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Fractional Carbon Dioxide Vaginal Laser for the Treatment of Urinary Symptoms: Preliminary Short-Term Results

Annah Vollstedt

Lauren Tennyson

Michael Rezaee

Ly Hoang Roberts

Larry Sirls

See next page for additional authors

Authors

Annah Vollstedt, Lauren Tennyson, Michael Rezaee, Ly Hoang Roberts, Larry Sirls, Priya Padmanabhan, and Kenneth M. Peters

Table 1. Week 6 VAS Predictions for PCS of 0 vs. PCS 24.

Initial VAS	For PCS = 0, Median *ΔVAS (95% Bayesian Credible Intervals)	For PCS = 24, Median *ΔVAS (95% Bayesian Credible Intervals)	^Posterior Probability
1	0 (-1 to 3)	4 (1 to 7)	0.963
2	0 (-2 to 2)	3 (0 to 6)	0.966
3	-1 (-3 to 1)	3 (-1 to 5)	0.966
4	-2 (-4 to 1)	2 (-2 to 4)	0.970
5	-3 (-5 to 0)	1 (-2 to 4)	0.969
6	-3 (-6 to -1)	0 (-2 to 3)	0.971
7	-4 (-7 to -2)	0 (-3 to 2)	0.972
8	-5 (-7 to -2)	-1 (-4 to 1)	0.971
9	-6 (-9 to -3)	-2 (-4 to 1)	0.971
10	-6 (-10 to -4)	-2 (-5 to 0)	0.969

* ΔVAS (Initial VAS – Week 6 VAS)

^ Probability that PCS of 0 improving or doing no worse than PCS of 24 for a given initial VAS.

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#NM46 | EVALUATION OF MOBILE HEALTH APPLICATIONS FOR PELVIC ORGAN PROLAPSE AND STRESS URINARY INCONTINENCE

Moli Karsalia, BS, Rena Malik, MD
University of Maryland School of Medicine

Presented By: Moli Karsalia

Introduction: As technology becomes integrated into healthcare, it becomes important to evaluate mobile health applications (apps). We aim to evaluate apps for Pelvic Organ Prolapse and Stress Urinary Incontinence using Xcertia guidelines for medical app quality and analyze app usage.

Methods: Mobile medical apps were found on the Apple App Store or Google Play Store with keywords “pelvic organ prolapse,” “incontinence,” or “bladder.” Exclusion criteria included 1) not free, 2) not updated in past year, 3) required a product for use, 4) not in English. Apps were evaluated along the Xcertia Guidelines. Categories included Operability, Privacy, Security, Content, and Usability. Ratings and sentiment of reviews were assessed.

Results: On the Apple Store, 27 apps were found and 7 were included. There was an average of 143.6 ratings, with an average score of 4.56. Review sentiment analysis showed 4 apps with majority positive sentiment, 1 with mostly negative reviews, 1 with mostly neutral reviews, and 1 had equal positive, negative, and neutral reviews. On the Google Play Store, 46 apps were found and 21 were included. There was an average of 2968.8 ratings, with an average score of 4.21. Review sentiment showed 11 apps with majority positive sentiment, 3 with majority negative, 0 with majority neutral, and 7 with equal reviews.

Based on Xcertia Guidelines, all apps met the guidelines for privacy, security, and usability. Regarding content, 57.1% of Apple apps incorporated an informational component and 28.5% delineated sources, while 71.4% of Google Play apps had an informational component, but only 14.3% provided their sources. For operability, 57.1% of Apple apps had developer contact information available, while all of the Google Play apps did.

Conclusion: Most apps were functional and well received by users, however quality of app content varied. Only some apps had an informational component, and even less had sources listed. Providers recommending health apps should consider those that meet Xcertia guidelines and have reliable information.

App Feature	Apple (%)	Google Play (%)
Developer Contact Information	4 (57.1)	21 (100)
Informational/Educational Component	4 (57.1)	15 (71.4)
Sources Provided	2 (28.5)	3 (14.3)
Privacy	7 (100)	21 (100)
Security	7 (100)	21 (100)
Usability	7 (100)	21 (100)

Table 1. Apps and Xcertia Guidelines

Funding: N/A

#NM47 | FRACTIONAL CARBON DIOXIDE VAGINAL LASER FOR THE TREATMENT OF URINARY SYMPTOMS: PRELIMINARY SHORT-TERM RESULTS

Annah Vollstedt[1], Lauren Tennyson[1], Michael Rezaee[2], Ly Hoang[1], Larry Sirls[1], Prya Padmanabhan[1], Kenneth Peters[1]
[1]Beaumont Hospital, Royal Oak, MI, [2]Dartmouth-Hitchcock Medical Center

