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Original Research Article

Recurrent pain in right lower quadrant- chronic appendicitis versus stone in urinary tract

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ABSTRACT

Background: At times, patient undergoing treatment for stone (4mm-6mm) in urinary tract beyond 6-8 weeks keeps on complaining mild, intermittent pain in RLQ, Central abdomen with nausea without urinary symptoms. In these cases, appendicectomy was performed. Post-operative relief and histopathology revealing inflammatory changes in appendix validated the procedure.
Methods: This study was conducted in department of surgery of Rajshree Medical and Research Institute of Bareilly, Uttar Pradesh, India. India. 35 patients of ages between 14-65 years, mean being (39.5 years). Male female ratio being (2.5:1) who were suffering from recurrent pain in RLQ and being treated for stone in urinary tract (4-6 mm) were selected for the study. These patients were already received treatment for Urolithiasis for 6-8 weeks but proved to be of no avail. They were considered for appendicectomy. Macroscopic and microscopic results were analysed of the specimen rendered from 35 patients. Follow up results observed for complete one year.
Results: On the firm belief that symptomatically these patients are more in favour of chronic appendicitis appendicectomy was performed. Post-operative relief of pain with no added morbidity or mortality provided rationale of the procedure. Histopathology of the remove specimen showed all changes pertaining to the chronic appendicitis.
Conclusions: Obvious/oblivious, when patient is having both at the same time it really becomes perplexing to take the decision. Only experienced clinical skill decision taken yields positive results. Appendicectomy done in presence of small stones in urinary tract and relief patient received in present study proved the point.

Keywords: Appendicectomy, Chronic appendicitis, Small stone in urinary tract

INTRODUCTION

A 16 years old male patient complained of mild, intermittent pain in RLQ (right lower quadrant) of abdomen were receiving treatment for stone in urinary tract, as shown in USG abdomen for last 6 months in SOPD. One day he landed in hospital with abscess in right iliac fosa. He was operated upon and Appendicectomy was done. The histopathology report of the appendix showed chronic inflammatory changes. Few surgeons concluded patient receiving frequent consultation due to repeated abdominal pain chronic appendicitis should be considered as one of the cause in DD of recurrent pain in RLQ.[1] Atypical clinical course with repeated attack in some individual does not resemble the features of appendicitis.[2] Marcotty MW et al showed in 2/3 of the patient with so called chronic appendicitis does not resemble in their sign and symptoms with that of pathological and anatomical findings, they recommended a strong indication of operation in all 50 patient, 49/50 patients were free from pain within one year follow up.[3]

The sequence of events in patient and similar cases reported by many authors provides ample ground in favour of chronic appendicitis as a possible diagnosis in these patients to exists even in presence of small stone in

urinary tract as revealed in USG abdomen of the patients can be considered as incidental findings.[4] The pain caused by stone in ureteric passage is colicky in nature, usually patients lands in emergency or urological OPD.[5] These patient most of the time accompanied with urological symptons and sign.[6] Our basic concerned was with patient having mild, intermittent, dull, boring, pain in RLQ abdomen, in patients of younger age group or elderly patients. These patients usually have loss of interest in the taking meal, reducing in weight and health, at the same time. On investigation USG abdomen revealed stone of varying size (4-6 mm) but having no sign and symptons of urinary tract disease e.g. Haematuria, frequency of urine, burning sensation during micturation, retention of urine, urine culture and sensitivity, revealing nothing abnormal.

Appendicectomy was performed in these cases, their pain relieved, they become comfortable, started taking meal, rather apetiite increased and started gaining weight. The gross observation of appendix during laprotomy and its histopathology, showed the features described as chronic inflammation of appendix.[7] The chronic Appendicitis once has been a controversial subject is now a well-accepted entity, pain in RLQ always been a diagnostic intrigue, hence it always remains a matter of generalised interest as the subject.[8-10] Chronic appendicitis in presence of stone shadow in USG, is yet generating more diagnostic perplexities. Recurrent and chronic appendicitis are the two name of same entity.[11]

Number of surgeons were of opinion that repeated episode of abdominal pain is due to appendicitis is unlikely.[12] They were of opinion, the appendicitis either cries or still but never 'grumbles'. M Safaei et al, in a study showed that grumbling appendicitis is due to chronic changes in appendix labelled as chronic appendicitis.[13,14]

