ISSN 2307-8960 (online)

World Journal of *Clinical Cases*

World J Clin Cases 2019 December 6; 7(23): 3915-4171

Published by Baishideng Publishing Group Inc

World Journal of Clinical Cases

Contents

Semimonthly Volume 7 Number 23 December 6, 2019

REVIEW

3915 Overview of organic anion transporters and organic anion transporter polypeptides and their roles in the liver
Li TT, An JX, Xu JY, Tuo BG

ORIGINAL ARTICLE

Observational Study

3934 Value of early diagnosis of sepsis complicated with acute kidney injury by renal contrast-enhanced ultrasound
Wang XY, Pang YP, Jiang T, Wang S, Li JT, Shi BM, Yu C

3945 Value of elastography point quantification in improving the diagnostic accuracy of early diabetic kidney disease
Liu QY, Duan Q, Fu XH, Fu LQ, Xia HW, Wan YL

3957 Resection of recurrent third branchial cleft fistulas assisted by flexible pharyngotomy
Ding XQ, Zhu X, Li L, Feng X, Huang ZC

3964 Therapeutic efficacy of acupuncture combined with neuromuscular joint facilitation in treatment of hemiplegic shoulder pain
Wei YH, Du DC, Jiang K

3971 Comparison of intra-articular injection of parecoxib *vs* oral administration of celecoxib for the clinical efficacy in the treatment of early knee osteoarthritis
Lu L, Xie Y, Gan K, Huang XW

Retrospective Study

3980 Celiomesenteric trunk: New classification based on multidetector computed tomography angiographic findings and probable embryological mechanisms
Tang W, Shi J, Kuang LQ, Tang SY, Wang Y

Prospective Study

3990 Interaction of arylsulfatases A and B with maspin: A possible explanation for dysregulation of tumor cell metabolism and invasive potential of colorectal cancer
Kovacs Z, Jung I, Szalman K, Banias L, Bara TJ, Gurzu S

CASE REPORT

4004 Recuperation of severe tumoral calcinosis in a dialysis patient: A case report
Westermann L, Isbell LK, Breitenfeldt MK, Arnold F, Röthele E, Schneider J, Widmeier E

4011 Robotic wedge resection of a rare gastric perivascular epithelioid cell tumor: A case report
Marano A, Maione F, Woo Y, Pellegrino L, Geretto P, Sasia D, Fortunato M, Orcioni GF, Priotto R, Fasoli R, Borghi F

4020 Primary parahiatal hernias: A case report and review of the literature
Preda SD, Pătraşcu Ş, Ungureanu BS, Cristian D, Binţinţan V, Nica CM, Calu V, Strâmbu V, Sapalidis K, Şurlin VM

4029 Diagnosis of Laron syndrome using monoplex-polymerase chain reaction technology with a whole-genome amplification template: A case report
Neumann A, Alcántara-Ortigoza MÁ, González-del Ángel A, Camargo-Diaz F, López-Bayghen E

4036 *In-vitro* proliferation assay with recycled ascitic cancer cells in malignant pleural mesothelioma: A case report
Anayama T, Taguchi M, Tatenuma T, Okada H, Miyazaki R, Hirohashi K, Kume M, Matsusaki K, Orihashi K

4044 Distant metastasis in choroidal melanoma with spontaneous corneal perforation and intratumoral calcification: A case report
Wang TW, Liu HW, Bee YS

4052 Secondary Parkinson disease caused by breast cancer during pregnancy: A case report
Li L

4057 Pulmonary embolism and deep vein thrombosis caused by nitrous oxide abuse: A case report
Sun W, Liao JP, Hu Y, Zhang W, Ma J, Wang GF

4063 Micronodular thymic tumor with lymphoid stroma: A case report and review of the literature
Wang B, Li K, Song QK, Wang XH, Yang L, Zhang HL, Zhong DR

4075 Diffuse large B cell lymphoma with bilateral adrenal and hypothalamic involvement: A case report and literature review
An P, Chen K, Yang GQ, Dou JT, Chen YL, Jin XY, Wang XL, Mu YM, Wang QS

4084 Urethral pressure profilometry in artificial urinary sphincter implantation: A case report
Meng LF, Liu XD, Wang M, Zhang W, Zhang YG

4091 Hydroxyurea-induced cutaneous squamous cell carcinoma: A case report
Xu Y, Liu J

4098 Recurrent hypotension induced by sacubitril/valsartan in cardiomyopathy secondary to Duchenne muscular dystrophy: A case report
Li JM, Chen H

