

Care Plus

A Monthly Newsletter

From Max Super Speciality Hospital, Phase VI, Mohali

Vol. 1 Issue 4

SPECIAL ISSUE ON NEPHROLOGY

Department of Nephrology & Renal Transplantation

SPECIAL FACILITIES

Regions first successful ABO incompatible (across the blood group barrier) kidney transplant acknowledged by HT as top 10 achievements in past decade

Regions first kidney transplant in a HIV positive patient

Best post transplant results with graft survival 95% and patient survival 95%

First ever centre to achieve fastest 50 kidney transplants within 6 months of inception of kidney transplant program

Excellent biochemistry, haematology, microbiology and general pathology services available.

All the tests required for transplantation are done within the hospital.

State-of-the art radiology department and nuclear medicine department, help in accurate imaging studies.

The transplantation immunology department has the latest hi-tech equipments and expertise to perform advanced tests like HLA typing (DNA PCR) and donor specific antibodies by Luminex Fluoroanalyser.

Superb operating theatres and postoperative wards are available.

MAX SUPER SPECIALITY HOSPITAL MOHALI COMPLETES 70 SUCCESSFUL RENAL TRANSPLANTS

WHAT IS KIDNEY FAILURE?

The main function of the kidneys is to eliminate excess fluid and waste material from the blood. When the kidneys lose this ability, dangerous levels of fluid and waste accumulate in the body leading to a condition known as kidney or renal failure. This may be due to various factors including infections, autoimmune diseases, hypertension, diabetes, cancer, and toxic drugs. Once kidney failure occurs, it requires immediate management.



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Director Nephrology &
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WHAT ARE THE TYPES?

There are two main types of kidney failure:

ACUTE RENAL FAILURE (ARF) OR ACUTE KIDNEY INJURY (AKI)

This is characterised by a sudden impairment of renal function marked by rapid, and steadily increasing accumulation of toxic products in the blood, normally excreted by the kidneys. The causes of acute kidney failure include:

- Factors that interfere with renal blood flow (for example: fluid and electrolyte depletion, haemorrhage, severe infections, cardiac or liver failure, heat stroke, fluid depletion due to burns).
- Factors that cause obstruction to the urinary tract (for example kidney stones can also lead to acute kidney failure).
- Other causes are factors that impair the renal function directly (for example acute glomerulonephritis, a disorder involving swelling and inflammation of filtering cells of the kidney).

CHRONIC RENAL FAILURE (CRF) OR CHRONIC KIDNEY DISEASE (CKD)

This is characterised by a slow, gradually progressive irreversible impairment of the excretory and regulatory functions of the kidneys over a period of more than 3 months to years. The causes of CKD include:

- Chronic glomerulonephritis, a disorder involving swelling and inflammation of filtering cells of the kidney

- Anomalies of the kidneys that are present since birth
- Vascular disease like hypertension
- Endocrine disease like diabetes
- Obstructive processes in the kidneys such as kidney stones
- Nephrotoxins (toxic chemicals that affect the kidneys)

WHAT ARE THE SYMPTOMS?

The symptoms and signs of kidney failure depend upon the type of failure. In acute kidney failure, the patient may have oliguria (reduced urine output) along with generalised swelling (oedema) of the body together with high blood pressure. Sometimes there may be blood in the urine. In the early stages of chronic kidney disease, the patient may merely have increasing fatigue and tiredness and symptoms like nocturia (increased frequency of urination at night). Vomiting, oedema and high blood pressure eventually develop. There is also loss of appetite. Other symptoms depend upon the cause of the failure. For example, if there are kidney stones, then there may be excruciating pain or if there is severe haemorrhage or diarrhoea there may be signs of shock. Complications in renal failure include pulmonary oedema (presence of fluid in the lungs), severe sustained increase in blood pressure, acidosis, hyperkalaemia (increased level of potassium in the blood), and infection. If untreated, the last stage of kidney failure is almost invariably fatal.

WHAT IS THE TREATMENT?

In acute kidney failure, general treatment measures include avoiding drugs that require renal excretion, strict monitoring of daily weight, fluid intake and output, high carbohydrate and low-protein diet, decreased intake of salt and potassium, prevention of injury or infection, electrolytes monitoring, and monitoring of vital signs, cardiac status, and mental status. Peritoneal or haemodialysis is the treatment of choice when other measures fail. Drugs are used to reduce the blood pressure; diuretics (drugs that increase urine output) are used in cases of fluid overload, intended to improve the urine output and also assist in blood pressure control. Antibiotics may be needed to treat associated infections while avoiding potential kidney toxic antibiotics and adjusting the dosage of administered medications based on the level of kidney function.