Incidence of stone in urinary tract are on the increase in general population but majority of stones are of small science (<6mm) located in distal ureter and pass spontaneously within 4-6 weeks.[15,16] As a matter of fact detecting stone in ureter in ordinary sonography environment is always difficult proposition. Sonography is well effective in detecting kidney stone, but of limited value in locating stone in ureter.[17,18] Sonography has extremely low sensitivity 12% to 35% when only direct visualisation of ureteral calculi was included as a diagnostic finding.[19]

Since long NCCT (Non-Contrast Computerized Tomography) has been the reference standard for diagnotic urinary tract in adult.[20] The sonographic finding of distal ureter calculus is so difficult to detect that some time author has to do transrectal or transvaginal sonography.[21] Since these procedures are not normally applied in most of the cases, at most of the centre hence it becomes difficult to co-relate the USG and clinical findings of the patients.[22] Fasting for 8 hours prior to sonography, bladder filled by I/V fluids, less than 1mL/sec and fluid amount less than 1000 ml is desired before actual sonography instead of using diuretic or direct filling.[23] To present observations these tactical procedure are not strictly applied in most of the places, hence the diagnosis at times cannot be accepted as positively.

METHODS

During January 2014 - January 2015, 35 patients were selected for the study. In the department of Surgery of Rajshree Medical Research Institute and Hospital Bareilly, Uttar Pradesh. India. These patients having pain in RLQ region of abdomen intermittently mild pain associated with nausea and vomiting at times and avoiding diet, but having no complaint related to urological problem i.e. dysuria haematuria frequency or retention of urine at any stage. No patients were having risen of temperature nor increase in WBC, no change in urinary examination microscopic or macroscopic, even culture and sensitivity were negative. These all patients were receiving urolithic treatment, even MET (Medical Expulsion Therapy) was given. When no relief was noted then decision of Appendicectomy was taken.

RESULTS

During one year period with another one year as follow up, the study has been completed. Total of 35 patients were selected for the trial. They were suffering from pain in RLQ, intermittent mild with more of GIT symptoms than urinary tract symptoms, already undergoing treatment for stone in urinary tract disease. When pain does not subside within 6-8 weeks appendicectomy were done. In patient age group 12-18 years, pain relieved within 7 days' appetite improved after 2nd weeks and started gaining weight after 3 months whereas in age group 17-35 years patients got relieved of their pain in 2 weeks' time, and patients of older age (35-65 years) relieved of their pain within 3-4 weeks. None of the patients had recurrence of pain during one year follow up.

Table 1 show number of patient and their age and sex group the highest number of patient belongs to the age group 14-18 years in the study male 25 more than female 10 (Table 1).

Table 1: Number of patients with sex and age in the study group.

Male (25)	Female (10)
14 = 12-16	05 = 14-18
06 = 17-35	04 = 19-35
05 = 35-65	01 = 35-65
Total	35

Table 2 show presenting symptoms and signs of the patients. A single case may exhibit several symptoms and sign simultaneously. It may be noted that GIT symptoms

were more significant than urinary tract disease symptoms and signs (Table 2). Table 3 showing sites and no. of stones as viewed in USG. 16 patients shown to have stone on right side of the urinary tract. There may be overlapping in number and stones and sites. Maximum number of patients having stones varying from 4-6 mm in size.

Table 2: Symptoms and signs in patients in the study group.

Symptoms and Signs	Group 1	Group 2	Group 3
Pain	Intermittent mild No Dysuria or Temperature (20)	Mild discomforting No Interest in taking Meals (13)	At timesintensity mild fever relieved by analgesia (2)
Vomiting and Nausea	±	±	+
Haematuria Dysuria	Nil	Nil	Nil
WBC	WNL	WNL	WNL
Urine macro/ microscopic	WNL	WNL	WNL
pH urine	6.5	6.5	6.7
Urine culture and sensitivity	Nothing abnormal	Nothing abnormal	Nothing abnormal

Table 3: Number of patients having stones in urinary tract and their numbers as shown in USG.

No. of Patients	Site and Stone Size
08	RK - 3-4.5 ml (3-4 in no.)
04	RK and RU = 4-6 mm (3 in no.)
08	RU - 4-6 mm (4-5 no.)
05	B/L K 4-6 mm (2-3 no. in each)
05	B/L U 3-5 mm (1-2 in no.)
03	L/K 2-4 mm (2 in no.)
02	L/U 3-5 mm (3 in no.)

Table 4 shows gross appearance of appendix on laprotomy and their number. There may be overlapping of presentation as more than 1 features observed single specimen.

Table 4: Gross appearance on appendix on Laprotomy and their numbers.