4106 Complete duodenal obstruction induced by groove pancreatitis: A case report
Wang YL, Tong CH, Yu JH, Chen ZL, Fu H, Yang JH, Zhu X, Lu BC

4111 Radiological aspects of giant hepatocellular adenoma of the left liver: A case report
Zheng LP, Hu CD, Wang J, Chen XJ, Shen YY

4119 Mixed serous-neuroendocrine neoplasm of the pancreas: A case report and review of the literature
Xu YM, Li ZW, Wu HY, Fan XS, Sun Q

4130 Rigid esophagoscopy combined with angle endoscopy for treatment of superior mediastinal foreign bodies penetrating into the esophagus caused by neck trauma: A case report
Wang D, Gao CB

4137 Left armpit subcutaneous metastasis of gastric cancer: A case report
He FJ, Zhang P, Wang MJ, Chen Y, Zhuang W

4144 Bouveret syndrome: A case report
Wang F, Du ZQ, Chen YL, Chen TM, Wang Y, Zhou XR

4150 Fatal complications in a patient with severe multi-space infections in the oral and maxillofacial head and neck regions: A case report
Dai TG, Ran HB, Qiu YX, Xu B, Cheng JQ, Liu YK

4157 Management of massive fistula bleeding after endoscopic ultrasound-guided pancreatic pseudocyst drainage using hemostatic forceps: A case report
Ge N, Sun SY

4163 Pure squamous cell carcinoma of the gallbladder locally invading the liver and abdominal cavity: A case report and review of the literature
Jin S, Zhang L, Wei YF, Zhang HJ, Wang CY, Zou H, Hu JM, Jiang JF, Pang LJ

ABOUT COVER

Editorial Board Member of *World Journal of Clinical Cases*, Consolato M Sergi, FRCP (C), MD, PhD, Professor, Department of Lab Medicine and Pathology, University of Alberta, Edmonton T6G 2B7, Canada

AIMS AND SCOPE

The primary aim of *World Journal of Clinical Cases* (*WJCC*, *World J Clin Cases*) is to provide scholars and readers from various fields of clinical medicine with a platform to publish high-quality clinical research articles and communicate their research findings online.

WJCC mainly publishes articles reporting research results and findings obtained in the field of clinical medicine and covering a wide range of topics, including case control studies, retrospective cohort studies, retrospective studies, clinical trials studies, observational studies, prospective studies, randomized controlled trials, randomized clinical trials, systematic reviews, meta-analysis, and case reports.

INDEXING/ABSTRACTING

The *WJCC* is now indexed in PubMed, PubMed Central, Science Citation Index Expanded (also known as SciSearch®), and Journal Citation Reports/Science Edition. The 2019 Edition of Journal Citation Reports cites the 2018 impact factor for *WJCC* as 1.153 (5-year impact factor: N/A), ranking *WJCC* as 99 among 160 journals in Medicine, General and Internal (quartile in category Q3).

RESPONSIBLE EDITORS FOR THIS ISSUE

Responsible Electronic Editor: *Yan-Xia Xing*

Proofing Production Department Director: *Xiang Li*

NAME OF JOURNAL
World Journal of Clinical Cases

ISSN
ISSN 2307-8960 (online)

LAUNCH DATE
April 16, 2013

FREQUENCY
Semimonthly

EDITORS-IN-CHIEF
Dennis A Bloomfield, Bao-Gan Peng, Sandro Vento

EDITORIAL BOARD MEMBERS
https://www.wjgnet.com/2307-8960/editorialboard.htm

EDITORIAL OFFICE
Jin-Lei Wang, Director

PUBLICATION DATE
December 6, 2019

INSTRUCTIONS TO AUTHORS
https://www.wjgnet.com/bpg/gerinfo/204

GUIDELINES FOR ETHICS DOCUMENTS
https://www.wjgnet.com/bpg/GerInfo/287

GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH
https://www.wjgnet.com/bpg/gerinfo/240

PUBLICATION MISCONDUCT
https://www.wjgnet.com/bpg/gerinfo/208

ARTICLE PROCESSING CHARGE
https://www.wjgnet.com/bpg/gerinfo/242

STEPS FOR SUBMITTING MANUSCRIPTS
https://www.wjgnet.com/bpg/GerInfo/239

ONLINE SUBMISSION
https://www.f6publishing.com

World Journal of Clinical Cases

Submit a Manuscript: https://www.f6publishing.com

World J Clin Cases 2019 December 6; 7(23): 4084-4090

DOI: 10.12998/wjcc.v7.i23.4084

ISSN 2307-8960 (online)

CASE REPORT

Urethral pressure profilometry in artificial urinary sphincter implantation: A case report

Ling-Feng Meng, Xiao-Dong Liu, Miao Wang, Wei Zhang, Yao-Guang Zhang

ORCID number: Ling-Feng Meng (0000-0002-9452-5603); Xiao-Dong Liu (0000-0001-5585-5960); Miao Wang (0000-0002-8970-1756); Wei Zhang (0000-0002-3167-0002); Yao-Guang Zhang (0000-0002-1024-9454).

