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What does tele-health mean for women with urinary incontinence?

Sakineh Hajebrahimi¹, Neda Kabiri^{1,2}

1. Research center of Evidence Based Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
2. Iranian Excellence Center of Health Management, Department of Health Services Management, Faculty of Management and Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran. Email: ne.kabiry@gmail.com, Kabirin@tbzmed.ac.ir

Background and aims: Telemedicine, a technology of exchanging medical information between patients and health providers from a distance is feasible to many patients due to widespread access. In this review we aimed at assessing different aspects of telemedicine in female urinary incontinence.

Methods: We conducted a literature review on telemedicine in women with urinary incontinence in PubMed, ISI Web of Knowledge, SCOPUS, EMBASE, and The Cochrane Library for studies published until June 2018. Included keywords were: Telemedicine, Tele-health, Mobile health, m-health, e-health in combination with Urinary Incontinence. All studies reporting different aspects of telemedicine in women with urinary incontinence such as the effectiveness, costs, and usefulness of the technology were included. Also patients' satisfaction with telemedicine was assessed in this review. Due to heterogeneity in methodologies of studies, the results were presented in narrative form.

Results: The literature search provided 39 studies, 34 of which remained after removing duplicates. Eleven out of 34 studies met our inclusion criteria and included in the review. All of the included articles were published after 2006. Five of included studies were randomized controlled studies, others had methodologies of cross-sectional, cohort, and observational. There were 1235 patients and 22 health care providers included in this review. Only two studies reported specific mobile applications including Bwom and iDray with the last one documenting symptoms of urinary incontinence. Most of the studies reflected improvements in follow-up results, symptoms, quality of life, cost-effectiveness, quality adjusted life years (QUALY), and good patient satisfaction. Only one study reported no significant difference between conventional management of urinary incontinence and treatment via video-conference. Two studies mentioned inability of telemedicine to obtain objective outcomes, the missing diagnosis of tape/mesh extrusion, and the overestimation of IUS recurrence in telemedicine.

Conclusion: The majority of studies included in this review showed that telemedicine is a useful and cost effective method for treatment of urinary incontinence in women, although further research is needed to assess different aspects of this technology. Results of current study can be used by health care providers, health managers and policymakers to consider extension of telemedicine use in their setting.

Keywords: Telemedicine, Tele-health, Female, Urinary incontinence

Efficacy of Transcutaneous Interferential Electrical Stimulation in Treatment of Children with Primary Nocturnal Enuresis: A Randomized Clinical Trial

Abdol-Mohammad Kajbafzadeh^{1*}, Lida Sharifi-Rad², Sanam Ladi Seyedian¹

1. Pediatric Urology and Regenerative Medicine Research Center, Children's Medical Center, Pediatric Center of Excellence, Tehran University of Medical Sciences, Tehran, Iran (IRI)
2. Department of Physical Therapy, Children's Medical Center, Pediatric Center of Excellence, Tehran University of Medical Sciences, Tehran, Iran (IRI)

*Correspondence:

Pediatric Urology and Regenerative Medicine Research Center, Pediatric Center of Excellence, Children's Hospital Medical Center, No. 62, Dr. Gharib St, Keshavarz Blvd, Tehran 14194 33151, Iran (IRI)

Tel/Fax: + 98 21 66565400

E-mail: kajbafzd@sina.tums.ac.ir

Background and aim: In this randomized clinical trial, we evaluated the safety and efficacy of interferential (IF) electrical stimulation in children with nocturnal enuresis (NE).

Methods: Fifty four children (23 girls and 31 boys) aged 6-14 years with primary NE were recruited and randomly divided into two groups. Children in control group underwent only standard urotherapy (hydration, scheduled voiding, toilet training, diet) whereas cases were treated with standard urotherapy plus 15 courses of IF electrical stimulation for 20 minutes two times per week. An improvement score was calculated to identify relative decrease in wet nights after the treatment for each child. All children were followed for one year.

