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## **Surgical complications after renal transplantation**

Since locally published data on surgical complications of renal transplantation are lacking, we examined the incidence of common and important surgical complications [1] in a cohort of renal allograft recipients

(n=222) in Sri Lanka. We assessed renal allograft recipients transplanted between April 2000 and July 2005. Patients who were lost to follow up (n = 3), were excluded, but all the deaths due to various causes, both surgical and medical, were included.

A screening checklist for the surgical complications was used to interview patients at follow up clinics and to screen patients' medical records. A detailed physical examination was done in each case. Certain investigations (eg: abdominal ultrasonography, Doppler of renal vessels) were performed when indicated.

Of the 222 patients studied, 154 (69.4 %) were males. 52.3% of all transplants were live related, 45.5% were live non-related, and 0.2 % were cadaveric transplants. 22 of the harvested organs had major anatomical variations, one with double ureters and 21 with multiple renal arteries. The mean duration of follow up was 31.8 months (range 6-63) and mean age of the patients was 37.2 years (range 16-68).

The incidence of renal artery thrombosis, renal allograft venous thrombosis and renal artery stenosis was zero in our cohort. The incidence of other complications, namely perinephric haematoma (7.7 %), ureteral obstruction (1.2%), urine leak (2.4%) lymphocele (4.5%) and scrotal complications (2.3%) were similar to the incidence in many of the published series overseas [4, 5, 6]. The incidence of wound infection (4.9%) in our series is relatively high as wound infections should now occur in less than 1% of all cases of allograft recipients (Table).

Some post-surgical complications such as graft thrombosis, perinephric haematoma, urinoma, scrotal complications and wound infection manifest shortly after surgery, whereas others, such as renal artery stenosis and ureteral stenosis may manifest much later.

Renal vessel thromboses were not encountered as complications in our series. They are rare and should occur in less than 1% of all kidney transplants [2]. Minimising the hyperacute rejection episodes, and exclusion of recipients with procoagulant states and atheromatous vessels are responsible for the zero incidence. Renal artery stenosis incidence depends on how carefully it is looked for. The reported figure of 1-23% reflects the diversity of diagnostic criteria used for screening [1, 3]. The incidence of perinephric haematoma was 7.7%, mainly from non-anastomotic post-operative bleeding due to uraemic coagulopathy.

Complications of the urinary tract such as ureteral obstruction and urinoma are relatively common after renal transplantation, with an incidence of about 5-14% [4, 5]. We observed a comparatively lesser incidence of 3.6 %, probably because we have failed to document the late development of ureteral obstruction occurring several years post-transplant.

We noted an incidence of 4.5% of lymphoceles in our series, compatible with the 2-10 % published incidence of lymphoceles [6]. The only scrotal complication we observed was bacterial epididymitis in 5 patients (2.3%). No figures for comparison were available in the literature. The relatively higher incidence (5%) of wound infection in our series could have been minimised with good surgical nursing.

We conclude that the incidence of most of the post-kidney-transplant surgical complications in our series is similar to those in many of published series (Table). We have performed even better regarding some complications eg. graft thrombosis and renal artery stenosis.

Table. Surgical complications after renal transplant (n = 222)

Complication	Number of events (%)
Renal artery thrombosis	0
Renal allograft venous thrombosis	0
Renal artery stenosis	0
Perinephric haematoma	17 (7.7)
Ureteral obstruction and urine leak (urinoma)	8 (3.6)
Lymphocele	10 (4.5)
Scrotal complications	5 (2.3)
Wound infection	11 (4.9)
Perioperative death	2 (0.9)

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AP Hewageegana, Senior Registrar, and PK Harischandra, Surgeon, Nephrology and Renal Transplant Unit, Teaching Hospital, Kandy, Sri Lanka. Received 6 January 2006. Revised version received 18 October 2006 and accepted 19 October 2006.

Correspondence: APH, e-mail: <anurahewagee@slt.lk>. We declare that we have no conflicts of interest.