Author contributions: Meng LF and Liu XD wrote the manuscript and were involved in the concept and submission of the manuscript; Wang M and Zhang W analyzed the patient's clinical data; Zhang YG treated the patient and revised the manuscript; All authors approved the final version of this manuscript.

Supported by National Key R and D Program of China, No. 2018YFC2002202.

Informed consent statement: The patient involved in this study provided informed consent.

Conflict-of-interest statement: All authors declare that they have no conflict of interest.

CARE Checklist (2016) statement: The authors have read the CARE Checklist (2016), and the manuscript was prepared and revised according to the CARE Checklist (2016).

Ling-Feng Meng, Xiao-Dong Liu, Miao Wang, Wei Zhang, Yao-Guang Zhang, Department of Urology, Beijing Hospital, National Center of Gerontology, Beijing 100730, China

Corresponding author: Yao-Guang Zhang, MD, Doctor, Professor, Department of Urology, Beijing Hospital, National Center of Gerontology, No. 1, Dongdan Dahua Road, Dongcheng District, Beijing 100730, China. zhangyaoguang3247@bjhmoh.cn
Telephone: +86-13031099662

Abstract

BACKGROUND

Artificial urethral sphincter (AUS) implantation is currently the gold standard for treating moderate and severe urinary incontinence. Currently, cuffs are chosen based on the surgeon's experience, and adjusting cuff tightness is crucial. The T-DOC air-charged catheter has not been proven to be inferior to traditional catheters. We report how intraoperative urethral pressure profilometry is performed using a T-DOC air-charged catheter with ambulatory urodynamic equipment, to guide cuff selection and adjustment.

CASE SUMMARY

A 67-year-old man presented to our hospital with complete urinary incontinence following transurethral prostatectomy, using five pads/d to maintain local dryness. Preoperatively, the maximum urethral pressure (MUP) and maximum urethral closure pressure (MUCP) were 52 cmH2O and 17 cmH2O, respectively. An AUS was implanted. Intraoperatively, in the inactivated state, the MUP and MUCP were 53 cmH2O and 50 cmH2O, respectively; in the activated state, they were 112 cmH2O and 109 cmH2O, respectively. The pump was activated 6 wk postoperatively. Re-measurement of the urethral pressure on the same day showed that in the inactivated state, MUP and MUCP were 89 cmH2O and 51 cmH2O, respectively, and in the activated state, 120 cmH2O and 92 cmH2O, respectively. One month after device activation, telephonic follow-up revealed that pad use had decreased from five pads/d to one pad/d, which met the standard for social continence (0-1 pad per day). There were no complications.

CONCLUSION

The relationship between intraoperative urethral pressure and urinary continence post-surgery can provide data for standardizing AUS implantation and evaluating efficacy.

Key words: Urethral pressure profilometry; Urinary sphincter, Artificial; Maximum urethral pressure; Maximum urethral closure pressure; Urinary incontinence; Case report

Manuscript source: Unsolicited manuscript

Received: July 29, 2019
Peer-review started: July 29, 2019
First decision: October 24, 2019
Revised: October 30, 2019
Accepted: November 14, 2019
Article in press: November 14, 2019
Published online: December 6, 2019

P-Reviewer: ElSheemy MS
S-Editor: Zhang L
L-Editor: Wang TQ
E-Editor: Qi LL

Core tip: At present, all medical centers choose cuffs based on the experience of the surgeon, without quantitative criteria. We report how the intraoperative urethral pressure profilometry can be performed by combining the T-DOC air-charged catheter and ambulatory urodynamic equipment to guide the selection and adjustment of cuffs. By comparing the effect of intraoperative urethral pressure on postoperative urinary continence, we can establish the relationship between the range of intraoperative urethral pressure and its effect on urinary continence to guide clinical diagnosis and treatment and to standardize artificial urethral sphincter implantation.

