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SURGICAL TREATMENT OF URINARY SEQUELAE IN NEUROGENIC PATIENTS

Introduction

Advances in medical care have really increased interest in its effect on the quality of life and life expectancy after spinal cord injury has increased.

Late urological complications requiring surgical therapy in patients with neurological dysfunction have decreased in recent years

The incidence of renal failure appears to have decreased too.

We investigated the association of type of bladder management with late urological complications, which required surgical therapy in patients with neurological bladder dysfunction.

In other situations, in which bladder has lost its function to store urine, neurogenic patients may require cystectomy for end stage neurogenic bladder, complicated by urethral destruction as a result of chronic indwelling catheterization and you have to take in account that you have to preserve renal function. Nowadays patients are more demanding. They refuse such a invasive surgery.

We will focus on reconstructive urology and urinary diversion and we will show our more recent experience to take your comments

Patients and methods: 81 patients (40 males, 41 females) have been hospitalized for urological complications due to their neurological bladder.

The mean age was 44,7 years (range 0-90, DS 25,32).

It was 37,23 years in males and 52,1 years in females.

In 34 cases the neurological bladder was secondary to trauma of the central nervous system.

A degenerative neuropathy was present in 25 cases.

In 11 cases, the neurological bladder was due to cerebral vascular disease;

A malformative origin was evident in other 6 cases.

An inflammatory disease of the nervous system was the cause in 2 patients while in the last 3 patients the damage of the peripheral nervous system was iatrogenic.

The mean time of latency between the diagnosis of neurological bladder and the appearance of the first surgical complication has been of 10,14 years (males 9,68, females 10,92)

Results: 43 patients (14 with pielonephritis , 11 with recurrent ematuria, 11 with upper urinary tract dilatation., 6 with urinary stones and 1 small fibrotic bladder) were treated conservatively. .

38 patients (24 males, 14 females) required surgical therapy.

The mean age was 29,11 years, range 0-69, DS 20,09.

It was 27,22 years, DS 17,4 in men while it was 32,3 years in women.

In some cases the same patient had more complications until to a maximum of 5.

The total number of complications have been 76.

20 patients were carriers of hyperactive bladder with dyssinergia, 8 only hyperactive bladder,

In other 8 patients the bladder was hypoactive while an hypoactive sphincter was present only in one patient..

Only 7 patients of these were on intermittent catheterization; 9 patients were carriers of an indwelling urinary catheter, in 22 cases micturition was preserved..

In 25 patients the renal function resulted in the norm, while in 13 renal insufficiency was present (Cr mediates 2,1 mg/dls).

The most frequent complication which required more than one surgical treatment was the calculosis of the urinary tract in 39 cases::

- 18 surgical treatments (in 2 cases with electrohydraulic shock wave lithotripsy (ESWL)
- 3 percutaneous nephrolitotomies (associated to ESWL in 2 cases and to ureteral lithotripsy in 1 case).
- 4 ureteral endoscopic lithotripsy (in 2 cases associated to ESWL)
- 5 patients were submitted only to extracorporeal shock wave lithotripsy
- 9 bladder stones were treated with electrohydraulic lithotripsy

An augmentation enterocistoplasty was performed in 4 patients with a small fibrotic bladder

An urethral diverticulum with fistula was repaired in other 3 patients; in 1 of them an urinary cutaneous ileal diversion was then performed.

4 abscesses have surgically been drained.

2 patients with vesico-ureteral reflux and upper urinary tract dilatation have been treated with sphincterotomies, 2 with perimeatal ureteral injection of polymers, 1 with urinary derivation.

In 2 patients with a complex situation characterized by the association of upper urinary tract dilatation, renal deterioration and recurrent urinary infection, cistectomy with urinary diversion was performed.

Cystectomy with urinary ileal cutaneous diversion was also necessary in other three cases for infiltrating bladder cancer.

Discussion:Methods of long-term bladder management vary somewhat from center to center , but most investigators would agree that a catheter-free status is desirable.

Regardless of bladder management method employed, long term monitoring of the upper urinary tract is an essential part of the management of neurogenic bladder dysfunction.

Alterations in sensation associated with neurogenic bladder disturbances may allow profound changes to occur in the upper urinary tract in the absence of symptomatology.

Neuromuscular disturbances have no direct effect on upper tract function, however the alterations in bladder and urethral dynamics may result in circumstances that adversely affect the upper urinary tract.

Sustained or frequently elevated intravesical pressures greater than 40 cm of water inhibit ureteral peristalsis and predispose the patient to the development of renal calculi and chronic pyelonephritis,

Conclusion There is not general agreement on the timing and frequency of upper urinary tract evaluations but some systematic program is beneficial in the care of these patients.

If one is to engage in long-term care of the neurological patients with bladder dysfunction, then a system of patient call back and monitoring is almost essential since these patients often have lack of symptomatology, the normal triggering mechanism for seeking medical care.

In our program, patients are evaluated annually during the first five years of follow-up providing they are asymptomatic and on a stable bladder management program.

Patients who develop clinical problems such as recurrent episodes of recurrent urinary tract infection or renal calculi may require additional evaluation.

Patients who remain stable and asymptomatic after five years are then evaluated on a biannual basis .Bladder management among our patients is varied according to the neurologic deficit, rehabilitation potential and the patient's physical and psychological ability to adapt to a specific bladder management program.