Results: Overall, 15/27(55.5%) and 6/27(22%) of children in IF and control groups responded to treatment at 1-year follow up ($P=0.01$). The mean number of wet nights per week in control and IF groups decreased from 5.4 ± 2 and 5.7 ± 2 to 3.3 ± 3 and 1.1 ± 2 , respectively at first evaluation ($P=0.003$). The mean improvement score in the IF group was significantly higher than control group after 1-year (78% vs. 46%, $P=0.004$).

Conclusions: IF therapy can be served as a safe, effective and well tolerable alternative therapy in the treatment plans of children with NE.

Key words: Nocturnal enuresis, Non-monosymptomatic nocturnal enuresis, Monosymptomatic nocturnal enuresis, Interferential electrical stimulation, Urotherapy

Comparative tissue proteomic of muscle-invasive bladder cancer patients using 2-dimensional gel electrophoresis

Samira Bahrami¹, Bahram Kazemi¹, Abbas Basiri²

1. Biotechnology Department, School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
2. Department of Urology, Urology and Nephrology Research Center, Shahid Labbafinejad Medical Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran
Corresponding Email: basiri@unrc.ir

Background

Bladder cancer is a lethal and heterogeneous disease that is more common in men. Approximately 90% of all bladder cancers are urothelial carcinoma. Among them 75% of tumors are non-muscle-invasive and 25% of them are muscle-invasive bladder cancer. Recurrence appears as the most critical properties of bladder cancer. It leads to a remarkable reduction in the survival rate of patients with this cancer. Chemotherapy is not able to increase the survival of these patients adequately. Considering the heterogeneity of bladder cancer and disability of chemotherapy approach for the treatment of recurrent bladder cancer. This study aims to examine the tissue proteome of MIBC patients in order to find out protein candidates for targeted therapy for bladder cancer.

Methods

Nine samples of normal bladder tissues from benign prostatic hyperplasia patients and also nine samples of MIBC tissues (n=9) were obtained from labbafinezhad Hospital, Tehran, Iran. For each group, the samples were collected in three pools. These pools were analyzed by 2-Dimensional gel electrophoresis (2-DE). Tissue proteome of normal and tumor samples were compared using Progenesis PG200 software.

Results

2-DE analysis demonstrated that 25 proteins were differentially expressed. Among them, 16 spots were up-regulated in MIBC samples, 4 spots were down-regulated in MIBC samples, and 5 spots were absent in normal samples.

Conclusion

Our results demonstrated that 2-DE is a suitable technique to discover biomarker candidates for MIBC in Iran. The differentially expressed proteins can be detected by mass spectrometry. Up-regulated proteins in MIBC patients or proteins which were absent in normal samples can be further investigated and are introduced as new targets for bladder cancer treatment. Moreover, they can be employed as diagnostic markers.

Keywords

Bladder cancer, proteome, 2-dimensional electrophoresis, recurrence, biomarkers

Management of non-neuropathic underactive bladder in children with voiding dysfunction by animated biofeedback: a randomized clinical trial

Sanam Ladi Seyedian¹, Abdol-Mohammad Kajbafzadeh^{1*}, Lida Sharifi-Rad²

1. Pediatric Urology and Regenerative Medicine Research Center, Children's Medical Center, Pediatric Center of Excellence, Tehran University of Medical Sciences, Tehran, Iran (IRI)
2. Department of Physical Therapy, Children's Medical Center, Pediatric Center of Excellence, Tehran University of Medical Sciences, Tehran, Iran (IRI)

*** Correspondence:**

Abdol-Mohammad Kajbafzadeh, M.D.

Pediatric Urology and Regenerative Medicine Research Center, Pediatric Center of Excellence, Children's Medical Center, No. 62, Dr. Gharib St, Keshavarz Blvd, Tehran 14194 33151, Iran (IRI)

Tel/Fax: + 98 21 66565400

E-mail: kajbafzd@sina.tums.ac.ir

Background and aim: To assess the efficacy of using animated biofeedback and pelvic floor muscle (PFM) exercise in managing children with non-neuropathic underactive bladder (UB).

