

Chronic testicular pain a clinico-pathological study

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ABSTRACT

Objective: To evaluate the clinico-pathological spectrum and treatment of chronic testicular pain patients.

Methods: A prospective and descriptive case series study, conducted at the out-patient clinic of the department of urology at Al Jumhoury teaching hospital in Mosul, between Jan2000 and Dec 2005. The parameters analyzed include; character of the pain, onset, and duration, patient's age, occupation, past surgical and medical history, the clinical examination, the investigations and treatment.

Results: Forty five patients were studied, their age ranged from (16 – 68) years, twenty (44%) patients were under the age of 30 years, ten (22%) patients were between (31 - 45) years, and fifteen (34%) patients were above (46) years of age.

The presenting symptom was chronic scrotal pain for more than three months, which is differing in its onset, duration and description. The pain was mainly at the left side, eight (18%) patients had positive clinical findings, 17(38%) patients had positive ultrasonographic pathological findings.

The treatment ranged from psychological (reassurance), physical (antibiotic with chronic analgesia) to surgical intervention for those with positive lesion proved by physical examination and investigations.

Conclusion: Chronic testicular pain patients remain as dilemma to the general practitioners and frustrating clinical problem for urologists.

Key words: Chronic testicular pain, ultrasonography, Varicocele.

الخلاصة

الهدف: لاستعراض المدى والملاح السريرية و المرضية وطرق علاج المرضى المصابين بالآلام الخصية المزمنة. طرق البحث: دراسة سريرية لسلسلة من الحالات واشتملت الدراسة، المرضى المصابين بالآلم الخصية المزمن (للمدة ثلاثة أشهر فما فوق) من الذين يراجعون العيادة الخاصة و العيادة الاستشارية لشعبة جراحة المسالك البولية في المستشفى الجمهوري التعليمي لخمس سنوات من كانون الثاني لعام 2000 وحتى كانون الأول لعام 2005 و تضمنت اخذ التاريخ المرضي المفصل و تحليل شكوى المرضى و الفحص السريري الدقيق و الدراسة التصويرية والمختبرية.

النتائج: بلغ عدد المرضى (45) مريضاً ترواحت أعمارهم ما بين (16 – 68) سنة لم يتم تحديد أو التعرف على ما يوضح سبب شدة و طول شكوى المرضى بالفحوصات السريرية والمختبرية والتصويرية التي كانت اغلبها سالبة إلا في حالات قليلة .

الاستنتاج: يعتبر مرض ألم الخصية المزمن من الأمراض الحالات المعضلة و مهددة للوقت للطبيب و المريض لعدم وضوح الشكوى والأسباب الحقيقية وراء تلك الأعراض وخوف وقلق المريض بسبب طول فترة الشكوى. الهدف الحقيقي في المعالجة هو طمأننة المريض بعدم وجود ما يقلق بالمتابعة المنتظمة وان يعود لحياة اليومية وقد تألف وأمه المزمن.

The term chronic testicular pain may be defined as; a constant or intermittent pain felt at either testis or both, for a duration of (3) months and above⁽¹⁾.

The sensory (afferent) nerves of the testis and the epididymis transmit the painful stimuli by the autonomic and somatic fibers, running with the internal spermatic vessels, and then they join the genital branch of the

genitofemoral and the ilioinguinal nerves. The autonomic supply from the testis is mediated to the ganglia of (T₁₀ -L₂) segments, while from the epididymis, the fibers are mediated through the (T₁₀ -L₁) segments⁽²⁾.

The somatic fibers from the parietal and visceral layers of the tunica vaginalis and the cremasteric muscle are carried by the genital branch of the genitofemoral nerve to (L_{1,2}) segments⁽³⁾. The possible causes that may explain or cause chronic pain that mimics testicular pain are many; they include entrapment of the mentioned nerves or their branches by an inflammatory process caused by impacted stones at the upper or middle part of the ureter when it is lying in contact with the genitofemoral nerve at the level of (L4) vertebra⁽⁵⁾, or a retro-caecal inflamed appendix, or a pressure effect of a distended colon secondary to irritable bowel syndrome⁽⁶⁾.