Citation: Meng LF, Liu XD, Wang M, Zhang W, Zhang YG. Urethral pressure profilometry in artificial urinary sphincter implantation: A case report. *World J Clin Cases* 2019; 7(23): 4084-4090
URL: https://www.wjgnet.com/2307-8960/full/v7/i23/4084.htm
DOI: https://dx.doi.org/10.12998/wjcc.v7.i23.4084

INTRODUCTION

Urinary incontinence is a common complication of prostate surgery for treatment of prostate cancer or benign prostatic hyperplasia (BPH), which can significantly affect the quality of life of patients.

The International Continence Society (ICS) defines urinary incontinence after prostate surgery as the unconscious leakage of urine following prostate surgery, with or without bladder dysfunction[1]. Currently, about 22.6 million men worldwide suffer from urinary incontinence, 12.5% of whom have simple stress urinary incontinence[2], and most of whom have a history of prostate surgery, nerve injury, or trauma. According to related literature, the rate of incontinence is 1% among patients after transurethral resection of the prostate (TURP) and 2%-57% after radical prostatectomy[3-5].

Artificial urethral sphincter (AUS) implantation has become the gold standard for treatment of moderate to severe urinary incontinence and urinary incontinence due to impaired sphincter function[6]. Before the operation, urodynamic and cystoscopic examinations are recommended to assess bladder and urethral function and to ensure anatomical stability of the bladder and urethra[2,7]. However, there have been few studies on the maximum urethral pressure (MUP) and maximum urethral closure pressure (MUCP) when an AUS is implanted and activated[8,9]. To the best of our knowledge, no literature has reported the changes in MUP and MUCP before, during, and after implantation and activation of an AUS. This article reports the diagnosis and treatment of a patient with urinary incontinence after TURP, admitted to our hospital in March 2019.

CASE PRESENTATION

Chief complaints

A 67-year-old Chinese man was admitted to our hospital complaining of postoperative urinary leakage and incontinence for 11 mo.

History of present illness

The man was diagnosed with BPH following frequent urination and dysuria in April 2018. TURP was performed in the same month, and no malignant lesions were found. He had not undergone any previous surgeries. After removal of the catheter, unconscious leakage of urine was observed. Oral medicine, behavioral therapy, and other conservative treatments were ineffective. Up until presentation, urinary incontinence had gradually increased. The clinical manifestation was continuous leakage of urine; therefore, the patient was using five pads/d to ensure local dryness.

History of past illness

In April 2018, TURP was performed in the hospital due to BPH; the patient denied any history of other diseases and allergies.

Personal and family history

No smoking or drinking history was reported; no genetic family medical history was reported.

Physical examination upon admission

Physical examination showed continuous leakage of urine but no sign of redness, swelling, or eczema on the skin around the penis.

Laboratory examinations

Laboratory findings were unremarkable.

Imaging examinations

Routine examination, cystoscopy, urodynamics, and urethral pressure profilometry were performed. During cystoscopy, no urethral stricture was observed; however, the urethra showed incomplete closure (Figure 1A). Urodynamics and urethral pressure profilometry showed normal bladder function and compliance. The MUP was 52 cmH2O and MUCP was 17 cmH2O (Figure 1B).

FINAL DIAGNOSIS

Post-prostatectomy urinary incontinence.

TREATMENT

AUS implantation through a single perineal incision was performed in March 2019. When measured intraoperatively, the bulbourethral circumference was 6 cm. However, the general circumference of the urethra in Chinese men is usually 4.0-4.5 cm. Considering the height, weight, and general condition of the patient, we could not rule out the possibility of increased urethral circumference being related to abnormal erection and congestion of the periurethral tissue during operation (Figure 2A). Finally, under the guidance of the engineer assisting the surgeon, a 4.5-cm cuff was selected and placed (Figure 2B).

Urethral pressure profilometry was performed after connecting the entire device on inactivation and activation. In the inactivated state, MUP and MUCP were 53 cmH2O and 50 cmH2O, respectively, while in the activated state, MUP and MUCP were 112 cmH2O and 109 cmH2O, respectively (Figure 2C).

On the postoperative day 1, the catheter was removed, and urine continued to flow out. The patient was discharged on postoperative day 5. Six weeks after the operation, the patient returned to the hospital for a checkup and activation of the pump. Urodynamics and urethral pressure were measured again. In the inactivated state, the MUP and MUCP were 89 cmH2O and 51 cmH2O, respectively, while in the activated state, MUP and MUCP were 120 cmH2O and 92 cmH2O, respectively (Figure 3).

