the prostate gland. However, on examination lateral to the prostate gland, if there is tenderness and muscle spasms, this suggests the patient has chronic pelvic pain, also known as nonbacterial prostatitis (Figure 4).

Seventeen patients (8.4%) presented with acute symptoms; some were seen in the ER, and some even had emergency operations. The remaining patients (92%) had chronic symptoms with a duration ranging from six weeks to 22 years, of which the majority had symptoms for three to 10 years. The pain severity varied from grade 3 to 10 (on a scale of 1-10), with most experiencing grade 7 to 9. Almost all patients stated a history of pain over the lower abdomen and inguinal area.

Ninety-three of the patients (46%) had a history of lower abdominal surgery. The most common procedures were total abdominal hysterectomy, cesarean delivery and bladder suspensions. Of these 93 patients, 19 (mainly male patients) had undergone inguinal hernia repair. Eight patients were involved in sports such as jogging, soccer, football and kickboxing. Fifteen patients initially had infections such as prostatitis, cystitis or orchitis (Figure 5). In the other 68 patients, no clear-cut precipitating factors were detected.

Dyspareunia was another common presenting symptom (Figure 6) among the sexually active female patients. Of the female patients in the study, 116 of 159 reported being sexually active, and of this subset, 57% described varying levels of dyspareunia. In four patients, the primary symptom was dyspareunia; although they did not complain of groin pain, on pelvic exam they had tenderness over the pubic bones. In male patients, eight (16.3%) had pain with intercourse. Of note, almost 95% of patients with dyspareunia whose groin and abdominal pain subsided after injections also had total relief of dyspareunia. Only three patients did not experience relief of dyspareunia.

Treatment is multidisciplinary, and the approach is analogous to treatment for low back pain, often involving a team of specialists. The initial treatment is focused on pain management with oral analgesics, preferably nonnarcotics, nonsteroidal anti-inflammatory drugs (NSAIDs), passive physical therapy with ultrasound, warm and cold soaks, and electrical stimulation.<sup>8</sup>

