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Investigating the causes of testicular pain in soldiers referred to Imam Reza Hospital in Tehran, Iran

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KEYWORDS

Trauma,
Testicular Pain,
Ultrasound,
Varicocele

A B S T R A C T

Testicular pain is a common symptom in military training personnel and especially soldiers which includes a wide range of patients referred to the urology unit in military hospitals and considerable cost and time are thus dedicated in evaluating and treating it. Therefore, it is necessary to examine its causes and the results to be paid attention by respected physicians of combat units. The purpose of this study is to investigate the cause of the testicular pain in soldiers referred to the urology unit and to evaluate and classify its causes by clinical and laboratory studies. This study is a case series that is a descriptive one. In this study, 368 soldiers referred to the urology unit of Imam Reza Hospital (501 Artesh) have been examined with testicular pain. In the study, the majority of testicular pain cases were chronic (71.5%) and the most common cause was varicocele (53%) and Hydrocele and epididymitis, simultaneously (0.2%), were determined as the less common diagnosis. 0.198 people had varicocele (53%) - no clinical and paraclinical findings were found in 91 people (24.7%) - hydrocele was found in 21 people (5.7%), testicular cyst in 16 people (4.3%), testicular atrophy in 10 people (2.7%) and hernia in 10 people (2.7%). Clinical findings are confirmed by ultrasound in 79.9% that was precious (p value < 0.05). Given the high rate of varicocele in our patients, sport activities and combat training during the service may be effective in causing it. The effects of physical activity and its kind in creating varicocele can be examined by careful study of military personnel prior to military training and comparison with subsequent examinations. Furthermore, given that approximately 24.7% of patients with testicular pain had no findings with testicular pain in medical examination and ultrasound test, first-line doctors and medical units identified malingering patients by exact clinical examination and without the use of other paraclinical means to avoid wasting time ,desertion and imposing medical expenses, and prevented unnecessary referrals. This problem involves a review in training of health staff and their sense of responsibility in not referring inapposite cases

Introduction

Chronic testicular pain is of the common featured in urinary tract surgery (1). The majority of urologists have dealt with patients with testicular chronic pain that it will be a frustrating issue for patients and physicians and the patients have multiple visits to the doctor, because effective treatment regimen has not been properly identified that it leads to patients' confusion and fatigue. Etiology of chronic testicular

pain is different and is often idiopathic. Identifiable causes include spermatocele, tumor, infection, varicocele, testicular torsion and rotation (2). Chronic testicular pain can cause the symptoms of overactive and unstable bladder which itself is among the causes of frequent referrals of these patients to the clinic (3). The use of ultrasound in the majority of cases leads to the correct diagnosis. Ultrasound may help in diagnosing the obscure disorders of testicle such as fibrosis, testicular benign lubrication and pressure effect of hydrocele in testicle (4). Color Doppler ultrasound and isotope scan have a similar sensitivity in detecting torsion. Both give helpful information in indistinguishable cases (5).

Testicular pain is alone an indication of a range of diseases which has several reasons, including: varicocele - hernia - cyst – malignancies and.... what is obtained from urology professors during many years of experience, particularly those working in armed forces hospitals is that testicular pain is a common symptom in military training personnel and especially soldiers which includes a wide range of patients referred to the urology unit in military hospitals and considerable cost and time are thus dedicated in evaluating and treating it.

Therefore, it is necessary to examine its causes and the results to be paid attention by respected physicians of combat units, so that to be considered in decision making about sending patients to specialized clinics, incorporated in treatment programs of units and paid attention in the study and examination of patients, prior to and during the service. The purpose of this study is to investigate the cause of the testicular pain in soldiers referred to the urology unit and to evaluate and classify its causes by clinical and laboratory studies.

Materials and methods

This study is descriptive with case series method. The sample population was examined with easy reach of duty personnel referring to the Imam Reza (A.S) hospital, urology clinic during 2010 – 2011. The sample size was 368 people and entry criterion was the people referred to a urology physician with testicular pain who had clinically visited by an urologist and examined by ultrasound. Exclusion criteria included chronic medical diseases such as diabetes, specified mental and neurological diseases such as disk, lumbar injury and the history of gastrointestinal diseases such as irritable bowel syndrome and urinary tract stone. The definition of chronic testicular pain was considered as intermittent or chronic pain for a month. The results were collected based on clinical findings and ultrasound and comparing both with each other and finally analyzed by statistical software SPSS (version 11.5). K-S test was used to investigate the distribution of quantitative variables. Significance level of ≥ 0.05 was considered. Ethical principles are observed in all stages of the study. And patients have participated in the study with personal satisfaction.