Standard urodynamic equipment (Laborie Delphis, Laborie Medical Technologies Canada unlimited liability corporation) and a 7-Fr air sensor (air-charged dual sensor catheter) were used to perform the urodynamic test and urethral pressure profilometry before the operation. The tractor pulls out the catheter at a uniform speed of 1 mm/s. Intraoperative and postoperative urethral pressure measurements were performed using an ambulatory urodynamic device (Laborie, Laborie Medical Technologies Canada unlimited liability corporation) and a 7-Fr air-charged catheter.

After the cuff of the artificial sphincter was closed, we recorded the MUP and MUCP. Thereafter, MUP and MUCP were recorded with the cuff open.

The definitions used in this article are in line with the recommendations of the ICS[10].

OUTCOME AND FOLLOW-UP

One month after device activation, telephonic follow-up revealed that pad use by the patient decreased from the previous five pads/d to one pad/d to maintain local dryness, reaching the standard social urinary continence of 0-1 pad per day.

DISCUSSION

This report shows how intraoperative urethral pressure profilometry is performed

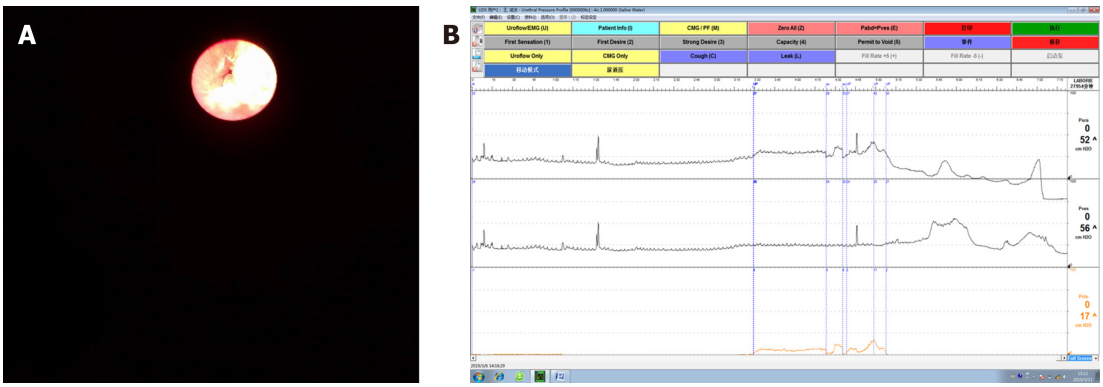

Figure 1 Preoperative examination. A: Cystoscopy revealed no urethral stricture, and it was observed that the urethra could not close completely; B: Preoperative urethral pressure profilometry showed that the maximum urethral pressure was 52 cmH2O and maximum urethral closure pressure was 17 cmH2O.

using a T-DOC air-charged catheter with ambulatory urodynamic equipment to guide cuff selection and adjustment.

For many years, AUS has been regarded as the most effective long-term treatment for male urinary incontinence. For over 10 years, AUS has been the first choice for treating permanent urinary incontinence after prostatectomy in European and American countries[11,12]. The implantation of AUS is not complicated. The key to a successful operation is to choose the appropriate cuff size; however, there is no standardized guide for choosing cuff size. The choice of cuff size during operation mainly depends on the measured urethral circumference of the patient. Traditionally, it is agreed that too small a cuff may increase the risk of urethral atrophy and erosion; however, too large a cuff may not achieve the desired control on urine continence and lead to recurrence or persistence of urinary incontinence. At present, all medical centers choose cuffs based on the surgeon's experience, without quantitative criteria. Unfortunately, this cannot accurately predict the effectiveness of urinary control nor the risk of complications.

These factors restrict the application of AUS; however, they also provide ideas for our research. In the past, urodynamic instruments were bulky and inconvenient to move. The traditional water-perfused catheter for measuring urethral pressure had strict requirements regarding patient position; it could only measure pressure in one direction, and the accuracy and repeatability were not high[13]. All these factors make it difficult for us to accurately measure urethral pressure during the operation. The emergence of ambulatory urodynamic equipment and the T-DOC air-charged catheter have facilitated cuff size measurement. Research on the T-DOC air-charged catheter has proved that it is not inferior to other catheters, such as traditional water-perfused catheters and microtransducer urodynamic catheters, in urethral pressure measurement; the T-DOC air-charged catheter measures the average pressure in a 360-degree environment, which is more readable[14-16]. This is the innovation in our study. We were able to measure the intraoperative urethral pressure, which can provide specific values of intraoperative MUP and MUCP and compare the postoperative continence of patients so that the clinical effects of different urethral pressures can be analyzed. In the future, we aim to determine the relationship between specific ranges of urethral pressure and the measure of urinary control by comparing data among more patients. This will further guide the clinical diagnosis and treatment of urinary incontinence and standardize AUS implantation. Similarly, this method can also be used in patients with stress urinary incontinence undergoing sling surgery. Regardless of the procedure, AUS or sling operation, the measure of urine control after operation is closely related to the individual experience of the surgeon, and there is no quantitative standard.