In CKD, general treatment measures include a diet low in sodium, potassium, and phosphate. Other measures include balanced fluid intake, and monitoring weight changes, vital signs, electrolyte balance, cardiac and mental status.

- 1. DRUG THERAPY:** This includes antihypertensives for hypertension, diuretics for oedema, phosphate binders for hyperphosphataemia (increased phosphate levels in the body), antiemetics (drugs that prevent vomiting) for nausea, laxatives for constipation, calcium, iron, and vitamin supplements.
- 2. DIALYSIS:** Peritoneal dialysis or haemodialysis is often required for end-stage disease.
- 3. SURGERY:** Kidney transplantation is the solution for patients best with CRF. The results of transplantation are now extremely good with improved five-year survival rates, excellent long-term outcomes and quality of life.

HOW TO PREVENT CKD?

Prevention of the causative factors, wherever possible, may help in preventing the development of the disease. Control of blood sugar in diabetics is of great importance. After the disease has developed, specific drug therapy based on the cause of kidney disease (steroids and certain immunosuppressive medications prescribed for certain types of glomerulonephritis) may help revert the disease progression while strict blood pressure (BP) control (target BP goal <130/80mmHg) and avoidance of exposure to potential kidney toxic medications (like common pain medications Voveran, nimulid and brufen) helps to delay the progression of CKD over period of years. Lastly, healthy lifestyle with increased physical activity and healthy diet, strict monitoring of cholesterol and avoidance of smoking goes a long way in maintaining the cardiovascular health of the person, especially in view of increased incidence of heart disease in patients with CKD.



Dr. Munish Chauhan
Consultant, Nephrology &
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KIDNEY TRANSPLANT IS BEST OPTION OF RENAL REPLACEMENT THERAPY



Kidney transplantation is considered the treatment of choice for many people with severe chronic kidney disease because quality of life and survival are often better than in people who use dialysis. people who undergo kidney transplantation do not require hours of daily dialysis treatment. Ideally, patients who are eligible to get a kidney transplant do so before ever starting on dialysis. However, there is a shortage of organs available for donation.

A kidney can come from a living relative, a living unrelated person, or from a person who has died (deceased or cadaver donor); only one kidney is required to survive. In general, organs from living donors function better and for longer periods of time than those from donors who are deceased. Family members are often the most likely to be compatible kidney donors. But many people undergo successful transplants with kidneys donated from people who are not related to them.

The first successful renal transplantation in India was performed on 2nd February 1971 at CMC Vellore. Since then, the program of renal transplantation has come a long way. Better immunosuppressive drugs have reduced the complications and improved graft and patient survival. In Indian scenario kidney transplant also offers least expensive form of renal replacement therapy. Hemodialysis for a year will cost around Rs.3-4 lakhs (including cost of medicines) peritoneal dialysis is even costlier, renal transplant will cost around 3-3.5 lakh rupees ,moreover there is survival advantage, better quality of life and one can return to normal activities within 1-2 months of transplant and can earn for himself and his family. The quality of dialysis is poor in most dialysis units further compromising patients survival on hemodialysis.

Having done more than 50 successful renal transplants at Max Hospital Mohali which includes first ever renal transplant across blood group barrier in northern region.. Our Hospitals has excellent biochemistry, haematology, and microbiology and general pathology services available. All the tests required for transplantation are done within the hospital. State-of-the art radiology department and nuclear medicine department, help in accurate imaging studies. The transplantation immunology department has the latest hi-tech equipments and expertise to perform advanced tests like HLA typing (DNA PCR) and donor specific antibodies by Luminex Fluoroanalyser. Superb operating theatres and postoperative wards are available.



Dr. Sananda Bag
Senior Consultant Urology
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WHAT'S NEW IN KIDNEY SURGERY TODAY? ERA OF LAPAROSCOPIC SURGERY



WHAT IS LAPAROSCOPIC SURGERY?

Laparoscopic surgery is minimally invasive technique of performing operations, in which specialized long instruments are inserted through small key holes incisions (5-10 mm), to operate upon various organs inside the abdomen. A small high resolution camera mounted in a specialized instrument provides clear and magnified view inside, so that operations upon various organs are done with extreme precision.

Use of Robotics in laparoscopy has enabled ease of operating and instrumental maneuvering, and also enabled to reach areas inside the abdomen and chest, which would be otherwise difficult to access by open surgical operations.

ADVANTAGES OF LAPAROSCOPIC SURGERY:

Problems of conventional long flank / subcostal incision are avoided or minimized by doing the same high end surgery laparoscopically. Small incisions (3-10 mm) cause less tissue trauma, minimal pain, less analgesics requirement, no wound infection, early food intake, early ambulation, shorter hospital stay & less treatment cost. Incisions heal nicely without scar formation and become invisible by 6 months.