Result and Discussion

In 368 reviewed cases, mean age is 20.72 with standard deviation 1.92. 11.7% of people have referred with right testicle pain and 88.3% with left testicular pain. 71.2% have one-sided pain and 28.8% two-sided pain. The pain has improved in 1.1% and worsened in 88.6% with activity and the activity had no effect on pain in 10.3%. No clear urinary symptoms were seen in 64.9% and accompanied urinary symptoms were observed in 35.1% of patients. Clinical findings are confirmed by ultrasound in 79.9% that was precious (p value < 0.05).

In the study, the majority of testicular pain cases were chronic (71.5%) (Table 1) and the most common cause was varicocele (53%) and Hydrocele and epididymitis, simultaneously (0.2%), were determined as the less common diagnosis (Table 2).

The investigation of chronic testicular pain includes assessing the testicular and non-testicular causes. Surgery is not always a guarantee to relieve the pain and relief of symptoms is not always possible (1). The main goal is to protect and prevent the loss of testicles. 119 patients were examined in a study with acute testicular pain and an average age of 4-64 years old from 1996 until 2005. The most common findings were the testicular torsion of Morgagnian cyst 52.9%, and testicular torsion 34.4% (6).

But epididymitis and *orchitis* are common causes in outpatient clinical visits (7). In our study, the most common cause of testicular pain in a military environment is varicocele (53%). On the other hand, no specific findings were observed in a considerable number of subjects in this study (24.7%) that indicates the possibility of malingering in this clinical sign that needs for reviews and more attention, especially by first-line doctors, so that unnecessary referrals of people to more advanced diagnostic systems and expensive and wasteful expenditure to be prevented. Noteworthy in this study is that based on statistics obtained in 79.9% of cases, accurate clinical examination had a more reliable and valuable diagnostic value than paraclinical equipment and ultrasound (P value < 0.05). The need for clinical tools is resolved in the majority of cases with a comprehensive and detailed examination.
Testicular trauma is the third most common cause of acute scrotum pain. In this field, ultrasound is a selective diagnostic tool in testicular rupture, hematoma and even torsion reviews and tumor in patients with testicular trauma (8). We also carefully examined ultrasound and 79.9% of people with important findings in ultrasound had the similar findings in clinical examination. Compared with similar studies in recent years in the neighboring countries of Iran, different results were observed. In the study of Mr. Cavusoglo performed in 195 patients in January 1982 to March 2002, epididymitis with incidence of 37.4% was the most common cause of testicular pain (9). But the incidence of epididymitis is reported less than 2% in our study. In another study at the Medical College of Kuwait on 40 patients from January to December 2002, the most common cause of testicular pain was epididymitis with incidence of 60% (10). In another study in Nigeria on 29 patients from January 2001 to December 2002, torsion with incidence of 62.1% is reported as the most common reason (11). Vein thrombosis in varicoceles is the rare cause of testicular pain which was not observed in our study (12). Intensification of testicular pain is seen with activity, especially in varicocele. In our study, patients' pain has increased with activity in 88.6% and has no effect on the pain in 10.3% of them.

In a study in Italy, the high incidence of varicoceles in athletes (30%) and in bodybuilders has been reported up to 60-80%. The incidence of varicoceles has been associated with their exercise hours (13) that is close to the incidence of varicoceles in our study (53%) that probably is associated with the activities of training course and marital sports during the service. In another study in Turkey in 2005, the effects of horse riding on chronic genital trauma were examined (14).