Methods: A total of 50 children with UB without underlying neuropathic disease, aged 5-16, were included in this study. They were randomly divided into two equal treatment groups comprising of standard urotherapy (hydration, scheduled voiding, toilet training, and diet) with (group A) or without (group B) animated biofeedback and PFM exercise. The follow-up period for each participant was one year. Voiding and bowel habit diary was completed by participants' parents for three consecutive days, before and after treatment while uroflowmetry / EMG, and bladder ultrasound were performed before, 6 months and one year after treatment. Results were compared between the two cohorts.

Results: Mean number of voiding episodes was significantly increased in group A after biofeedback therapy, compared to group B with only standard urotherapy (6.6 ± 1.6 times/day vs. 4.5 ± 1 times/day, $P < 0.000$). Urinary tract infection did not relapse in 9/11 (81%) and 8/15 (38%) of patients in groups A and B respectively ($P < 0.02$). Post-void residue and voiding time decreased considerably, while maximum urine flow increased significantly in group A compared to group B (17.2 ± 4.7 ml/sec vs. 12.9 ± 4.6 ml/sec, $P < 0.01$).

Conclusions: Combination of animated biofeedback and PFM exercise effectively improves sensation of bladder fullness and contractility in children with UB due to VD.

Key words: Underactive bladder; voiding dysfunction; biofeedback; urotherapy

Outcomes of one stage Transvestibular abdominal vaginoplasty with pelvic peritoneum in patient with Rokitansky's syndrome and testicular feminization.

Sakineh Hajebrahimi¹, Elham Eslami E¹, Amin Bagheri¹

1. Departmen of urology, Imam reza hospital, Tabriz medeal Sciences university.

Objective: to evaluation the functional and sexual out comes of one stage Vaginoplasty with peritoneum flap patients with mayer- Rokitansky syndrome and testicular feminization.

Design: A retrospective review of prospectively collected data.

Patients: A toial of 13 women with Rokitansky's syndrome and one woman with testicular feminization.

Intervention: undergoing trans vestibular– abdominal vaginoplasty with pelvic peritoneum.

Main outcome: fsfl Scores in women, clinical and anatomic measurements of neovagina, results and complications of transvestibular – abdominal vaginoplasty with pelvic peritoneum.

Results: the average age was 24 years and the average F/U after surgery was 3-12 Months. Twelve patients were married. No early postoperative complications were found but a rectal vaginal fistula occurred in one woman. fsfl scores were used to evaluation the functional outcomes and sexual activity 3 months after surgery. 66.6% patients at the intercourse always have orgasm, 16.6% usually, 8.4% occasionally and 8.4% rarely have orgasm. Complete satisfactory from sexual activity were always at 50% patients, usually at 33.3% and occasionally at 16.7% patients. The mean time of using the dilator was 5 months and they used it 2-3 times a day.

Conclusions: Transvestibular – abdominal vaginoplasty with pelvic peritoneum is on effective and feasible approach for women with Rokitansky's syndrome and testicular feminization. The procedure has satisfactory long – term anatomical and functional results.

The role of Hormone Level, Sexual Motivation and Personality in sexual function of women with HypoSexual Desire Disorder

Chalabianloo, Gholamreza¹, Tahereh Abbaszadeh Ghorjam²

1. Associate professor of neuroscience, Azarbaijan Shahid Madani university, e-mail: Chalabianloo@azaruniv.ac.ir
2. M.A in General Psychology, e-mail: magandomy@gmail.com

Abstract

Sexual health plays an important role in the family life so that any disorder in this aspect of health can disrupt the process of life. Factors such as infertility problems, hysterectomy, various types of cancers, spouse addictions, spousal partnerships and inadequate economic status are of great importance. The severe sexual unwillingness of a person is defined as a lack of sexual elasticity to other individuals or beings, and the lack of sexual desire is a form of dysfunction which is marked by a lack of desire for sex and significant anxiety. Due to the fact that Sexual desire is regulated by the interaction of sexual hormone and neurotransmitters, the present study was to investigate the role of hormone level, sexual motivation and personality traits in sexual function among women with Hypoactive Sexual Desire Disorder (HSDD). To this end, 151 women, living in Tabriz city with HSDD, were selected by convenient sampling. First, they were interviewed and then completed the questionnaires including Female Sexual Function Index (FSFI), Sexual Motivation Scale (SexMS), Toronto Alexithymia Scale (TAS), and NEO Five Factor Inventory (NEO-FFI). Out of them, 50 women participated in Blood Test to determine their hormone level. Findings showed that sexual motivation styles are correlated with sexual function, and integrated and external sexual motivation style can predict the sexual function. Also, testosterone hormone level was predictive of sexual function; some of personality traits were correlated with sexual function. The results also indicate that neuroticism and extroversion are influential in sexual function. Finally, the description and recognition of emotions were correlated with sexual function. Present findings indicated that sexual motivation, hormone level and personality factors have a main role in women's sexual function and in Hypoactive Sexual Desire Disorder.