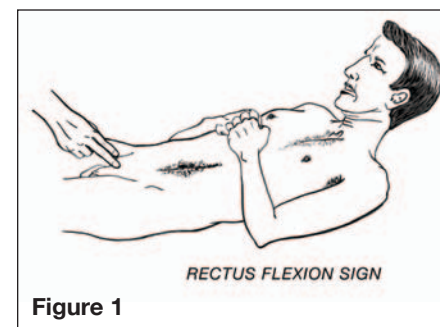


Figure 1

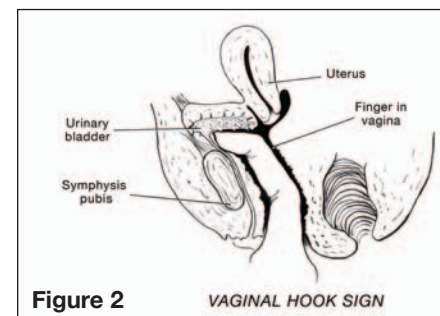


Figure 2

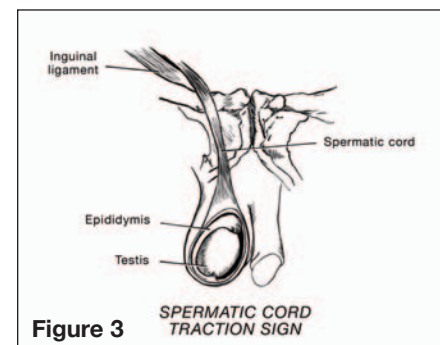


Figure 3

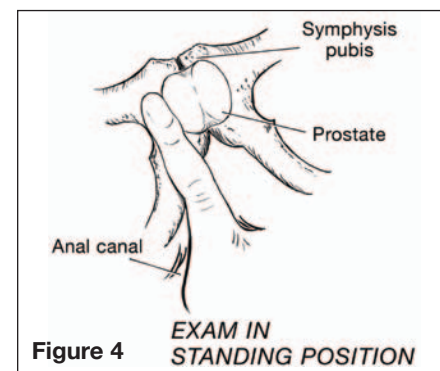


Figure 4

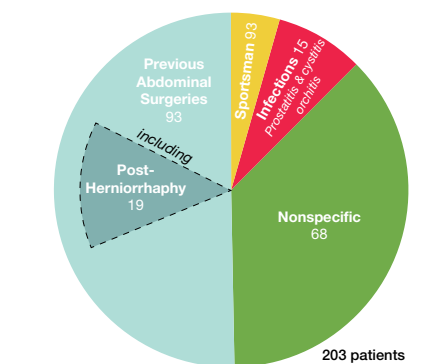


Figure 5. Precipitating factors

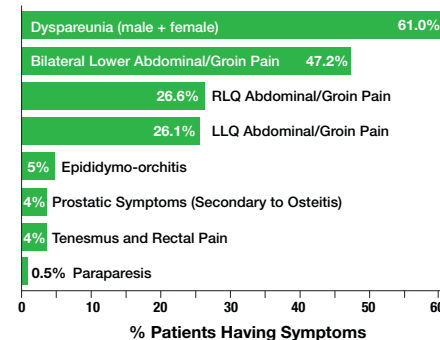


Figure 6. Symptoms

However, the mainstay is local steroid injections targeted to several entheses using ultrasound guidance, which also helps to confirm the diagnosis. This therapy was more predictable, and response was more rapid. Steroids require at least four to six days for maximum effect. All patients received a series of three steroid injections, two weeks apart. Typically, the first injection relieves 30% to 40% of the pain; the second injection remedied another 30% to 40% relief of pain; and the last one resulted in almost 85% to 90% relief of pain. Maximum relief of pain takes two to 2.5 months.

For the past seven years, we have performed these procedures under IV sedation in the pain clinic. We are seeing improved compliance, and patients rarely refuse the second and third sets of injections. Also, sedation results in easier and more precise injections, even in obese and muscular patients. NSAIDs were offered to patients who refused injections. Response to these drugs was not satisfactory; only 8% to 10% of patients responded. Gabapentin and pregabalin are helpful in some patients. Physical therapy, including transvaginal trigger point release and massage, is more helpful after the series of steroid injections and helps to prevent recurrence.

Chronic pain, uncertainty of the diagnosis and multiple referrals have a tremendous psychological effect. Most of these patients are depressed and dependent on pain medications; thus, judicious use of antidepressants can be beneficial, as well as professional help from psychologists or psychiatrists.

## Results

Patients were asked to give response to treatment in terms of percentage of pain relief. Higher than 90% relief is defined as excellent; between 70% and 90% is considered good; between 50% and 70% is satisfactory; and below 50% is a partial or poor response. Based on these criteria, 139 patients (68%) had excellent results, 43 patients (21%) had a good result, six patients (3%) had a satisfactory response, and nine patients (4%) had a partial to poor response. Six patients (3%) were lost to follow-up.

Nearly 15% of the patients had recurrences. Some patients had recurrence after three to four months, whereas some had recurrences after several years. Those who had earlier recurrences or were nonresponders to steroids received pitcher plant (Sarapin, High Chemical Co.) injections, which helped some patients. Patients who were proactive and started NSAIDs at the earliest symptoms did not require steroid injections for their recurrences. Recurrences are also prevented by rigidly following the physical therapy and core muscle exercises.<sup>9</sup> Sportsman's hernia, a subset of this condition, has generated significant

interest in the sports world. Several articles, the majority of which are from Europe and Australia, have appeared in the literature. Understanding the concept that somatic pain of enthesopathy/periostritis can manifest several inches away from bony attachments—thus mimicking visceral pain in the groin, lower abdomen and pelvis—is helpful.

As experience with this condition is acquired and as confidence is gained, diagnosis can be made strictly on clinical examination in most of these patients, without the need for expensive lab work, imaging studies and endoscopies. Billions

of dollars will be saved by making a swift diagnosis and administering appropriate conservative treatment. I believe that we are still in the learning phase about this enigmatic condition, and much research, both clinical and experimental, needs to be conducted to streamline our approach.

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