



Nephrectomy in Patient of Chronic Pyelonephritis with Non Functioning Kidney on Left Side: A Case Report

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Introduction: There are two types of renal surgery i.e. partial nephrectomy and one other is total nephrectomy. Mostly, nephrostomy performs in malignant tumors of the renal. Sometimes it performs in kidney injury due to that no longer function and it may create any obstructive disorder in the renal system.

Patient Information: A 45-year-old male patient presented with complaints of pain in the abdomen since 4 months. The patient was advised to ultrasonography abdomen and pelvis. Contrast-enhanced computed tomography (CE-CT) abdomen and pelvis were done. Previous treatment was undergone left-sided PCN for gross hydronephrosis of the left kidney. But after 4 months patient developed abdomen pain which was insidious in onset and progressive in nature. The pain was dull aching, in the left loin region, radiating to the back and intermittent. There are no aggravating or relieving factors associated with it and the patient is now referred to our hospital for further management patient was admitted to the male surgical ward. After the surgery planed left simple nephrectomy. Post-operative medication given, Inj. Revotaz (Piperacillin and tazobactam) 4.45 gm, Inj. Nirmet (Metronidazole) 100 ml, Inj Pantomay (Pantoprazole) 40 mg, Inj. Setron (Ondansetron)

4 mg, Inj tramadex (Tramadol hydrochloride) 100 mg, Inj temfix IV (Paracetamol) 100 ml.

Discussion: Nephrectomy is one of the urologists conducting the most common ablative surgery. A non-functional kidney or an irreversibly impaired kidney is the commonest sign for a nephrectomy. Chronic infection, obstruction, calculus disease and serious traumatic injury are other typical indications for nephrectomy.

Conclusion: In this case, the patient was on a closed monitor. To accomplish overall the situation during the time of surgery. Over all the patient response was positive for conservative and nursing management and after treatment the patient was discharged without any postoperative complications and satisfaction with full recovery.

Keywords: Chronic pyelonephritis; hydronephrosis; nephrectomy; non-functioning kidney; ultrasonography.

1. INTRODUCTION

There are two types of renal surgery i.e. partial nephrectomy and one other is total nephrectomy. Mostly, nephrectomy performs in malignant tumors of the renal. Sometimes it performs in kidney injury due to that no longer function and it may create any obstructive disorder in the renal system.

The procedure of choice for removing a healthy renal for donating to a transplant recipient is also called nephrectomy. When one kidney is missing, renal function is not affected if the other kidney is normal and healthy [1-2].

Previously, most of surgical procedures were performed i.e. open surgery, but nowadays, done with laparoscopic surgery. Instruments can be passed through different sites, or a sleeve can be utilized to introduce a hand at the operative site. Reduced postoperative discomfort, blood loss, and, in some situations, the length of hospital stay are also less.

Pyelonephritis is a bacterial infection of the renal pelvic, interstitial tissue and tubules of one or both renal. Pyelonephritis occurs as a complication of an upward urinary tract infection (UTI).

The renal pelvic is inflamed. There are small abscesses or pockets of infection in the renal parenchyma. Renal cysts and scar facilitate infection. The renal medulla is particularly susceptible to infection due to high osmolarity and acidic Ph [3].

2. CASE HISTORY

The patient came to Acharya Vinoba Bhave Rural Hospital, Sawangi Meghe Wardha

Maharashtra. The patient underwent left-sided PCN for gross hydronephrosis of the left kidney. This complaint was taken care of properly by the expert surgical department team and nursing care also.

2.1 Patient Information

A 45-year-old male patient presented with complaints of pain in the abdomen since 4 months. The patient was advised ultrasonography abdomen and pelvis. Contrast-enhanced computed tomography (CE-CT) abdomen and pelvis were done. Previous treatment was undergone left-sided PCN for gross hydronephrosis of the left kidney. But after 4 months patient developed abdomen pain which was insidious in onset and progressive in nature. The pain was dull aching in the left loin region, radiating to the back and intermittent. There are no aggravating or relieving factors associated with it and the patient is now referred to our hospital for further management. patient was admitted to the male surgical ward.