Keywords: Hypoactive Sexual Desire Disorder, Hormone, sexual motivation, personality, alexithymia

Laparoscopic colposacropexy for pelvic organ prolapse

Robab Maghsoudi¹, Assad Moradi¹, Reza Dehghani Athar¹

1. Urology Department of Firoozgar Hospital, Iran university of Medical Sciences, Tehran, Iran.

Background and aims: reconstructive laparoscopic surgery has a growing role in correction of symptomatic pelvic floor defects and prolapsed vaginal vault and bladder.

Methods: since March to April 2018, two 65 and 60 years old women with prolapsed bladder and vaginal vault, underwent laparoscopic sacral colpopexy via Trans peritoneal approach by four trocars (two 10 mm and two 5 mm). Patients were in lithotomy position.

Results: mean operation time was 120 minutes; there were not any intra or post-operative complication or transfusion. The patients were discharged in second day after surgery, Foley catheter removed the day after surgery. Post-operative control ultrasonography was done after 2 weeks and there wasn't valuable post voided residue.

Conclusion: laparoscopic sacrocolpopexy is feasible in management of pelvic organ prolapse and it can be done in experienced hands with minimal complications.

Key words: laparoscopy, pelvic organ prolapse, sacropexy

Stem cell therapy in management of neurogenic bladder following multiple sclerosis, Parkinson's disease, and stroke: a systematic review

Kobra movalled ^{1,2}, **Sakineh hajebrahimi** ^{2,3}, **Saeed Sadigh-eteghad** ⁴, **Reza Rahbarghaz** ⁵,
Hanieh salehi-pourmehr ^{2,4}, **Ozra nouri** ^{1,2}, **Fariba Pashazadeh** ²

1. Student research committee, Tabriz University of Medical Sciences, Tabriz, Iran.
2. Research center for Evidence based- medicine, Health management and safety promotion Research Institute, Tabriz University of Medical Sciences, Tabriz, Iran.
3. Urology department Imam Reza teaching hospital, Tabriz University of Medical Sciences, Tabriz, Iran.
4. Neurosciences Research Center (NSRC), Tabriz University of Medical Sciences, Tabriz, Iran.
5. Department of Applied Cell Sciences, Tabriz University of Medical Sciences, Stem Cell Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.

Corresponding author: Sakineh hajebrahimi, **Email address:** hajebrahimis@gmail.com

Introduction

Urinary dysfunction especially neurogenic bladder (NGB) is one of the most debilitating disorders following neurological diseases such as Parkinson's disease (PD), multiple sclerosis (MS) and stroke. Recently, there are few effective therapies for NGB, given that stem cell (SC) therapy has been proposed as a potentially effective treatment option. This study reviews the effect of SC therapy on management of NGB in these conditions.

Methods

A systematic search was conducted in electronic databases using MeSH keywords to identify relevant published literature in English in Cochrane library, Proquest, Embase, Clinicaltrial.gov, MEDLINE via Pubmed and ovid databases in 31 May 2018. All randomized or quasi clinical trials and observational studies that were investigated the effect of SC therapy on management of bladder dysfunction in mentioned neurological diseases were included. No restrictions on publication date were imposed. The internal validity of studies was assessed using Joanna Briggs Institute (JBI) appraisal checklist.