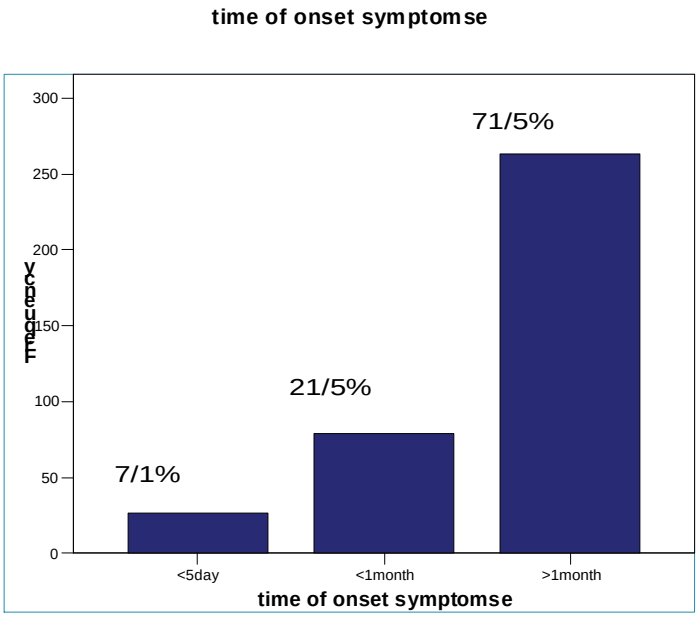

Table.1 The onset of testicular pain

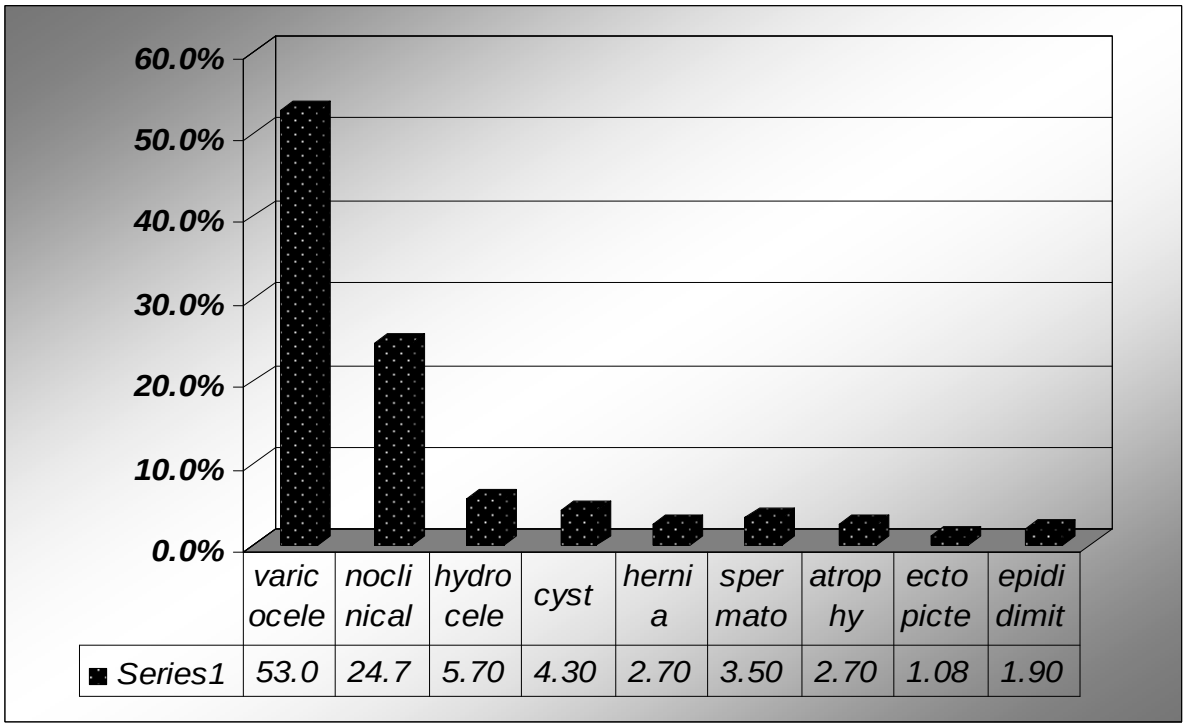

Table.2 Frequency of the causes of testicular pain in patients referred to Imam Reza (A.S), urology clinic

The incidence of varicocele in this group was greater than the control group. Findings observed in ultrasound were varicoceles 46%, hydrocele 19%, testicular

cyst 4%, epididymal cyst 35%, and testicular calcification 19% that is close to the variety of diseases in our study. In the study of Rigano et al. In 2004 on 150 athletes, exercise had no effect on the incidence of varicocele, but was considered as an aggravating factor in the course of the varicocele disease (15). In another study in Italy in 2001, sport and physical activity have been reported in aggravating disorders of spermatogenesis in men with varicocele (16). What is certain is that subclinical varicocele is considered the first step in creating varicocele. Apparently exercise is effective in advancing varicocele to the clinical stage. These findings are seen only in patients who already had spermatic vein reflux and subclinical varicocele(17).'

Given the high rate of varicocele in our patients, sport activities and combat trainings during the service may be effective in causing it. The effects of physical activity and its kind in creating varicocele can be examined by careful study of military personnel prior to military training and comparison with subsequent examinations. Furthermore, given that approximately 24.7% of patients with testicular pain had no findings with testicular pain in medical examination and ultrasound test, first-line doctors and medical units identified malingering patients by exact clinical examination and without the use of other paraclinical means to avoid wasting time ,desertion and imposing medical expenses, and prevented unnecessary referrals. This problem involves a review in training of health staff and their sense of responsibility in not referring inapposite cases.

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