Although the methodology of urethral pressure measurement is standardized, to our knowledge, there are no generally accepted reference values for a healthy state. Chinese experts have reported that the average MUP of a normal elderly Chinese man is 77 (55-105) cmH2O, and the reference range of MUCP is 60-80 cmH2O[17]. In this study, the MUP of the patient before surgery and in the states of intraoperative activation and inactivation and postoperative activation and inactivation were 52, 112, 53, 120, and 89 cm H2O, respectively, and MUCP was 17, 109, 50, 92, and 51 cm H2O, respectively. The measure of urine control was satisfactory, and no complications related to the operation were found during the 1-mo follow-up appointment.

The purpose of AUS implantation is to acquire the ability to control urinary incontinence, to achieve the standard of social continence (0-1 pads/d), and to

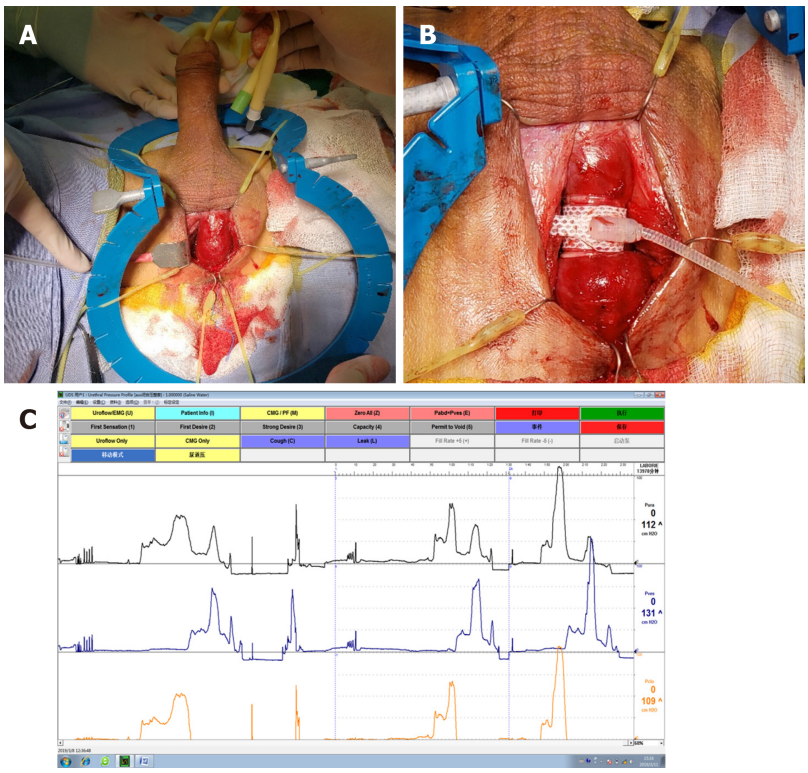

Figure 2 Intraoperative findings. A: Abnormal erection during operation; B: A 4.5-cm cuff was selected and placed; C: During operation, the maximum urethral pressure (MUP) was 53 cmH2O and maximum urethral closure pressure (MUCP) was 50 cmH2O in the inactivated state; the MUP was 112 cmH2O and MUCP was 109 cmH2O in the activated state.