On the other hand radiculitis due to degenerative changes involving the lower thoracic and upper lumbar vertebrae is a common cause of referred pain to the testis⁽⁷⁾, and tendonitis of the inguinal ligament at the site of its insertion into the pubic tubercle, causes pain which is referred to the testis⁽¹⁾. Early established indirect inguinal hernia may cause pressure over the branches of the genitofemoral nerve causing pain to be felt at the testis⁽²⁾. Tumor of the testis, although it is usually painless but (10%) of cases may present as chronic insidious pain that is bothering the patient's life over a long period and delay in diagnosis is a well known problem in dealing with patients with testicular tumors⁽⁸⁾. The management of testicular lesions depends on the cause. Patients should be cautioned that surgical treatment might not resolve pain. Systemic analgesia or orchidectomy may be required in individual cases. In such extreme cases, psychological consultation is recommended to ensure that the pain is neurologic and not psychogenic in origin⁽⁹⁾.

In this study, we present the clinico-pathological spectrum and management of the patients complaining of chronic testicular pain.

Patients and methods

This prospective study was conducted in the out-patient clinic of the department of urology at Al Jumhouriy teaching hospital, Mosul, during the period from Jan. 2000 to Dec. 2005.

All patients with chronic testicular pain were evaluated, (a pain of ≥ 3 months). The evaluation included analysis of the presenting symptom by thorough medical history, which involves the patients' ages, occupations, the pain onset, duration, character, intensity, radiation, associated symptoms, aggravating and relieving factors, past medical and surgical history.

As pain is a subjective symptom, therefore, the basis of pain measurement is the patients' self-assessment of their pain intensity as specifically elicited during the visit. Precise local and general physical examination and ultrasonography as an imaging study, with relevant laboratory investigations that may help improving the provisional diagnosis or in excluding other differential diagnoses were performed and the possible vertebral diseases were excluded.

The treatment varied from a surgical intervention to a conservative management as a first line treatment, which includes; reassurance, modifying predisposing exertional, postural and clothing habits, and the use of scrotal sling, with one-month treatment with NSAIDs (diclofenac acid pills 100 mg retard) and antibiotics of quinolone and doxycycline group and low dose of oral antidepressant (imipramine 25 mg) at bed time which is titrated according to the patient response, and repeated local blocks of the spermatic cord with lidocaine (1%). Patients were followed up every two months for a mean period of 18 months.

Results

The chronic testicular pain was affecting either one testis in 39 (87%) patients or both in six (13%) patients. Duration period ranged from (4 - 14 months) and an average of (5.8 months). Their ages ranged from (16 - 64) years, twenty (44%) patients were under the age of (30) years, ten (22%) patients were between (31 - 45) years and fifteen (34%) patients were above (46) years, as shown in figure (1). Thirty-eight (84.5%) patients were unemployed while seven (15.5%) patients were employed. The left side was predominating in 35 (78%) patients, right side in four (9%) patients, and bilateral affection in six (13%) patients. The pain was insidious in onset in 39 (87%) patients; but six (13%) patients gave history of a sudden sharp, lightning pain in their testes as shown in table (1).

Pain nature varied from continuous or interrupted attacks of mild discomfort (mild tenderness on touch and movement), annoying patients' daily activities to moderate or even severe pain. The recurrence of such attacks of pain makes patients anxious and worried, as it is pushing them to up stand from their sitting position or stopping them from walking for seeking of relief. Sharp lightening testicular pain was found in six (13%) patients, squeezing sensation in 28 (63%) and deep testicular pain in 11 (24%), table (1). In 30 (67%) patients the pain radiated to the lower abdomen and in 5 (11 %) patients to the loin.

On the other hand, three (7%) patients gave history of a non- specific low backache, while the imaging study of the spine failed to show any obvious vertebral abnormalities ; another nine (20%) patients had mild irritative symptoms of lower urinary

tract, table (2). Many patients ascribed their symptoms to prolonged sitting positions in vehicles, or walking for a long distance. Three (7%) young patients had history of exposure to gonococcal infection, which was treated correctly with no any clinical or pathological evidence of complication or recurrence or relapse of the primary infection.