Gross appearance on appendix	Numbers
Long beaded appendix	7
Short coiled thickened appendix	3
Short mesentry short appendix	3
Adhered swollen at places	5
Thin long appendix with fibrous strand	3
Lymphnodes 3-4 enlage	4
Kinking or folding on itself, long beaded apex of appendix	4
Tip swollen with beads of pus	5

Table 5 shows feature of appendix on cut surface base of appendix and macroscopic features of the specimen. There may be overlapping of presentation as more than 1 features observed single specimen.

Table 6 shows the microscopic findings in the removed appendix specimen histopathology.

There may be overlapping of presentation as more than 1 features observed single specimen.

Table 5: Features of appendix (base of appendix) macroscopically.

Cur surface (Base of appendix)	
Outer layer thin and fibrosed	2
Lumen obstructed with exudate	6
Lumen filled with brown coloured blood	5
Lumen obstructed with fresh blood	3
Lumen filled with phlebolith	9
Lumen obstructed with worms (ankylostome)	2
Mild oedema at places of appendix.	7

Table 6: Histopathology report findings of appendix removed from the patient.

Histopathology report findings
Appendix shows fibrous changes, lymphocytic infiltration and luminal obstruction with exudate.
Serosal surface of appendix shows dilated and hyperaemic vessels, human containing faecal matter, diffuse fibrous thickening of the appendix wall but no necroses or haemorhage. Lamina propria was hyperplatic, lymphoid tissue showed reactive nonspecific hyperplasia (46).

DISCUSSION

The recurrent mild pain persisting in right lower quadrant (RLQ) region is offend seen in patient visiting surgical OPD and condition remained a diagnostic mystique and always been a matter of curosity and controversies.[24] To add, these days surging use of USG abdomen, presence of small stones (4-6 mm) has worsened the decision making process. Clearly enough, USG showing presence

of even small stone one conclude that stone should be the cause of disease. But we developed a doubt in accepting it as a plaudible diagnosis as patient doesn't have any sign and symptoms of urinary tract disease. Moreover, small stones <5-6 mm, passes most of the time spontaneously within 3-4 weeks and does not require any intervention beyond analgesia. Small stone does not cause any symptoms.[25] The classic presentation, describe by several authors, renal colic presents as excruciating, unilateral flank or lower abdomen pain of sudden onset, that is not related to any precipitating event not relieved by change of posture or non-narcotic medication.[26] Usually suspecting chronic appendicitis as a matter of skill and experience, as the diagnostic accuracy has always been skeptical.[27] Unfortunately there is no laboratory or radiological finding at times suggestive of chronic appendicitis, they all remain within normal limits.[28]

Presence of adhesions and fibrosis in and around appendix observed by surgeon at laprotomy is sufficient for the diagnosis of chronic appendicitis as it has 93.5% specificity and 77.8% sensitivity, Mussack T, et al.[29] Sometime even these features are not so prominent to explain pain however gross observation cannot replace pathological confirmation.[30,31] Histopathology of specimen showed features of chronic inflammation namely fibrotic changes lymphocytic infiltration and luminal obstruction justifies the decision taken.[31] Coincidently, the age of highest occurrence of appendicitis and appendicial perforation is 10-19 years (Abide DG et al) 10-14 years 3.5/10,000 gradually increasing upto 35 years prevalence of stone in urinary tract also common in 2nd and 3rd decade.[32]

In the background of stone present in USG appendicitis is missed and perforation occurs it increases the fatality, mobility and complexicities.[33] In female patients perforated appendicitis can lead to tubal infertility as a complication.[34] During summer season incidence of renal stone disease increases at the same time, incidence of chronic appendicitis changing into acute appendicitis gets maximised, leading to perforation at times. Enteric entity adding additional reasons to cause appendix perforation at times during summer.[35] Even today diagnosing chronic appendicitis remains a matter of skill and experience as there is no fixed criteria for positive and negative results, laid down in any description. Confirmation is achieved only through histopathology reports.[36] In order to avoide morbidity of perforation and to reduce the incidence ratio of perforation early appendicectomy has been advised even at the cost of negative appendicectomy. Since it is a benign procedure negative appendicectomy is consider safe within its limit.[37]

CONCLUSION

Relief of symptoms and agony after appendicectomy supported by chronic changes in dissected specimen of appendix histopathologically is ample evidence to justify appendicectomy even in presence of small stones in urinary tract as shown in USG without any urinary symptoms and signs.

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