minimize the occurrence of complications. Therefore, it is logical to evaluate the changes in urethral pressure in patients after AUS implantation. Ripert *et al*[18] studied the changes in urethral pressure in patients after AUS implantation. He enrolled 27 patients who underwent AUS implantation from 2012 to 2014 and maintained social continence at the time of follow-up. Urethral pressure was measured. MUP in all the patients was greater than 70 cmH2O, and in 22 (81.48%) patients MUP was greater than 90 cmH2O. The mean MUP was 119.55 (77-180) cmH2O, and the mean MUCP was 88.29 (32-160) cmH2O. In addition, Lowe *et al*[8] included 24 male patients who underwent AUS implantation and were followed with urinary control for at least one year after operation. They analyzed the results combined with the measurement of urethral pressure. The study found that the MUCP of all patients was above 65 cmH2O; however, there were still eight patients with recurrence of moderate to severe urinary incontinence; the average MUCP was 76.9 cmH2O. It was presumed that the cuff may only be slightly attached to the urethra; it provides higher urethral closure pressure only when the urethral pressure exceeds 100 cmH2O. At the same time, if a larger cuff is used, the pressure transmitted to the urethra decreases accordingly. Therefore, when choosing the cuff, doctors can choose a smaller cuff to make it more suitable for the urethra; however, they should pay attention to the risk of complications, such as urethral erosion. The results obtained in the above study are consistent with the present study and provide a theoretical basis for the present study. However, a smaller cuff may lead to increased MUP; if it does not affect the patient's urinary flow rate, we think it is more appropriate.

To conclude, in the later stage, we can achieve the container zone through this method. If the intraoperative MUCP is lower than the lowest value of the interval, it indicates that the cuff size is too large and should be replaced with a smaller one. If the intraoperative MUCP is higher than the highest value of the interval, it should be considered whether removal of the periurethral tissue is satisfactory. If the removal is not satisfactory, the excess tissue should then be removed. If the removal of the excess tissue is satisfactory, the cuff with a larger size should be replaced to obtain satisfactory clinical effect and reduce the incidence of complications.

One limitation of this study is that, when measuring urethral pressure during and after operation, the catheter was pulled manually and uniformly, which may have caused a certain degree of error. In addition, the follow-up time was short, and the long-term clinical outcomes of the patient are not known. However, with an increase

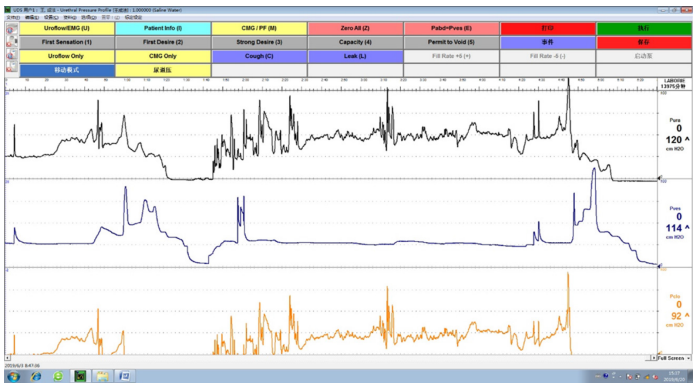

Figure 3 Urethral pressure measured at follow-up. Six weeks after the operation, the maximum urethral pressure (MUP) was 89 cmH2O and maximum urethral closure pressure (MUCP) was 51 cmH2O in the inactivated state; the MUP was 120 cmH2O and MUCP was 92 cmH2O in the activated state.

in the number of patients and an extension of the follow-up period, we believe that more rigorous conclusions can be drawn to guide the clinical diagnosis and treatment of urinary incontinence.

CONCLUSION

We report the first successful case of intraoperative urethral pressure management. By comparing the effect of intraoperative urethral pressure on postoperative urinary continence, we can determine the relationship between the range of intraoperative urethral pressure and its effect on urinary continence. This will help guide the clinical diagnosis and treatment of urinary incontinence as well as standardize the AUS implantation procedure.