The local and general physical examination of all the patients revealed no significant findings; even in those with positive findings, the discovered pathology does not conform with the chronicity of their complaint. Three patients (7%) were found to have early direct inguinal hernial changes (small bulge on coughing), and another three (7%) patients having old scar of inguinal incision for inguinal hernial repair at the ipsilateral side. None of our patients had obvious signs that are related to vertebral disease.

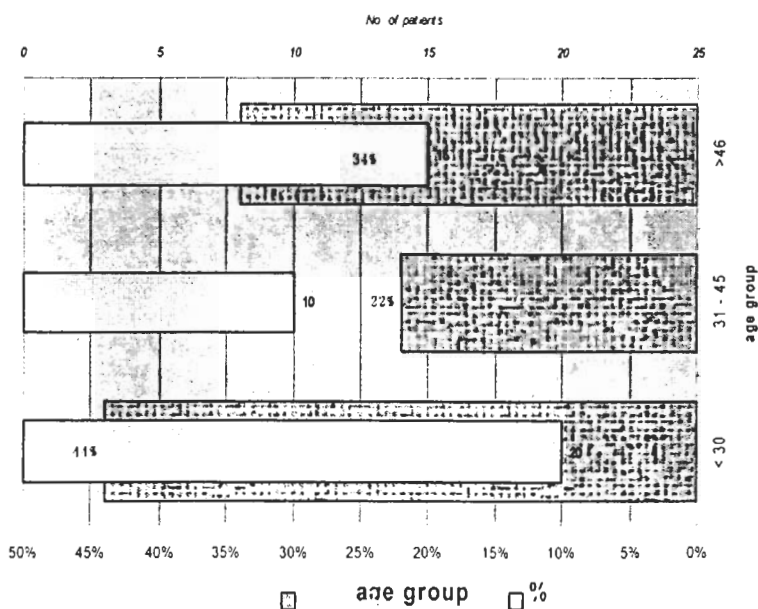


Figure (1) age distribution.

Table (1): Distribution of pain character.

Type of pain	%	Patients
1 SQUEEZING TESTICULAR PAIN	65%	28
2 DEEP TESTICULAR PAIN	24%	11
3 SHARP LIGHTENING TESTICULAR PAIN	14%	6

Table (2): Pain radiation and associated symptom.

The site	%	patients
LOWER ABDOMEN (GROIN)	63%	(29)
LOIN	10%	(5)
LOW BACK ACHE	7%	(3)
LOWER URINARY TRACT SYMPTOMS (LUTS)	20%	(8)

Table (3): Clinical and ultrasonographic findings.

Findings	Patients no	%
DIRECT INGUINAL HERNIA	(3)	7%
EPIDIDYMAL CYST (<5mm)	(9)	20%
SUB- CLINICAL VARICOCELE	(6)	14%
EPIDIDYMAL MASS	(1)	2%
TESTICULAR TUMOR	(1)	2%
NEGATIVE FINDING	(25)	55%

Ultrasonography was performed for all patients and the findings were: nine (20%) patients had small epididymal cysts of different sizes (the largest was less than 5mm), six patients (14%) were found to have sub-clinical varicocele, one patient (2%) had testicular tumor and another one (2%) had small epididymal mass. The result is shown in table (3).

The other laboratory investigations that were done included general urine examination (GUE) and urine culture and sensitivity for those with positive urine examination of pyuria (>15WBCs), white blood cell count (WBC) total and differential and all were inconclusive. Nine (20%) patients with surgically correctable condition were treated accordingly (3 patients with indirect inguinal hernia, 3 with sub-clinical varicocele, one with testicular tumor, another one with epididymal mass, and one with epididymal cyst), but one (2%) patient was still complaining of pain even after varicocelectomy. Seven (15.5%) patients showed improvement in their symptoms after a course of NSAIDs and antibiotics therapy. Twenty-nine (65%) patients showed a good improvement in their symptoms, after addition of low dose of antidepressant (imipramine 25 mg) at bedtime with titration according to patient's response.

