

ORIGINAL ARTICLE

Pattern and Diagnosis of Solid Testicular Swellings and it's Management Outcome

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ABSTRACT

Objective: To determine the frequency of the clinical pattern and diagnosis of various types of solid testicular swellings and its management outcomes.

Materials and methods: This prospective cross-sectional study was done at the surgery department of Muhammad Medical College, Mirpur Khas. Cases with different presentations raising suspicion about the disease were admitted to the hospital from OPD after recording the detailed history and clinical examination. All the patients presenting with solid testicular swellings underwent inguinal exploration through an incision above the inguinal ligament, regardless of age, were included. After taking verbal informed consent, all the cases underwent testicular biopsies, and specimens were sent to the diagnostic laboratory for histopathological diagnosis. Patients having neoplastic testicular changes were referred, and patients with non-neoplastic testicular swellings lesions were treated conservatively or surgically as per indications. The data and records of all the patients were taken and maintained by the study proforma.

Results: A total of 50 cases of solid testicular swellings were studied; their mean age was 48.45±7.23 years. Painless enlargement was present in 70% of cases, enlargement was usually gradual with a feeling of heaviness, followed by painful enlargement in 10.0% of cases. 20(40%) patients were diagnosed as neoplastic testicular swellings, and 30(60%) patients had non-neoplastic swellings. Among 30 cases of testicular swellings, 40.0% had orchitis, 8.0% had trauma, Epididymo-orchitis 12.0%, testicular tuberculosis was in 4.0%, and 1 (2%) had mumps orchitis. All the non-neoplastic lesions were treated successfully and neoplastic lesions cases were referred for further treatment.

Conclusion: As per the study conclusion, painless enlargement (usually gradual with the feeling of heaviness) was observed to be the most common clinical feature. However, orchitis, epididymo-orchitis, and tuberculosis of the testis seemed to be the most common diagnoses among non-neoplastic cases. Neoplastic lesions were frequently high.

Keywords: Testicles, swelling, features, diagnosis

INTRODUCTION

Scrotal swellings have become a commonest issue that affects males of all age groups.¹ There are two categories of causes for swelling: malignant and benign. In order to diagnose and treat the individual, a comprehensive evaluation of the patient is very important.¹ The painful condition of testicular lump may indicate scrotal sac inflammation. The testicle is uncomfortable and enlarged in the epididymitis.² The skin of the scrotum could assume around an orange peel as per its appearance. Although the majority of these individuals have painful urination and the fever, urine culture findings are often normal. Although E. coli is a common cause of prepubertal cases with known bacterial development, sexually active individuals are more likely to be infected with *Neisseria gonorrhoeae* and *Chlamydia trachomatis*.² Clinical assessments can raise the possibility of supernumerary testes as far as the diagnosis is concerned. Clinically, a palpable lump is the most common way that testicular cancer manifests itself.³ It is concerning that impalpable small testicular masses (STM) are being discovered incidentally more frequently, most likely as a result of the extensive use of testicular ultrasound for various purposes, specifically in the investigation of testicular pain and the infertility.³ The testicles could swell or develop a lump for a wide range of reasons. The majority are the reasoned on by a benign condition like a cyst or enlarged veins. They may occasionally signal a serious condition, like testicular carcinoma. Even though it only makes up 1% of all male cancers, testicular carcinoma seems to be the solid cancer that affects people between the ages of 15 and 35 the most.⁴⁻⁶ Still, the US can't always talk much about testicular tissue and its extracellular lesions because it depends on the operator, has a small field of view, and can't identify tissue well enough.⁷ This is the situation in cases where the lesions are located outside of the testicles. MRI of the scrotum has been suggested as an alternative way to find a solution when the results of ultrasonography (US) are unclear,

contradictory, or not diagnostic.⁷ It also helps determine exact treatment plans in cases where surgical explorations and orchiectomy could be skipped in favour of conservative treatments, imaging or clinical follow-up, biopsies, or testicle-sparing surgery.⁷⁻⁹ However, this study has been done to determine the clinical pattern and diagnosis of various types of solid testicular swellings and its management outcomes.