Results

We identified 121 relevant publications. After reviewing the titles and abstracts, duplicate publications or animal subjects, four studies with topic of MS met our inclusion criteria. On the other mentioned neurological diseases, we couldn't find any study that focused on NGB management. Included subjects were 49 MS patients with a mean age of 44.27 y/o (in a range of 18-65) in phase I and II open-label clinical trial, case report and case series studies. The prevalent SCs used were bone marrow mesenchymal SC, umbilical cord SC and mesenchymal SC-derived neural progenitors. The mainly rout of transplantation were intravenous or intrathecal. After SC therapy, improvement of bladder function and urinary incontinence were reported in approximately 50 to 75% of patients. Only 1 study has used urodynamic and the others have reported improvement based on patients signs and symptoms. The quality of publications included in this systematic review was low in two study due to the lack of control arm or no randomization and blinding in the trials and the observational studies had unclear risk of bias.

Conclusion

After SC therapy in MS, partial bladder recovery was demonstrated without any serious adverse events. Additional studies with modified methodology are needed to confirm the detailed mechanism and to obtain an ideal treatment strategy for bladder recovery in these diseases.

Key words: [Stem Cell](#) Therapy; Neurogenic Bladder; systematic review

Scientific Output of Urology Research Activity: A Scientometrics Study from 2000 to 2018

Nafiseh Vahed^{1,2}, **Neda Kabiri**^{1,2}, **Sakineh Hajebrahimi**^{1,2}, **Fariba Pashzadeh**^{1,2}

1. Research Center for Evidence Based Medicine, Tabriz University of Medical Sciences, Tabriz, Iran.
2. Iranian EBM Center: A Joanna Briggs Instituted Affiliated Group. Vahedn66@gmail.com

Background and aims: Scientometrics is a useful tool to obtain information about the current state of research in particular areas and allows researchers to identify and undertake new lines of research. The main objective of this study was to assess research activity in urology subject using scientometrics method.

Methods: This scientometrics study were screened using Scopus database, with keyword of “urolog*” in the field of title, abstract and keywords. Then searched was narrowed to the time span 2000-2018 with no language limitation.

Results: Over 19-year period, 80619 records in urology subject category were retrieved from 157 journals. The Year 2015 was the most productive year of publication with 6554 papers in record. Montorsi, F. and Shariat, S.F. with 409, 361 records respectively, were the prolific authors in among of the urology researchers. The United State, United Kingdom and Germany were leading countries in publishing. The “Journal of Urology” with 10771 records was the core and active journal in urology papers. Cleveland Clinic Foundation in Cleveland, Ohio, was the most productive institution with a total of 1238 records. The article of “The standardization of terminology of lower urinary tract function: Report from the standardization sub-committee of the international continence society”, in 2002 with 4400 citations, had received the highest citations.

Conclusions: The findings of this study showed that, the scientific output of urological research is increasing over the period 2000-2018. Also the present data showed promising and relatively good urology research productivity especially in the last decade.

Keywords: Urology, Scientometrics, Scientific Output, Research.

Long-term outcome of synthetic mesh use in the treatment of women with genital prolapse

Parvin Bastani MD^{1,2}, Sakineh Haj-Ebrahimi MD^{1,2}, Fatima Mallah^{1,2}, Parastoo Chaichi MD³, Fatemeh Sadeghi Ghiasi PhD^{1,2}

1. Research Center for Evidence Based Medicine (RCEBM), Health Management and Safety Promotion Research Instituted, Tabriz University of Medical Sciences, Tabriz, Iran.
2. Iranian EBM Center: A Joanna Briggs Instituted Affiliated Group.
3. Women's Reproductive Health Research center, Tabriz University of Medical Sciences, Tabriz, Iran. bastanialamdarip@gmail.com

Background and aims: Pelvic organ prolapse (POP) is a common disorder in women at any age. Different modalities have been used for its treatment. Synthetic mesh implantation have comparable efficacy with lower recurrence, but it has some complications. The aim of current study was to evaluate the long-term outcome of synthetic mesh use in the treatment of women with POP.

Methods: In this cross-sectional study, 153 women (mean age of 53.66 ± 9.31 years) with POP treated with synthetic mesh implantation by vaginal surgery method were evaluated. Demographic findings, POP grade, treatment outcome and complications during follow-up were recorded. Patients were followed for 36.89 ± 11.33 months.