He maintains good interpersonal relationships between family members, neighbors, friends and relatives.

After admission patient was advised ultrasonography abdomen and pelvic. Ultrasonography report revealed gross hydronephrosis of the left kidney. Thus Contrast-Enhanced Computed Tomography (CE-CT) done CE-CT report was suggestive of non-functioning left kidney with gross hydronephrosis obstruction along with cholelithiasis. Thus to know the functioning of kidneys DTPA scan was done. DTPA report was suggestive of the nonfunctioning left kidney and normal functioning right kidney with a total GFR of 72.7ml/min.

2.2 Physical Examination

His Physical examination was done and on examination, the abdomen was tenderness present in the left lumbar region, pain in the abdomen. Other than there was no abnormality was detected.

2.3 Diagnostic Assessment

The laboratory test were conducted and results were: Hemoglobin 12.3 gm /dl (13-16 gm/dl), MCHC 32.6 , MCV 26.2, MCH 24.3 , Total RBC count 4.26, total WBC Count 7900, total platelet count 1.81 HCT 37.5, monocytes 03, granulocytes 64 , RDW 14.5 and total leukocyte count was 17,000 cell/m³ (5000-11,000 cell/m³), urine exam test was done pus cells 2-3 cells/hpf. Kidney function test result was urea 24 mg/dl (8-25 mg/dl), creatinine 1.1 mg/dl (0.6-1.4 mg/dl), sodium level 143 (135-145 mEq/l) and potassium 4.4 mEq/l (3.5-4.8 mEq/l) and serum albumin level was 2.3 mg/dl. Serum total bilirubin was 1.0, conjugated bilirubin 0.3, unconjugated 0.7,

Ultrasonography report was multiple renal calculi in left kidney with moderate left side hydronephrosis.

CT Scan report was non-functioning left kidney with gross hydronephrosis due to pelvic ureteric junction obstruction. Normal functioning right kidney with normal position and axis. and cholelithiasis.

Renal scintigraphy (DTPA) report was non-function left kidney, normal function right kidney with non-obstructed drainage and total GFR 72.7 ml/min.

CT Urography report was there is enlarged left kidney showing grade 3 hydronephrosis with thinning of renal parenchyma. There are multiple calculi noted in left kidney associated with multiple peripherally

2.4 Pre-operative Care

The patient is ready for surgery, and his or her consent is verified. Antibiotics and a bowel cleansing program may be administered prior to surgery. The abdominal girth was recorded 2 hourly. The bladder was catheterized as per the doctor's orders and maintained intake and output strictly. To treat this condition with the help of conservative management i.e. Inj ceftriwiel

(Ceftriaxone) 1 gm antibiotic intravenously, Inj Pantomay (pantoprazole) 40 mg intravenously, Inj. Setron (Ondansetron) 4 mg, Inj Tramadex (Tramadol Hydrochloride) pain killer in IV drip, Inj temfix (paracetamol) 100ml antipyretic intravenously given, after the OT planed left simple nephrectomy. This case and before start surgical operation preparation written consent was taken by his wife. Urologist and nephrologist was given the fitness for surgery. Physical and psychological preparation was done preoperatively. Dermatologist opinion was taken and given fitness for surgery as the patient is a known case of psoriasis. start Aprezo pack 7 days , Tab Apremilast 30 mg.

2.5 Post-operative Care

Post-operatively patient shifted in surgery ICU; Head low position was given, 24-hour patient was nil by mouth (NBM) than after started the oral intake. Continuous vital signs are monitored after surgery, and the incisional area is examined for signs of bleeding or hemorrhage. The sounds of bowels, stomach distention, and pain were all monitored. Post-operative medication given, Inj. Revotaz (Piperacillin and tazobactam) 4.45 gm, Inj. Nirmet (Metronidazole) 100ml , Inj Pantomay (Pantoprazole) 40 mg, Inj. Setron (Ondansetron) 4 mg, Inj tramadex (Tramadol hydrochloride) 100 mg, Inj temfix IV (Paracetamol) 100 ml given as per doctors ordered.