MATERIALS AND METHODS

This prospective cross-sectional study was done at the surgery department of Muhammad Medical College, Mirpur Khas. The study duration was 2 years, from February 2017 to January 2019. All the cases with different presentations raising suspicion about the disease were admitted to the hospital from OPD after recording the detailed history and clinical examination. All the patients presenting with solid testicular swellings underwent inguinal exploration through an incision above the inguinal ligament, regardless of age, were included. Patients having an existing diagnosis of testicular carcinoma and those who did not want to participate in the study were excluded. After taking verbal informed consent all the cases underwent testicular biopsies. All specimens were sent to the diagnostic laboratory for histopathological diagnosis. The patients having neoplastic testicular changes were referred to the atomic energy and medical centre in Jamshoro, for further diagnosis and management. All non-neoplastic testicular swellings in the patients were treated conservatively or surgically, depending on the indications. The data and records of all the patients in the study group were taken and maintained according to the prescribed proforma, and analysis was done using SPSS version 26.

RESULTS

In this study, 50 cases of solid testicular swellings were studied. The mean age of the patients was 48.45±7.23 years. Painless

enlargement was found in 35 (70%) of cases; enlargement was usually gradual with a sense of heaviness, followed by painful enlargement was in 10.0% of cases, 2 (4%) patients had nausea and vomiting, 2 (4%) patients had loss of appetite, 2 (4%) patients had respiratory symptoms, 2 (4%) patients had fever, 1 (2%) patient had back pain and 1 (2%) patient had an abdominal mass. Anaemia was found in 3 (6.0%) of the patients, and one (1%) patient had bone pain. Weight loss and weakness were observed in 1% of patients, and neck mass was observed in 1% of patients, as shown in Table No. 1.

Twenty (40%) of all patients had neoplastic testicular swellings, while 30 (60%) had non-neoplastic swellings. Table 2.

According to the diagnosis of non-neoplastic testicular swellings in 30 cases, 40.0% of cases were suffering from orchitis, 8.0% from trauma, 12.0% had epididymo-orchitis, 4.0% had tuberculosis of the testis, and 1 (2%) had mumps orchitis, as shown in Table 3.

The non-neoplastic lesions were treated successfully. No death or other illness was noted in non-neoplastic cases. Table 4.

Table 1: Symptoms and signs of solid testicular swellings n=50

Symptoms / signs	No of cases	Percentage
Painless enlargement	35	70.0%
Painful enlargement	05	10.0%
Nausea / vomiting	02	4.0%
Loss of appetite	02	4.0%
Fever	02	4.0%
Respiratory symptoms	02	4.0%
Back pain	01	2.0%
Abdominal mass	01	4.0%
Anaemia	03	6.0%
Bone pain	02	4.0%
Weight loss / weakness	02	4.0%
Neck mass	01	2.0%

Table 2: Distribution of neoplastic and non-neoplastic solid testicular swellings n=50

Variables	No of patients	Percentage
Neoplastic testicular swelling	20	30%
Non- Neoplastic testicular swelling	30	70%
Total	100	100%

Table 3: Diagnosis of non-neoplastic testicular swellings n=30

Diagnosis	No of patients	Percentage
Orchitis	17	40.0%
Trauma	04	08.0%
Epididymo orchitis	06	12.0%
Tuberculosis of testis	02	04.0%
Mumps- orchitis	01	02.0%
Total	30	60.0%

Table 4: Post operative complications among patients underwent surgical treatment.

Complication	No of patients	Percentage
Haematoma	01	2.0%
Chest infection	01	2.0%
Wound infection	02	4.0%
Scrotal abscess	01	2.0%

DISCUSSION

Scrotal swellings are the clinical condition that is seen most frequently in surgical management. This study has been done to assess the clinical pattern of various types of solid testicular swellings and its management outcomes. In this study, 50 cases were studied and their mean age of the patients was 48.45±7.23 years. On the other hand, Mahala MK et al¹⁰ reported that the average age of their study subjects with scrotal swelling was 37.8 years at the time of presentation.