Results: POP grade was improved in most patients after surgery and POP relapse occurred in 5 cases (3.3%) indicative of 96.7% success rate. Patients' common findings before surgery were frequency (72.5%), stress and urge incontinence (59.5% and 47.7%) and urgency (47.7%). Subjective outcome were vaginal pain (13.7%) including 7.2% new cases, dyspareunia (9.2%) including 6.5% de novo cases and tension feeling (8.5%), while objective outcomes were mesh exposure (3.9%), urge incontinence (11.1%) with 5.2% de novo and infection (1.3%). Stress incontinence was completely treated following surgery. Following surgery, there was significant improvement in dyspareunia ($p < 0.00$), vaginal pain ($p < 0.001$), urge and stress incontinence ($p < 0.001$) and fecal incontinence ($p = 0.02$). In 88.42 of patients, there was good to excellent satisfaction from treatment.

Conclusions: POP surgery with synthetic mesh has acceptable results, considerable improvement in symptoms and high rate of satisfaction during follow-up; however, side effects are not uncommon but tolerable.

Keywords: Prolapse; Synthetic mesh; Outcome; Complications.

Intra bladder wall transplantation of autologous mesenchymal stem cells improves urinary bladder dysfunction in rat model of spinal cord injury

Sakineh Hajebrahimis ¹, Hanieh Salehi-pourmehr ^{1,2}, Mahmoud-Reza Azghani ³, Javad Mahmoudi ², Reza Rahbarghazi ⁴, Leila Roshangar ⁵, Christopher R. Chapple ⁶

1. Student research committee, Tabriz University of Medical Sciences, Tabriz, Iran.
2. Research center for Evidence based- medicine, Health management and safety promotion Research Institute, Tabriz University of Medical Sciences, Tabriz, Iran.
3. Urology department Imam Reza teaching hospital, Tabriz University of Medical Sciences, Tabriz, Iran.
4. Neurosciences Research Center (NSRC), Tabriz University of Medical Sciences, Tabriz, Iran.
5. Department of Applied Cell Sciences, Tabriz University of Medical Sciences, Stem Cell Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.
6. Islamic Azad University central Tehran branch

Corresponding author: Hanieh salehi-pourmehr; Email address: poormehrh@yahoo.com; salehiha@tbzmed.ac.ir

Background and aims

Bladder dysfunction induced by spinal cord injury (SCI) can become problematic and severely impair the quality of life. The aim of this study is to investigate and review the effect of stem cell (SC) therapy on bladder recovery in SCI patients.

Methods

A systematic search was conducted in electronic databases using MeSH in Cochrane library, Proquest, Embase, Clinicaltrial.gov, MEDLINE via Pubmed and ovid databases in 31 May 2018. All randomized or quasi clinical trials that were investigated the effect of SC therapy on management of SCI-induced bladder dysfunction were included. The titles and abstracts of all identified studies were evaluated independently by two investigators. Then, each author separately evaluated the full text of selected articles. The internal validity of the enrolled studies (*e.g.* selection, performance, detection and attrition bias) and other study quality measures (*e.g.* reporting quality, power) were assessed using Joanna Briggs Institute (JBI) appraisal checklist.

Results

Among 121 identified relevant publications, 28 studies met our inclusion criteria. Two retrospective and one cohort studies were excluded and finally 25 studies with a total of 417 SCI patients according to American Spinal Injury Association (ASIA) Impairment Scale, were included. The prevalent SCs used were bone marrow mesenchymal SC, umbilical cord SC and Olfactory ensheathing cells. The mainly rout of transplantation was intrathecal. There were not serious adverse events, however, pain, fever, headache were the common side effects.

Although, after SC therapy, improvement of bladder function and urinary incontinence were reported in the majority of studies, only 8 studies have used urodynamic and the others have reported improvement based on patient's satisfaction. The majority of studies were phase I/II clinical trial without control arm and only 3 studies were randomized controlled single-blind

trial. There was not any description of the method used for randomization and therefore, the quality of these publications was low or unclear.

Conclusion

Although bladder recovery was demonstrated after SC therapy in the included studies, the lack of placebo controls makes the results of studies difficult to interpret and it is necessary to be corroborated with a double-blind placebo-controlled study with a larger number of patients.

