

## COMPLICATIONS OF ILEAL CONDUIT URINARY DIVERSION WITHOUT CYSTECTOMY IN PATIENTS WITH & WITHOUT NEUROPATHIC DISEASE

### Hypothesis / aims of study

Urinary diversion may be undertaken for management of intractable urinary incontinence, generally after a protracted period of conservative, medical and surgical measures. Patients with either neuropathic or non-neuropathic causes of urinary incontinence may ultimately come to undergo urinary diversion. This study assessed outcomes for patients in both these categories undergoing ileal conduit formation without cystectomy during the same operation.

### Study design, materials and methods

An observational study assessed ninety two patients who had ileal conduit formation without cystectomy between March 1993 and July 2001. A retrospective analysis of patient records was undertaken. Supplementary data was obtained where necessary by direct contact with the patient's primary care providers. Data was analysed using Microsoft Excel.

### Results

Patient ages ranged from 24 to 79 years (mean = 53) & there were 18 male and 74 female patients. 53 patients had neuropathic and 39 non-neuropathic disorders. Of the neuropaths, 34 (64%) had multiple sclerosis. Hand function was reduced in 45% of neuropaths compared with 3% of non-neuropathic patients & 81% of neuropaths (10% of non-neuropaths) were confined to a wheelchair. Of the neuropaths, 66% had either indwelling urinary catheters (urethral/suprapubic) or previous surgery (i.e. Clam Ileocystoplasty) compared with 46% of the non-neuropathic group. Follow-up ranged from 3-99 months (median 35 months). The median American Society of Anesthesiology (ASA) Score was 2 in the non-neuropathic group & 3 in the neuropaths.

85% of patients had a Wallace II uretero-ileal anastomosis and there were 8 patients who had anastomotic leaks (6 (75%) were non-neuropaths). 4 leaks were managed conservatively, 1 required percutaneous drainage and 3 required open drainage after failure of other methods. 18 patients required blood transfusion & the mean blood loss in this group was 800mls (compared with 350mls in non-transfused group). Four patients died in the immediate post-op period (2 neuropaths and 2 non-neuropaths). Of the 88 patients discharged, 26% subsequently developed at least one episode of pyocystis. The pyocystis rate in the non-neuropathic group (38%) was higher than neuropaths (15%); five patients required cystectomy. Prevalence of urinary tract infections in the pyocystis and non-pyocystis groups was unchanged. A higher rate of postoperative infective complications was seen in the patients who did not receive prophylactic antibiotics preoperatively. One patient had an ischaemic stoma post-operatively requiring refashioning. Overall 24 patients (27%) had stomal complications (including dermatitis, leakage and herniation) in the follow up period & 5 patients (21%) required stomal refashioning. Of the patients with stomal problems 16 (67%) were non-neuropaths. Eleven patients (13%) developed de-novo renal calculi. Four patients (2 neuropaths & 2 non-neuropaths) developed superficial wound dehiscence involving the skin only and no patients had dehiscence of the abdominal wall.

14 patients (6 neuropaths & 8 non-neuropaths) had renal impairment pre-operatively. Of these, 1 patient died in the peri-operative period, 9 patients' creatinine returned to normal levels, 4 patients had continuing renal impairment & 1 patient required renal replacement therapy. 8 further patients (4 neuropaths and 4 non-neuropaths) developed renal impairment post-operatively and 2 of these commenced renal replacement therapy. The overall renal replacement rate was 3%.

### Interpretation of results

A high rate of complications was apparent in the immediate and more long-term period after primary ileal conduit formation. Although the neuropathic group had greater pre-operative

morbidity in terms of physical function and ASA score, the incidence of significant complications (pyocystis, urine leaks & stomal complication) was higher in the non-neuropathic group. Our pyocystis rate is in line with the current literature (9<sup>[1]</sup> - 67%<sup>[2]</sup>), though pyocystis itself remains ill-defined at present.

#### Concluding message

Supravesical urinary diversion with retained bladder is an option in patients with intractable lower urinary tract symptoms. Good follow-up is essential and patients need to be well-informed of the potential risks of the procedure before embarking on this treatment. The rate of significant complications was greater in the non-neuropathic group and this should be considered when counselling these patients.

#### References

1. The fate of the defunctioned bladder following supravesical urinary diversion. *Br J Urol* (1996), **78**: 80-83.
2. The fate of the remaining bladder following supravesical diversion. *J Urol* (1990), **144**: 31-33.