In this study painless enlargement was found in 35(70%) of cases, enlargement was usually gradual with a feeling of heaviness, followed by painful enlargement in 10.0% of cases, 2 (4%) patients with nausea and vomiting, 2 (4%) patients with loss

of appetite, 2 (4%) patients with respiratory symptoms, 2 (4%) patients with fever, 1 (2%), patient with back pain, and the presence of an abdominal mass in 1 (2%) patient. Although the Mahala MK et al¹⁰ reported that the all of the study subjects had scrotal swelling during presentation, followed by pain was in 41% of the cases, 12% cases had urinary symptoms and 5% patients had fever. On the other hand, Kailashnath BS et al¹¹ reported that the swelling was in 100% of the cases, 24.44% of the patients had fever, 23.33% of the cases had pain and only 3.33% cases had urinary symptoms. Testicular tumors typically manifest as a nodular or the swelling without pain of just one testis, that could be noticed by the individual or their sexual partners by accident.^{6,12} Any male having atrophic testis that was previously tiny may occasionally notice enlargement. The dull ache or heavy feeling in the lower abdomen, perianal region, or scrotum is reported by 30 to 40% of individuals, whereas severe pain is the primary common presentation in 10% of cases.⁶

In this study out of all, 20(40%) patients were diagnosed as neoplastic testicular swellings and 30(60%) patients were non-neoplastic swellings and according to the diagnosis of non-neoplastic testicular swellings in 30 cases, 40.0% of cases were suffering from orchitis, 8.0% from trauma, 12.0% as epididymo-orchitis, 4.0% as tuberculosis of the testis, and 1 (2%) from mumps orchitis. However, in the study of Kailashnath BS et al¹¹ reported that the most of the cases had diagnosis of Torsion of testis 23.33%, Epididymo orchitis was 5.56% and Testicular tumour 2.22%, abscess 1.11% and Sebaceous cyst was 1.11% and other several least common diagnoses. Consistently in the study of Mahala MK et al¹⁰ reported that the out of all 45 cases those having benign lesions, the commonest pathological finding was Epididymo-orchitis in 55% of the cases, epididymal cyst 13.33% of the cases, 11.11% cases had tubercular Epididymo-orchitis, 8.88% of the patients had testicular necrosis, in the 6.66% of the cases Epididymal cyst was observed, while tubercular epididymitis and Spermatocele was in only 1 case. In another study by Goje K et al¹³ reported that the Acute epididymo-orchitis became the most frequent symptom amongst 17 intratesticular diseases, with six patients (35%) following by 4(23%) acute orchitis. Differentiating it and assisting in the surgical therapeutic or conservative approach of care is necessary because to the different etiologies. Among the most prevalent clinical entities in surgical practice is scrotal edoema.^{11,14,15} Testicular illnesses can range from non-malignant and mild to excruciating and life-threatening.^{16,17} Most frequent non-malignant testicle issues, known as benign testicular diseases, manifest as painless masses or inflammations in the testicles. But delaying treatment can significantly raise the risk of consequences like sepsis, necrosis, ischemia and even infertility.^{16,18} Although Saleem D et al¹⁶ concluded that the awareness and understanding among young educated males in Karachi is extremely low and they recommended that, with the purpose of enhancing self-efficacy in self-assessment with taking into account the impact of masculine norms and supported by policy-level assistance, there seems to be an immediate need to raise public awareness at all stages utilizing various techniques and places that involve young males from all over the region.¹⁶

CONCLUSION

As per the study conclusion, painless enlargement (usually gradual with the feeling of heaviness) was observed to be the most common clinical feature. However, orchitis, epididymo-orchitis, and tuberculosis of the testis seemed to be the most common diagnoses among non-neoplastic cases. Furthermore, these non-neoplastic diseases were successfully treated as per indication, only a few cases had minor complications like wound infection and abscess, which were also conservatively managed. Neoplastic lesions were frequently high. The study's findings, however, cannot be considered conclusive due to several limitations, including a very small sample size. Hence, further large-scale studies are recommended on such subject.

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