Key words: [Stem Cell](#) Therapy; Spinal Cord Injury; Neurogenic Bladder; systematic review

Intravesical Abobotulinum toxin a Injection for Patients with Detrusor Overactivity - 5 year follow up results

Bagheri A¹, Rahnema'i M S², Mostafaei H¹, Hajebrahimi S¹

1. Research Center for Evidence-Based Medicine, Tabriz University of Medical Sciences, Tabriz, Iran.
2. Maastricht University, Maastricht, The Netherlands.

Hypothesis / aims of study

Intravesical botox injection is recommended in majority of the guidelines as second line intervention for patients with overactive bladder syndrome. Despite the robust evidences on efficacy of this treatment, there are limited studies available on the long term effectiveness of the intravesical abobotulinum toxin A injection .

The aim of this study was to evaluate the long term efficacy of abobotulinum toxin A injection in a single teaching hospital.

Study design, materials and methods

For this study all patients who underwent intravesical abobotulinum toxin A injection between 2011 and 2012 in our hospital were contacted.

At our clinic, patients with OAB and urodynamically proven detrusor overactivity (DO) who had failed first line antimuscarinic therapy, underwent intramuscular injections with 500-900 unites of abobotulinum toxin A, divided in 30-35 injections in the bladder wall.

We identified 530 patient with urodynamically proven DO, who had undergone a single intravesical abobotulinum toxin A injection between 2011 and 2012 as described above.

From this cohort, 387 patients were reached and gave consent for our study. These patients were contacted 5 years after their initial injection and interviewed on the phone.

Results

In our study population of 387 patients (age 18-82 years, 295 females and 92 males) , 77 out of 387 patients had neurogenic DO. The remaining patients had idiopathic DO. Our telephone interview revealed that 45,3% of the patients had either complete resolution of their symptoms for a long period of time or had significant reduction of their symptoms to a level that could be managed with oral antimuscarinic therapy. The mean duration of symptom improvement was 26,3 months.

The success rates of the treatment reduced in time as shown in the ROC curve. However, still about half of our patients were happy with their initial intravesical abobotulinum toxin A injection.

Interpretation of results

Our retrospective study results show that in a sub-population of OAB patients with DO who have failed first line therapy, a single injection with intravesical abobotulinum toxin A injection can resolve patient symptoms either completely or reduce the symptoms to an acceptable level that can be controlled with antimuscarinics.

Concluding message

In patients with OAB and prven DO, intravesical abobotulinum toxin A injection can have significant reduction of symptoms in about 45 % of patients with a medium duration of 26,3 months.

Management of neurogenic bladder in patients with Parkinson`s disease: A systematic Review

Sakineh Hajebrahimis ¹, Christopher R. Chapple ², Fariba Pashazadeh¹,
Hanieh Salehi-pourmehr ^{1,3}

1. Research center for Evidence based- medicine, Health management and safety promotion Research Institute, Urology department Imam Reza teaching hospital, Tabriz University of Medical Sciences, Tabriz, Iran.
2. Royal Hallamshire Hospital, Sheffield UK., Academic Urology Unit, Sheffield, United Kingdom
3. Neurosciences Research Center (NSRC), Tabriz University of Medical Sciences, Tabriz, Iran.

Corresponding author: Hanieh salehi-pourmehr; Email address: poormehrh@yahoo.com; salehiha@tbzmed.ac.ir

Aims: To assess the different treatment methods in management of neurogenic bladder (NGB) in patients with Parkinson's disease (PD).

Methods: A systematic search was performed in Cochrane library, EMBASE, Proquest, Clinicaltrial.gov, WHO, Google Scholar, MEDLINE via Pubmed, Ovid, ongoing trials registers and conference proceedings in 11 November 2017. All randomized controlled trials (RCTs) or quasi-RCTs comparing any treatment method for management of NGB in patients with PD were included. The titles and abstracts of all identified studies were evaluated independently by two investigators. Once all of the potential related articles were retrieved, each author separately evaluated the full text of each article and the quality of the methodology of the selected studies using the Cochrane appraisal risk of bias checklist and then the data about the patient's outcomes was extracted. We registered the title in Joanna Briggs Institute (JBI) that is available in http://joannabriggs.org/research/registered_titles.aspx.

