

Cystoscopic and Histopathologic Patterns in Iraqi Patients with Chronic Cystitis /Painful Bladder Syndrome

Issam Salman AL-Azzawi* , Mohammad Jabar AL-Robaiee**

ABSTRACT:

BACKGROUND:

Chronic cystitis symptoms with negative cultures always represent a challenge to the urologist because of the uncertainty in etiology and heterogenous pathological findings.

OBJECTIVE:

To elicit the role of cystoscopy and biopsy in disclosing the different pathological patterns in our patients with chronic cystitis like syndrome and to compare them with the pathological patterns of western patients.

PATIENTS AND METHODES:

This study included 64 patients (40 males and 24 females) with a persistent symptom complex of supra pubic pain, dysuria, frequency and urgency (cystitis –like syndrome) for 12 months and above , in the absence of neurological and gynaecological findings or positive cultures.

The mean patient age was 38 years (20-68ys).

The mean duration of symptoms was 26 months .

All patients were subjected to a full urological evaluation, cystoscopy under G/A with hydro distension , biopsy and histopathologic examination .

RESULTS:

The commonest cystoscopic findings were dilated vessels, sub mucosal petechial haemorrhage after hydro distension , bilharzial lesions, mucosal cracks and small polypoid masses.

Histopathologic examination revealed variable lesions as chr. Inflammatory cell infiltration, Brunns nests, cystitis cystica, metaplasia , Bilharzial reaction and ova and in situ carcinoma.

Most patients had more than one lesion , especially sub mucosal petechial haemorrhage associated with bilharzial lesions or in situ carcinoma.

CONCLUSION:

In our patients, the chronic abacterial cystitis syndrome is common in both males and females and has different pathological findings.

It is therefore , different from the pattern of the syndrome found in western patients where it mainly affects females and most often in the form of interstitial cystitis .

This may be attributed to the high prevalence of stone disease and bilharziasis in addition to the highly concentrated urine of our patients.

We, thus , consider it mandatory to do cystoscopy and bladder biopsy for every patient presenting with chronic cystitis like symptoms.

KEYWORDS: chronic cystitis, interstitial cystitis , cystoscopy, histo pathology

INTRODUCTION:

The symptom complex of bladder pain, dysuria , frequency and urgency with negative urine culture is not uncommon among patients attending urology clinics ^(1,2) , affecting both males and females ^(3,4) ,and always representing a challenge to the managing urologist due to the uncertainty in the etiology and diagnosis based mainly on symptoms because of the lack of pathognomic histological, chemical or other more objective proofs for diagnosis, in most cases.^(5,6)

The term interstitial cystitis (IC) was widely used for this complex of symptoms ; that represent a non bacterial or viral chronic inflammation of the bladder of unknown etiology affecting mainly women ^(5,6,7).

But with time , it was discovered that behind these chronic cystitis like symptoms, a wide spectrum of endoscopic and pathological patterns could exist and not only the classical pathological findings of IC (Hunner ulcer , Bladder glomerulations)^(2,7,8,9).

*AL-Yarmouk Teaching Hospital.

**Al-kindy College of Medicine, Baghdad University.

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These pathological findings are usually complex ,non specific and differs according to age, gender and geographical area^(4,10,11).

So ,to embrace all patients suffering from painful bladder conditions of unclear etiology , the terms painful bladder syndrome(PBS)or bladder pain syndrome(BPS) have been suggested as more accurate terminology^(2,5,6,12).

The aim of this study was to elicit the role of cystoscopy and Biopsy in the evaluation of patients that continue suffering from the cystitis syndrome for long periods of time, with repeated urinalysis and cultures for Bacteria (including specific cultures for tuberculosis) could not reveal any abnormality.

PATIENTS AND METHODS:

During a period of 3 years (2007-2010), 64 patients attending the urology clinics of Al-Yarmouk teaching hospital, Al-Kindi teaching hospital and Red Crescent hospital in Baghdad, were enrolled in this study .