Presented By: Annah Vollstedt, MD

Introduction: Previous studies have shown that the fractional carbon dioxide (fCO2) vaginal laser improves genitourinary symptoms of menopause. It has been proposed that fCO2 vaginal laser can also treat stress urinary incontinence (SUI) by increasing collagen production. The aim of our

study was to evaluate the effect of vaginal fCO2 laser therapy in patient complaining of SUI.
Methods: Women over 18 years old with complaints of urogenital symptoms who had been off vaginal estrogen for at least three months were enrolled in this open-label prospective trial. Participants received 3 laser treatments approximately 6 weeks apart. Stress test was performed on patients at each visit. Responses to the Incontinence-Quality of Life (I-QOL), Questionnaire for Urinary Incontinence Diagnosis (QUID), and Female Sexual Function Index (FSFI) were collected at each treatment visit and at 6-month follow-up. Responses to the Patient Global Impression of Improvement (PGI-I) were collected after the first treatment and then at every follow-up visit. ANOVA analysis was used to compare means at each time point.
Results: A total of 58 participants were enrolled. Of these, 75.9% (44/58) complained of SUI. Analysis was performed on the total of 30 participants who had undergone three treatments. Sixty-three percent (19/30) were post-menopausal. Mean follow-up time was 7.7 (SD 3.7) months. Baseline stress test was positive in 6 of the 30 patients (20%). Stress test data was available for 12 patients at the 6-month follow-up and was positive in 2 patients (16.7%). No difference was seen in total FSFI, I-QOL, or the QUID-stress sub-score at the 6-month visit. There was a trend towards improvement in the QUID-urge sub-score and the QUID-total (p = 0.06). The mean PGI-I scores showed increased improvement after each treatment and at 6-months (p<0.01), **Table 1.**
Conclusion: Our preliminary results of this open-label fCO2 vaginal laser show no objective or subjective improvement in SUI after three treatments. Sexual function symptoms also did not significantly decrease after three treatments. However, there was a trend towards improvement in urge symptoms and patients did report global improvement after each treatment. Further data with larger numbers and longer follow-up are needed to confirm these early findings.

Table 1.

Survey	T1 Score (SD)	T2 Score (SD)	T3 Score (SD)	6-months Score (SD)	p value
FSFI total	16.5 (9.8)	17.6 (11.1)	16.5 (10.9)	15.4 (10.5)	0.62
I-QOL	56.4 (27.6)	63.4 (26.3)	68.8 (23.9)	72.5 (24.6)	0.14
QUID-Urge	7.5 (4.1)	6.6 (3.7)	6.3 (3.7)	4.5 (3.1)	0.06
QUID-Stress	8.6 (4.6)	7.9 (3.8)	7.1 (4.6)	6.4 (4.3)	0.31
QUID-Total	16.1 (7.2)	14.5 (6.3)	13.3 (6.9)	10.9 (5.6)	0.06
PGI-I	N/A	3.4 (0.7)	2.9 (0.9)	2.7 (0.8)	<0.01

T1=treatment one, T2 = treatment 2, T3 = treatment 3
SD = standard deviation
FSFI = Female Sexual Functioning Index (higher score correlates to worse sexual function)
I-QOL = Incontinence Quality of Life (higher score correlates to higher quality of life)
QUID = Questionnaire for Urinary Incontinence Diagnosis (higher score correlates to worse incontinence)
PGI-I = Patient Global Improvement Index (1 = very much better, 2 = much better 3 = a little bit better, 4= no change, 5 = a little worse, 6= much worse, 7 = very much worse)

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#NM48 | THE ROLE OF PESSARIES IN THE TREATMENT OF WOMEN WITH STRESS URINARY INCONTINENCE: A SYSTEMATIC REVIEW

Julia Klein[1], Michelina Stoddard, PhD[2], Bills Chughtai, MD[2]
[1]Weill Cornell Medicine, [2]Department of Urology, Weill Medical College of Cornell University

Presented By: Julia Klein, BA

Introduction: Pessaries have recently resurfaced as a viable non-surgical treatment option in recent years in light of complications associated with mesh used in the surgical treatment of SUI. While the efficacy of pessaries in SUI has been studied, few high-quality studies with large cohorts exist. The purpose of this systematic review and meta-analysis is to synthesize existing evidence to determine the sort-term efficacy of pessaries for SUI using patient reported outcomes (PROs) and objective measures.
Methods: This review was approved by the PROSPERO database (CRD42020191677). PubMed, EMBASE and CINAHL were searched using the MeSH terms “stress urinary incontinence” and “pessary, pessaries or pessarium”. Studies were either randomized control trials, prospective cohort studies, prospective observational studies, retrospective cohort studies that included PROs or objective urodynamic data. Studies on pregnant women, pediatric populations, women using pessaries for indications other than SUI, and women using electronic pessaries were excluded. The search yielded 612 unique articles, of which 14 studies were included in the analysis. Primary outcomes were PROs, such as feeling continent, the Urogenital Distress Inventory (UDI), and the Incontinent Impact Questionnaire (IIQ). Secondary outcomes included objective measures such as the pad test, post-void residual (PVR), urethral closure pressure, and pessary continuation rates.
Results: Participants were aged 51.4±4.1yr (n = 915, mean±SD) and primarily Caucasian (67%). At baseline, parity was 2.1±0.5 (n=615), 46.36% were postmenopausal (n=732), 8.04% had undergone prior UI surgery was (n=734), and 25.34% had undergone prior nonsurgical UI treatment (n=592). After pessary treatment, 76% of women reported feeling continent (compared to 0% at baseline, n=154 at follow-up, p<0.0001). Furthermore, UDI scores decreased by 44.3% (n=160, p<0.0001), and IIQ scores decreased by 65.3% (n=118, p < 0.0001). At 1.5-6 months follow-up, 78% of women continued to use the