Results: We included 41 RCTs or quasi-RCTs or two observational study with a total of 1063 patients that evaluated pharmacological, neurosurgical, botulinum toxin, electrical neuromodulation and Behavioral therapy effects on NGB. Among the included studies only solifenacin succinate double-blind, randomized, placebo-controlled study was assessed as low risk of bias, and treatment led to an improvement in urinary incontinence.

Conclusions: Although several interventions are available for treatment NGB in patients with PD, at present there is little or no evidence that treatment improves patient outcomes in this population. Additional large, well designed, randomized studies with improved methodology and reporting focused on patient-centered outcomes are needed.

Key words: Neurogenic bladder; Parkinson`s disease; systematic Review

Stem cell therapy in neurogenic bladder dysfunction in rodent models: A systematic review

Sakineh hajebrahimi¹, Hanieh Salehi-Pourmehr^{1,2}, Saeed Sadigh-Eteghad²,
Fariba Pashazadeh¹, Nasrin Abolhasanpour³

1. Research center for Evidence based- medicine, Health management and safety promotion Research Institute, Tabriz University of Medical Sciences, Tabriz, Iran,
2. Neurosciences Research Center (NSRC), Tabriz University of Medical Sciences, Tabriz, Iran,
3. Islamic Azad University of Tehran, Dept. of Biology, Science and Research Branch, Tehran, Iran

Corresponding author: Hanieh salehi-pourmehr; Email address: poormehr@yahoo.com; salehiha@tbzmed.ac.ir

Background and aims

Neurogenic bladder (NGB) dysfunction has a profound impact on the quality of life. The present study was performed to investigate and review the effect of stem cell (SC) therapy on bladder functional recovery in spinal cord injury (SCI), Parkinson's disease (PD), multiple sclerosis (MS) and stroke rodent models.

Methods

A systematic search was performed in Cochrane library, EMBASE, Proquest, Clinicaltrial.gov, WHO, Google Scholar, MEDLINE via Pubmed, Ovid, ongoing trials registers and conference proceedings in 31 May 2018. All experimental studies that evaluated SC therapy on management of bladder dysfunction in mentioned neurological diseases were included. The titles and abstracts of all identified studies were evaluated independently by two investigators. Then, each author separately evaluated the full text of selected articles. Then the internal validity of the enrolled studies (e.g. selection, performance, detection and attrition bias) and other study quality measures (e.g. reporting quality, power) were assessed using a modified version of the CAMARADES' study quality checklist and then the data about the subject's outcomes was extracted.

Results

We identified 121 relevant publications. Hundred studies were excluded after reviewing the titles and abstracts, duplicate publications or human subjects. Finally, 21 studies met our inclusion criteria with a total of 864 rodents that evaluated SC therapy effects on NGB of which 15 were conducted on SCI, 3 on PD, 2 in stroke and one MS rodent models. The prevalent SCs used in the studies were bone marrow mesenchymal SC (BMSc), human amniotic fluid SC (hAFSC), human umbilical cord blood SC (hUCMSC), and neural progenitor cells. The mainly rout of transplantation were intra bladder wall or intra tail vein, intrathecal, or in substantia nigra and medial forebrain bundle in PD. After a stem cell-based cell therapy, micturition pressure, non-voiding contraction (NVC), residual urine showed overall significant improvement in the majority of studies according to urodynamic study that was conducted on

approximately 28 days after transplantation. Bladder capacity showed improvement after treatment only in the transection type of SCI. The quality of publications included in this systematic review was high only in one study and the others were modest or low especially in selection and performance bias.

Conclusions After stem cell-based cell therapy in neurological diseases, partial bladder recovery including improvement of voiding pressure, NVC, and residual urine was demonstrated. In PD and stroke model the evaluation of urinary bladder function was done in 0 to 14 days after transplantation. Additional studies with modified methodology to reduce the risk of bias are needed to confirm the detailed mechanism and to obtain an ideal treatment strategy for bladder recovery.

Key words: Stem Cell; Neurogenic Bladder; Systematic review