They were 40 males and 24 females.

Their age ranged from 20 to 68 years (mean 38 years).

The mean duration of symptoms was 26 months (12-54 months).

The inclusion criteria were :

A- presence of a symptom complex of bladder pain, dysuria, frequency and nocturia for 12 months and above (cystitis like syndrome).

B- repeated urinalysis revealed nothing significant (WBC less than 10/HPF ,RBC less than 10/HPF and no bilharzial ova). Repeated culture for Bacteria including T.B revealed no growth

The presence of any pathology revealed by imaging or biochemical studies (e.g stones , tumours , stricturesetc) disqualified the patient from inclusion in this study.

Also , patients with a history of intra vesical chemotherapy or immunotherapy for superficial bladder tumours , radiation or cyclophosphamide therapy , as well as patients with gynaecologic and neurologic diseases that might affect the bladder all were excluded from this study.

A thorough clinical evaluation, abdominal U/S, plain X-ray and intra venous urography done for all patients did not reveal any significant findings .

Those patients who fulfilled the criteria were subjected to cystoscopy under general anaesthesia with bladder distension to a capacity at a hydrostatic pressure of 80 cm H₂O , repeated twice. Multiple biopsies deep enough to include the detrusor muscle , were taken from abnormal and normal looking areas.

The specimens were evaluated for any light microscopic abnormality in the mucosa , sub mucosa and adjacent detrusor muscle with emphasis on mucosal ulceration , sub mucosal haemorrhage , granulation tissue ,inflammatory cell infiltrate , peri neural infiltrate ,vasculitis ,mast cell infiltrate , fibrosis , muscle degeneration and other pathologies⁽⁹⁾

RESULTS:

The urethro cystoscopic findings and histopathological findings are listed in tables 1 & 2 respectively

Table 1: Urethroscopic findings in patients with chronic cystitis like symptoms

Endoscopic findings	Male (40)	Female (24)	Total (64)
Sub mucosal petechial haemorrhage	17	16	33
Dilated sub mucosal vessels	8	12	20
Mucosal cracks / ulcers	8	8	16
Hyperaemic patches	5	7	12
Bilharzial lesions (tubercls – sandy patches)	10	4	14
Small polypoid masses	6	3	9
Polyps coming out of the ureteric orifice	2	0	2
Prostatic urethral lesions	3	0	3
A-adhesion between prostatic lobes after previous endoscopy			
B-villous growth at veru montanum	2	0	2
	1	0	1
No abnormality detected	1	0	1

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Table 2: Histopathologic findings in patients with chronic cystitis like symptoms

Histopathologic findings	Male (40)	Female (24)	Total (64)
Chr.inflammatory cell infiltration	32	24	56
Dilated sub mucosal vessels with extravasation of RBC (sub mucosal haemorrhage)	17	16	33
Hyper plastic transitional epithelium	5	8	13
Brunns nests	8	4	12
Cystitis cystica	7	3	10
Cystitis glandularis	5	2	7
Bilharzial reaction + ova	8	4	12
Bilharzial polyp	2	0	2
Squamous cell metaplasia	6	1	7
In-situ TCC	2	2	4
Superficial loss of epithelium	4	8	12
Inverted papilloma	1	0	1

Most patients had more than one lesion , especially bilharzial lesions in association with sub mucosal petechial haemorrhages (glomerulations). Only in one patient no abnormalities were detected Dilated sub mucosal vessels were seen in some patients before hydro distension .Many of these patients showed sub mucosal petechial haemorrhage after hydro distension. Mucosal cracks / ulcers , could be seen in some patients during the first bladder distension before

evacuation. However , in most patients mucosal cracks and glomerulation only occurred after hydro distension and evacuation .

This indicates that if the mucosa had not been re-examined after evacuation and repeated filling and evacuation , the mucosal cracks and glomerulation would not have been noticed.