Nine (20%) patients still complained of pain in spite of the treatment that they were subjected to, and two (5%) of them responded well, although temporarily, to the repeated local infiltration of the cord by (1%) of lidocaine injections, while the rest were escaped the follow up.

Discussion

Unfortunately, the management of patients with chronic testicular pain is difficult, frustrating and time consuming for the urologist as well as the patients. The mainstay in the management is to reach the real diagnosis, excluding all possible causes and determining the wrong, ineffective misdiagnosis. Usually the diagnosis cannot be settled by history and physical examination only; other investigative tools

may often help as ultrasonography. The real concern of the urologist and the patient is to eliminate the fear of possibility of an underlying malignancy, as far as the problem is chronic. This may alter the mood of the patient because of the fear of malignancy or, in some young patients, because of the recurrence of the gonococcal infection, although they deny any history of sexual contact. The wearing of tight under wear or trousers may have a role in the causation of chronic testicular pain. Van Haarst et al⁽¹¹⁾, among (111) patients with scrotal pain and normal physical examination, found (12) patients with epididymal cyst, three patients with sub-clinical varicocele and one patient with hypoechoic mass imaging within the testis, table (3).

On the other hand; Comiter et al⁽¹²⁾ studied the ultrasonographic examination of the testis for diagnostic evaluation of scrotal trauma. He found that only (5 out of 3019) patients had impalpable testicular neoplasm. Some authors suggested that persistent scrotal pain might be a presentation of malignancy and such patients should be put on repeated ultrasonographic evaluation⁽¹²⁾. In our study, we found one patient only discovered to have testicular tumor. Others suggested long course of non-steroidal anti-inflammatory drugs and possible addition of antibiotics especially for possible Chlamydia or Ureaplasma urealyticum infections. As the problem is chronic, there is no harm if such patients are put on a trial of low dose of anti depressant^(12,13). In our study the response to this modality of treatment is fruitful and promising when associated with reassurance; our patients need to be convinced with the fact that there is nothing serious to be afraid of. Repeated spermatic cord block by 3 ml of (1%) lidocaine was performed and three (7%) patients only showed good, although temporary, response to this treatment; This type of treatment is of help especially for those with mild response to the conservative treatment⁽⁵⁾. Epididymectomy as an alternative but more invasive method

of treatment is suggested by some authors. The approach for orchidectomy is still considered a matter of debate. Some say inguinal orchidectomy is better than scrotal one because of (73%) of the patients who underwent inguinal orchidectomy reported complete relief of their pain against (55%) of those treated with scrotal orchidectomy. Davis et al⁽²⁾ reported that (90%) of their patients who underwent epididymectomy needed to do orchidectomy later on.

None one of our patients accepted such modality of treatment nor can we promise them for its result. This fact is true, especially if we review what Costabile et al⁽¹⁰⁾ stated; he found (80%) of their patients continue to have significant pain even after orchidectomy. Nowadays authorities talk about micro surgical testicular denervation, but with this treatment a microsurgical skill is needed to allow the division of all nerve pathways while sparing the artery and at least one vein-Bishoff⁽¹⁴⁾. Here testicular atrophy is still considered as a significant complication^(13,14). The role of laparoscopic testicular denervation as testis sparing minimally invasive surgery is an alternative⁽¹⁵⁾.

CONCLUSIONS:

- Chronic testicular pain patients considered as dilemma to the general practitioners and frustrating clinical situations for urologists.
- Patients with chronic orchalgia are difficult to manage as far as the pathophysiology of the pain is poorly understood. Most patients need no sophisticated investigation and their positive findings on physical examination and investigation might be coincidental.
- The aim of the urologist is to exclude any significant pathology and if not seen, to reassure his patients from being worried with regular follow up and to convince them how to cooperate with their new situation, the (pain).

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