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ISOLATED TUBERCULOSIS OF THE EPIDIDYMIS

General Surgery

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ABSTRACT

Tuberculous epididymitis is one of the causes of chronic epididymal lesions. It is difficult to diagnose in the absence of renal involvement.All 3 patients underwent biopsy or excision of epididymal lesion. Histopathological report confirmed the diagnosis.Isolated tuberculous epididymitis commonly develops in sexually active young men. In the early phases, tuberculous epididymitis is not discernible from bacterial epididymo-orchitis. The treatment of tuberculous epididymitis consists of epididymectomy in patients with chronic forms and constitutes a diagnostic confirmation procedure.

KEYWORDS

Tuberculosis, Epididymis, Tubercles

INTRODUCTION:

Definition: Tuberculous infection affecting the epididymis without evidence of renal involvement as documented by the absence of acid fast bacilli in the urine sample and on imaging[1].

Incidence: Tuberculosis is one of the most important health concern world wide. Worldwide, TB is one of the top 10 causes of death and the leading cause from a single infectious agent (above HIV/AIDS)[2]. In 2018, as per W.H.O, 10 million people fell ill with tuberculosis out of which 2.69million people are from India[2].

Although, tuberculosis most commonly affects the lungs, however it may also affects other systems or organs like lymph nodes, central nervous system, bones, gastro-intestinal system or genito-urinary system. If tuberculosis affects systems or organs other than lungs,then it is called as Extra-pulmonary tuberculosis(EPTB). EPTB is a significant health problem in both developing and developed countries and prevalence of disease in India accounts for 8.3% to 13.1%[3]. Sparse literature and reliable epidemiological data are lacking about extra-pulmonary tuberculosis from India. Despite this data, research on extrapulmonary TB is limited, possibly because extrapulmonary TB is less transmissible than pulmonary TB.

Amongst extrapulmonary TB, GUTB accounts for 4% of the load[4]. Genitourinary tuberculosis (GUTB) is the second most common form of extra-pulmonary tuberculosis after lymph node involvement. Kidney is usually the primary organ infected in urinary disease, and other parts of the urinary tract become involved by direct extension. Epididymis in men and fallopian tubes in women are the primary sites of genital infection[5].

It is generally believed that tuberculosis of the Epididymis is secondary to tuberculosis elsewhere in the genitourinary tract. At times tuberculous epididymo-orchitis may be the first or only presentation of GU tuberculosis.

We report on our series of three young patients with isolated epididymal tuberculosis.

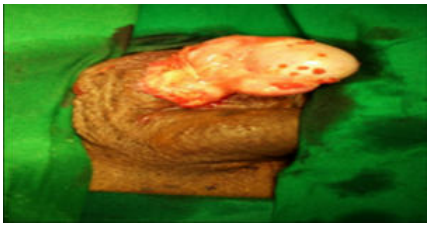
MATERIALS AND METHODS:

We retrospectively reviewed all our case records of all male patients with genitourinary tuberculosis between July 2017-June 2018. Of those three presented with symptoms of painless scrotal swelling of more than a month duration. These patients had no other local/constitutional symptoms such as fever, loss of weight/appetite and pain. Routine urine examination showed no abnormality. Ultrasonography showed an enlarged epididymis.

RESULTS:

All 3 patients were started on routine antibiotics. But none of these, were responded to antibiotics. The swelling gradually in size.

After proper counseling, these patients were advised to undergo biopsy/excision of the epididymal lesion.
OT findings were tubercles over epididymis



Explored left testis with epididymis

Tubercles over left testis with epididymis

The histologic section shows multiple granulomas surrounded by layers of fibroblasts . Granulomas consist of chronic inflammatory cells including lymphocytes, plasma cells, epithelioid histiocytes, and a few multinucleated Langhans' giant cells

They were started on Anti-tubercular treatment regimen I.e., HRZE for 6 months. The swelling starts reducing in size.

DISCUSSION AND CONCLUSION:

Isolated tuberculous epididymitis commonly develops in sexually active men most commonly between the ages of 20-50 years[6]. In the early phases, tuberculous epididymitis is not discernible from bacterial epididymo-orchitis. Ross et al noted that in 70% of patients, there is a previous history of tuberculosis[7].

Many theories have been postulated to define precise route of infection to the epididymis[7] . These include - i) tubercle bacilli reaching the epididymis from the infected urine via the vas deferens , ii) spread of tuberculosis infection to the epididymis via lymphatic system from a primary genitourinary focus located in the pelvis (e.g. prostate) and iii) metastatic spread of the organisms through the blood stream. A rare possibility of female to male transmission (veneral transmission of tuberculosis) has also been suggested[8].

Tb of the epididymis as involved in our cases because of its high

vascularity, it is said that hematogenous spread is the most common route of infection[9]. The predominant involvement of the cauda epididymis over the caput and testis could be attributed to the presence of the blood epididymal and blood testis barrier, which at the caudal portion allows low molecular weight compounds to permeate[10].

Genital tuberculosis commonly presents as scrotal swelling, pain, discharge and sinuses. The presence of abscess or sinus formation indicates advanced widespread scrotal disease[11] . The urinary symptoms and sterile pyuria strongly suggest associated renal involvement which was not evident in our case.

High-resolution sonography is currently the best technique for imaging the scrotum and its contents. The three gray-scale sonographic appearances of tuberculosis epididymitis include diffusely enlarged heterogeneously hypoechoic , diffusely enlarged homogeneously hypoechoic, and nodular enlarged heterogeneously hypoechoic lesions[12]. These sonographic features can differentiate tuberculous swelling from other swellings.

A heterogeneously hypoechoic pattern of epididymal enlargement, bilateral epididymal involvement and concomitant testicular lesion strongly suggest tuberculosis, specially in patients with evidence of tuberculosis elsewhere in the body and failure of conventional antibiotic therapy[13].

Tuberculous epididymo-orchitis has considerable effect on the fertility. The sperm counts and motility may be reduced due to blockage of the vas and/or secondary atrophy[7].

Hence we concluded that, Tuberculous epididymitis may presents as painless swelling in a sexually active male with considerable duration of time with no constitutional symptoms like fever, cough, weight loss, loss of appetite with normal urine analysis and normal sonography and not responding to routine antibiotics. In the early phases, tuberculous epididymitis is not discernible from bacterial epididymo-orchitis. The treatment of tuberculous epididymitis consists of anti-tubercular treatment and epididymectomy in patients with chronic forms. It constitutes a diagnostic confirmation procedure like FNAC or biopsy.

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