REFERENCES

1 **Demaagd GA**, Davenport TC. Management of urinary incontinence. *P T* 2012; **37**: 345-361H [PMID: 22876096]
2 **Cordon BH**, Singla N, Singla AK. Artificial urinary sphincters for male stress urinary incontinence: current perspectives. *Med Devices (Auckl)* 2016; **9**: 175-183 [PMID: 27445509 DOI: 10.2147/MDER.S93637]
3 **Mebust WK**, Holtgrewe HL, Cockett AT, Peters PC. Transurethral prostatectomy: immediate and postoperative complications. A cooperative study of 13 participating institutions evaluating 3,885 patients. *J Urol* 1989; **141**: 243-247 [PMID: 2643719 DOI: 10.1016/s0022-5347(17)40731-2]
4 **Goluboff ET**, Saidi JA, Mazer S, Bagiella E, Heitjan DF, Benson MC, Olsson CA. Urinary continence after radical prostatectomy: the Columbia experience. *J Urol* 1998; **159**: 1276-1280 [PMID: 9507852 DOI: 10.1097/00005392-199804000-00053]
5 **Lepor H**, Kaci L. The impact of open radical retropubic prostatectomy on continence and lower urinary tract symptoms: a prospective assessment using validated self-administered outcome instruments. *J Urol* 2004; **171**: 1216-1219 [PMID: 14767305 DOI: 10.1097/01.ju.0000113964.68020.a7]
6 **Lucas MG**, Bosch RJ, Burkhard FC, Cruz F, Madden TB, Nambiar AK, Neisius A, de Ridder DJ, Tubaro A, Turner WH, Pickard RS; European Association of Urology. EAU guidelines on surgical treatment of urinary incontinence. *Eur Urol* 2012; **62**: 1118-1129 [PMID: 23040204 DOI: 10.1016/j.eururo.2012.09.023]
7 **James MH**, McCammon KA. Artificial urinary sphincter for post-prostatectomy incontinence: a review. *Int J Urol* 2014; **21**: 536-543 [PMID: 24528387 DOI: 10.1111/iju.12392]
8 **Lowe DH**, Scherz HC, Parsons CL. Urethral pressure profilometry in Scott artificial urinary sphincter. *Urology* 1988; **31**: 82-85 [PMID: 3336936 DOI: 10.1016/0090-4295(88)90583-3]
9 **Kil PJ**, De Vries JD, Van Kerrebroeck PE, Zwiers W, Debruyne FM. Factors determining the outcome following implantation of the AMS 800 artificial urinary sphincter. *Br J Urol* 1989; **64**: 586-589 [PMID: 2627633 DOI: 10.1111/j.1464-410X.1989.tb05314.x]
10 **Lose G**, Griffiths D, Hosker G, Kulseng-Hanssen S, Perucchini D, Schäfer W, Thind P, Versi E; Standardization Sub-Committee, International Continence Society. Standardisation of urethral pressure measurement: report from the Standardisation Sub-Committee of the International Continence Society. *Neurourol Urodyn* 2002; **21**: 258-260 [PMID: 11948719 DOI: 10.1002/nau.10051]
11 **Gousse AE**, Madjar S, Lambert MM, Fishman IJ. Artificial urinary sphincter for post-radical prostatectomy urinary incontinence: long-term subjective results. *J Urol* 2001; **166**: 1755-1758 [PMID: 11586217 DOI: 10.1097/00005392-200111000-00031]
12 **Montague DK**, Angermeier KW, Paolone DR. Long-term continence and patient satisfaction after artificial sphincter implantation for urinary incontinence after prostatectomy. *J Urol* 2001; **166**: 547-549 [PMID: 11458065 DOI: 10.1016/S0022-5347(05)65981-2]
13 **Abrams P**, Damaser MS, Niblett P, Rosier PFWM, Toozs-Hobson P, Hosker G, Kightley R, Gammie A.

Air filled, including "air-charged," catheters in urodynamic studies: does the evidence justify their use? *Neurourol Urodyn* 2017; **36**: 1234-1242 [PMID: 27580083 DOI: 10.1002/nau.23108]
14 **Zehnder P**, Roth B, Burkhard FC, Kessler TM. Air charged and microtip catheters cannot be used interchangeably for urethral pressure measurement: a prospective, single-blind, randomized trial. *J Urol* 2008; **180**: 1013-1017 [PMID: 18639301 DOI: 10.1016/j.juro.2008.05.028]
15 **Pollak JT**, Neimark M, Connor JT, Davila GW. Air-charged and microtransducer urodynamic catheters in the evaluation of urethral function. *Int Urogynecol J Pelvic Floor Dysfunct* 2004; **15**: 124-8; discussion 128 [PMID: 15014940 DOI: 10.1007/s00192-004-1121-4]
16 **McKinney TB**, Babin EA, Ciolfi V, McKinney CR, Shah N. Comparison of water and air charged transducer catheter pressures in the evaluation of cystometrogram and voiding pressure studies. *Neurourol Urodyn* 2018; **37**: 1434-1440 [PMID: 29363824 DOI: 10.1002/nau.23466]
17 **Liao LM**. Urodynamics. Beijing: People'S military medical press 2012; 245-246
18 **Ripert T**, Pierrevelcin J. Comparative study of urodynamic tests after AMS 800 and ZSI 375 insertion. *Urologia* 2018; **85**: 15-18 [PMID: 28967063 DOI: 10.5301/uj.5000271]

Published By Baishideng Publishing Group Inc
7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA
Telephone: +1-925-2238242
E-mail: bpgoffice@wjgnet.com
Help Desk:https://www.f6publishing.com/helpdesk
https://www.wjgnet.com