Large kidney, tumor mass or bladder specimen is usually retrieved through 5-7cm lower abdominal muscle splitting incision, which cause less pain and heals nicely. Herniation usually never occurs through this scar which remains hidden inside the pants and becomes invisible in long run.

The donors are discharged by 3-4 days after laparoscopic surgery and resume their duties by another 7-10 days. Studies have shown that minimized complications & morbidity and extremely comfortable post op recovery after laparoscopic donor nephrectomy has become encouraging for donors, so that more and more people are coming up for live kidney donation to their relatives.

WHICH OPERATIONS CAN BE DONE LAPAROSCOPICALLY?

Operations for kidney, adrenal, urinary system and prostate involve superspeciality skill & expertise, requiring high-end laparoscopic instruments & devices. Kidney surgery by laparoscopy has already been well established and reached the level of perfection, so that this is the standard of care as of now.

Use of laparoscopy and robotics in kidney cancer surgeries have enabled very precise dissection under magnified vision and thus effective & curative cancer surgery along with salvaging the unaffected half of kidney (Partial nephrectomy).

With availability of robotics & laparoscopic facility and expertise in many centers the radical prostatectomy has become the treatment of choice in localised high grade prostate cancers which in earlier days were treated by hormonal manipulation, otherwise reserved for advanced / metastatic prostate cancer. Robotic prostatectomy facilitates easy & precise dissection and suturing, resulting in more effective cancer control, less complication and morbidities.

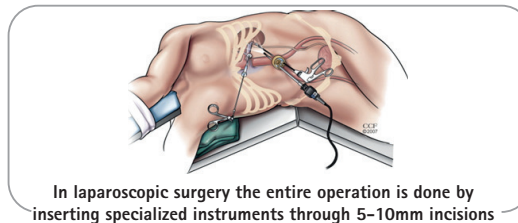
WHICH KIDNEY DISEASES CAN BE MANAGED LAPAROSCOPICALLY?

Various operations of the kidneys urinary & genital systems done Laparo-endoscopically include -- removal of nonfunctioning &/or infected kidney, renal tumors (radical / partial nephrectomy) and large complex cysts (deroofing/excision), surgical correction of pelvi-ureteric junction obstruction & ureteral strictures (pyeloplasty), urinary stones (PCNL, URS, RIRS, Cystolithotripsy), removal of bladder & prostate for cancers (lap radical cystectomy & robotic radical prostatectomy) and bladder augmentation.

Retroperitoneal and pelvic lymph nodes dissection for testicular or penile cancers are also now days being done laparoscopically effectively with lesser morbidity than the open surgery.

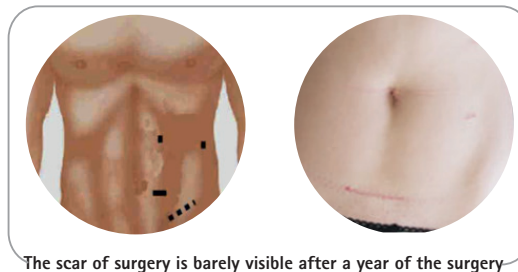
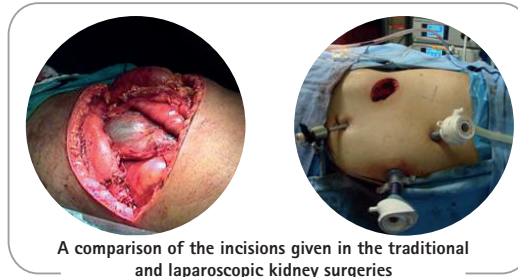
WHAT ARE THE COMMON SYMPTOMS OF KIDNEY DISEASES BY WHICH WE CAN KNOW THEM AT AN EARLY STAGE?

Obstruction to kidney by stones, blood clot or growth usually causes pain in flank or back. Kidney cancers in early stages are usually asymptomatic -- continuous back pain can occur once it stretches kidney capsule due to large size or if the cancer spreads beyond the kidney into retroperitoneal nerves. Some patients may pass blood in urine. In very advanced stage of cancer patients may have loss of weight, decreased appetite or weakness.



ADVANTAGES OF LAPAROSCOPIC KIDNEY SURGERY

- Extreme precision during surgery
- Less pain after the surgery
- Early food intake after surgery
- Early ambulation
- Short hospital stay
- Minimum scar
- No risk of hernia formation



TEAM THAT CARES



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Max Super Speciality Hospital, Mohali is empanelled with ECHS, ESIC, CGHS Haryana & HP Govts and all Major TPA's & Corporates & PSU.

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