All patients with bilharzial lesions in this study their urinalysis had failed to diagnose bilharziasis .(no bilharzial ova)

Table 3 : Final diagnosis of chronic cystitis symptoms

Diagnosis	males	Females
Chronic non specific cystitis	16 (40%)	8 (33.3%)
Interstitial cystitis	4(10%)	10 (42%)
Bilharzial lesion and related pathology	10 (25%)	4 (16.6%)
Squamous cell metaplasia associated with chronic inflammation	4 (10%)	
Carcinoma in situ (CIS)	2 (5%)	2 (8%)
Urethral lesions	3 (7.5%)	
Rare pathology	1 (2.5%)	

Table 3 presents the final diagnosis, In the male patients , chronic non specific inflammation was the predominant pathology (40%), those patients did not show glomerulation on bladder distension . While the second most common diagnosis was chronic bilharzial lesions (25%).

In the female patients , the predominant pathology was interstitial cystitis (42%) , followed by chronic non specific inflammation (33%) and bilharzial lesions (16%)

DISCUSSION:

Many literatures consider women with irritative voiding symptoms and negative urine cultures who do not respond to empiric antibiotics therapy as having interstitial cystitis (I.C) ^(3,5,6,13)

Our study revealed many different cystoscopic picture and histopathologic changes in the mucosa and sub mucosa which imply that the subject cannot be generalized , and for a precise diagnosis , it is mandatory to subject such patients to

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cystoscopic studies and routine multiple bladder biopsies.

Painful bladder conditions of unknown a etiology have been classified into four groups : I.C ,detrusor myopathy , chronic non-specific cystitis and eosinophilic cystitis ⁽⁸⁾

I.C by itself , is divided into two sub types the classical I.C (with hunner ulcer) and the non-ulcer I.C ^(7,14)

The finding of sub mucosal petechial haemorrhage (glomerulation) on bladder distension during cystoscopy has been regarded as diagnostic for I.C , which used to be considered a women disease.^(5,12,15)

In our study , these findings were reported in males and females and in association with bilharzial lesions in many patients .

Glomerulations can also be perceived in tuberculous cystitis or CIS and therefore it is not pathognomic ^(5,9,16)

Glomerulation was thought to be a sign for chronic underfilling of the bladder ⁽¹⁷⁾ , this explanation might apply to patients suffering from bilharzial cystitis which is a chronic disease with frequency and urgency leading to a chronically underfilled bladder.

The relatively high incidence of bilharzial lesions in our series may be due to the fact that many of our patients were from Diyala and Al-Anbar provinces, both had endemic foci of bilharziasis till now .

Interstitial cystitis was the commonest finding in our female patients (with the classical ulcer seen only in 5 patients) but it constitutes only 42% of the diagnoses , as there were other considerable cystoscopic and histopathologic patterns (chronic non specific cystitis and bilharzial lesion), which is clearly different from the western studies ^(1,3,5,9,18)

The other common findings was chronic non specific cystitis which was associated in many patients with a past history of (successfully treated) bladder stone disease or out flow obstruction, that lead to persistent changes in the bladder as cystitis cystica and cystitis glandularis.

We encountered 1 rare condition which is inverted papilloma of the urinary bladder as a cause of this symptom complex .

CONCLUSION:

In our country , painful bladder syndrome is common in both males and females and has different pathological findings .

It is therefore , different from the pattern of the syndrome found in western patients , where it mainly affects females and most often in the form of I.C.

This may be attributed to the high prevalence of stone disease and bilharziasis , in addition to the dehydration status due to the hot weather in our country , that lead to always highly concentrated urine .

Our study also showed that bladder glomerulation per se is not necessarily diagnostic of I.C , as it is also present in bilharzial cystitis and CIS .

We, thus, consider it mandatory to do cystoscopy and bladder biopsy for every patient presenting with chronic abacterial cystitis / PBS , for long period.

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