2.6 Nursing Management

After the surgery, the patient was under observation. Intravenous fluid administered as per calculated. The closed monitoring to the patient the fluid intake and vital signs. Each drainage route should be monitored independently, with a total fluid output computed. The intake (intravenous or orally) of the client should closely match the output. Patient deterioration caused by rapid fluid loss can be reduced if the fluid balance is regularly monitored and addressed. Properly record maintain for of the drainage postoperatively. Care of catheter and drainage and the daily dressing was done. To avoid exit-site infection, good wound-site care is required, which includes keeping the drain site clean and dry. Vital signs were recorded strictly.

In histopathology report features s/o chronic pyelonephritis. Overall his response was positive for treatment and the patient's condition too improved progressively. Then the patient was

shifted after 4 days in the surgical ward from the surgical ICU after recovery. During the time of discharge, procedure was explained by nursing staff to the patient and her family members provided information about continued recovery from surgery, including engaging in regular exercise, refraining from heavy lifting or strenuous activities and resuming normal dietary intake, medication prescribed at home as advised by the surgeon. The patient was discharged from the ward after 15 days with encourage to follow up and need to seek medical attention for any signs of urinary infection, urinary obstruction or urinary tract disease. No postoperative complication.

The patient visited regularly at surgery OPD and during this period routine checkup was done and he had no complaints, therefore no furthermore evaluation was found.

3. DISCUSSION

Nephrectomy is one of the urologists conducting the most common ablative surgery. A non-functional kidney or an irreversibly impaired kidney is the commonest sign for a nephrectomy. Chronic infection, obstruction, calculus disease and serious traumatic injury are other typical indications for nephrectomy [4].

Nowadays, Nephrectomies are also performed for renal allograft failure, with a growing number of renal transplants, and a strong histopathological examination is warranted [5].

A study was conducted in K.I.M.S. Hospital and Research center, Bengaluru .The number of nephrectomies has been steadily increasing over time, according to our findings. Chronic pyelonephritis is the most common cause of renal nephrectomy among non-neoplastic illnesses [6].

A study was conducted in Urology of Bozok University and Diskapi Education and Research Hospital, Turkey say that due to renal pelvic stone disease, a non-functioning hydronephrotic kidney requires nephrectomy [7-8].

Sometimes if aseptic techniques not followed during surgery it may result in incision site wound sepsis will be developed. Without any organ or tissue damage patient may have post-operative nephrectomy, it will happen because of the patient's immune system and allergic reaction or the patient may or may not be anemic [9-12].

In partial nephrectomy, surgical complications such as urinary fistula and bleeding were more prevalent but had no relevant effects [6,10,11] But no complication.

The urologic surgeon has a major responsibility while performing a simple nephrectomy. During surgery use, non-allergic chemical agents, before starting operation nurse has responsibilities to account for all instruments that are necessary for surgery, sponges, and gauze pieces also count. Before closer of operative side doctor should take feedback from the nurse regarding the counting of instruments, sponges and gauze pieces. Surgeons should be very careful and conscious while handling the operative side and about tissues or organ damaging. Otherwise, it will be a life-threatening condition to the patient. And patients will be in trouble.

4. CONCLUSION

In this case, the patient was on a closed monitor. To accomplish overall the situation during the time of surgery. Overall the patient response was positive for nursing management and conservative management.

After the nephrectomy, the patient was on a closed monitor. To accomplish overall the situation during the time of surgery. In this type of case, the patient gives psychological support is very useful. On observation, it shows that the relief of abdominal pain, urinary drainage clear without clots, absence of fever or sign of infection. Vital signs are stable, urine output 70 ml /hr. after treatment the patient was discharged without any post-operative complications and satisfaction with full recovery.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

CONSENT

While preparing case report and for publication patient's informed consent has been taken.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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