Incontinence. Therefore, in some patients, procedures are performed to present alterations in colonic and anorectal function that cause fecal detrusor relaxation. The majority of patients with neurogenic bladder consists of the administration of anticholinergic drugs that produce treatment can be complemented with pharmacological therapy, which a segment of the intestine and artificial sphincters, as well as urethral bladder to the abdominal wall) and the Monti tube (tubularization of order to prevent progressive deterioration of the upper urinary tract. The neurogenic bladder should begin as soon as the diagnosis is made in be preserved, which is more difficult to achieve. Management of the ability to spontaneously urinate through the urethra should also into a reservoir with adequate capacity at a low pressure, allowing an allow antegrade enemas, such as the Malone technique [6]. The main complications that occur with the stomates is the stenosis for which different techniques have been designed that use flaps to avoid it or to correct it.

Case Report

This is a 14-year-old male patient, the first-born of a mother in her first pregnancy, who had a course of urinary tract infection with multiple antibiotic management, with term pregnancy at birth diagnosed with myelomenigocele and Arnold Chiari type II. He was corrected for myelomenigocele and peritoneal ventricle bypass. In treatment from birth by orthopedics by bilateral equinovaro foot. An open reduction of hip joint was performed, as well as surgery of the medullary cone by ulceration of the filum terminale. Patient with neurogenic bladder that had been managed as a medium-risk bladder with clean intermittent catheterization, antibiotic prophylaxis and anticholinergic, begins its urological evaluation by our service with the following complementary studies: bilateral renal US in which bilateral hydro nephrosis is seen being more important on the right side with a degree III hydro nephrosis (Figure 1). The left side with grade I hydro nephrosis (Figure 2). When documenting hydronephrosis, we determined to perform a voiding urethrocistogram (Figure 3) in which we observed the classic bladder in a Christmas tree, with irregular walls, with diverticular formations and absence of vesicoureteral reflux. It complements the assessment with a urodynamic study (Figure 4) which reflects a decreased bladder capacity of 140 ml (29%), without unconstrained contractions, with a leakage point of 107 ml. Bladder with pressure increase up to 60 cmH2O with decreased compliance, an accommodation of 5 ml/ cm.sup.2.0 and an average filling pressure of 38 cmH2O. With the results of the studies already mentioned, it is possible to catalog as a high-risk...
bladder, thus being a candidate for bladder enlargement with continent catheterization. He is offered to perform at the same time the procedure of Malone, due to the antecedent of constipation present in this case.

Preoperative laboratory studies were performed obtaining Hb 13.2 H to. 36.2 Platelets 320000 TP 13.1 TPT 30.3 Creatinine 0.9.

The surgical technique that was developed was the following: an umbilical mid incision was made, the abdominal cavity was entered and the bladder was separated from the abdominal cavity; Approximately 15 cm of colonic segment was taken, resection was performed with whole-integral anastomosis in two colon-colonic planes and bladder enlargement was performed with this segment with meso (Figure 5). The appendix was removed, which was approximately 15 cm in length (Figure 6). The mesoappendice was divided, half of the appendix was used to perform the procedure of Malone that went towards the right iliac fossa; The other segment of the appendix went to the umbilical scar

Figure 1: US Right renal with grade III hydronephrosis.

Figure 2: Left renal ultrasound where mild ectasia is seen.
Figure 3: Urethrocytogram.

Figure 4: Urodynamic study showing a neurogenic bladder.
Figure 5: Illustration of colono-colonic anastomosis and appendectomy performed. 1) Sigmoidocystoplasty, 2) Malone stoma with catheter, 3) Mitrofanoff stomata, 4) Mesoappendix, 5) Ileocecal valve, 6) End-to-end intestinal anastomosis, 7) Ascending colon, 8) Iliac Cup, 9) Left ureter, 10) Cystostomy.

Figure 6: Photo showing the appendicular size to be used for the catheterized ducts 15 cm.
Figure 7: Photo showing the separate appendix, one part was used for the Mitrofanoff and the other segment for the Malone.

Figure 8: Making the final Mitrofanoff bag.
and the Mitrofanoff was made into the bladder (Figure 7). The final results of the surgical procedure were: 100 mL bleeding, surgical time 210 minutes, 14 day in-hospital stay.

The patient was exited with silicon probes by mitroffanof stents (Figure 8) and functional malone, the drains were removed until the expenditure was less than 50 mL and the probes were removed at 21 postoperative days.

Discussion

The final outcome of the Mitrofanoff technique can be evaluated in terms of urinary continence, absence of complications of the stoma, surgical reinterventions due to complications and protection of the upper urinary tract. In general, it can be said that the results regarding continence are good, although in the series with longer follow-up there is a high frequency of surgical examinations of the duct, by filtration and stenosis according to what was published by Arango et al. [7].

In 1990 Malone et al. first described the continent-wide anterograde enema (EAC) technique for the treatment of severe fecal incontinence of neurogenic origin in children and has subsequently been successfully used also in adults and in patients with constipation who do not respond to medical treatment. The procedure consists of the formation of a continent duct, generally an appendectomy that allows intermittent catheterization for irrigation and the rapid and controlled cleaning of the colon described by Elsenberg [8]. This technique combines the principles of anterograde lavage of the colon and the catheterizable antireflux duct described by Mitrofanoff for the treatment of the neurogenic bladder. The goal is to achieve a complete cleaning of the colon to prevent fecal impaction and to avoid the episodes of incontinence described by Monti [9]. In the original description, the appendix was sectioned at its base and vascularization was preserved. From the moment this principle was exposed, the appendix was constituted as the tissue of choice for the development of the duct, in this case the Malone surgery was performed to improve fecal continence with periodic lavage through the continent stoma. The choice of the type of canal to be used depends on several factors including availability, type of surgery and basic diagnosis according to Landero et al. [10]. The defect in the cecal wall was closed and the appendix 180° was rotated, with reimplantation in one of the blind's appendix greater than 9 cm is ideal to develop this surgical technique in conjunction with V-flap technique for the stoma and to reduce its main complication than stoma stenosis.

Conclusion

The technique of Malone should be taken into account in patients with severe constipation and fecal impaction, since it facilitates regular colon cleansing and reduces encopresis, which significantly limits the quality of life of the patient.

Successful treatment of urinary and fecal incontinence secondary to neuropathic disorders can improve the quality of life of children, achieving greater socialization and well-being. The development of the catheterisable vesicocutaneous duct technique described by Mitrofanoff has been the main contribution in achieving adequate control of urinary continence and has been of great importance for periodic bladder emptying.

The management of the neurogenic bladder requires a complete assessment of the patient's conditions, basic diagnosis and associated pathologies; This will depend on the prognosis of our patients.

Surgical treatment of the bladder with neurogenic bladder prevents renal damage and generates advantages in terms of continence, comfort and quality of life.

References