DEVELOPMENT OF A "MOBILE APP" TO SELECT THE TYPE OF MIDURETHRAL SLING. #Abstract 511.

Saca-Cuevas S.Y*., Guerrero-Reyes G*., Gutiérrez-González A**., Hernández-Velázquez R*., Treviño-Cavazos O.** Treviño-Cavazos O**,Herrera-Morales J.C.*,Hernández-Sandoval F.G.*, Vázquez-Uc L.G.*, Carmona-Aguilera L.*
*Centro Médico Cacional 20 de Noviembre, ISSSTE.
**Hospital universitario "Dr. José Eleuterio González".

Hypothesis / aims of study

Stress urinary incontinence (SUI) is a very common condition in women, associated with physical morbidity, sexual dysfunction, loss of independence and psychosocial well-being. (1).

Two common, often overlapping, mechanisms have been described for SUI: (1) Urethral hypermobility rt; and (2) Weakness of the urinary sphincter itself (intrinsic sphincter deficiency.

Currently, the gold standard in treatment is the placement of midurethral sling (MUS) in cases of first-line treatment failure and severe quality of life impairment, with different surgical approaches, however, the decision criteria for the many types of approach are debatable, without reaching a universal consensus (3).

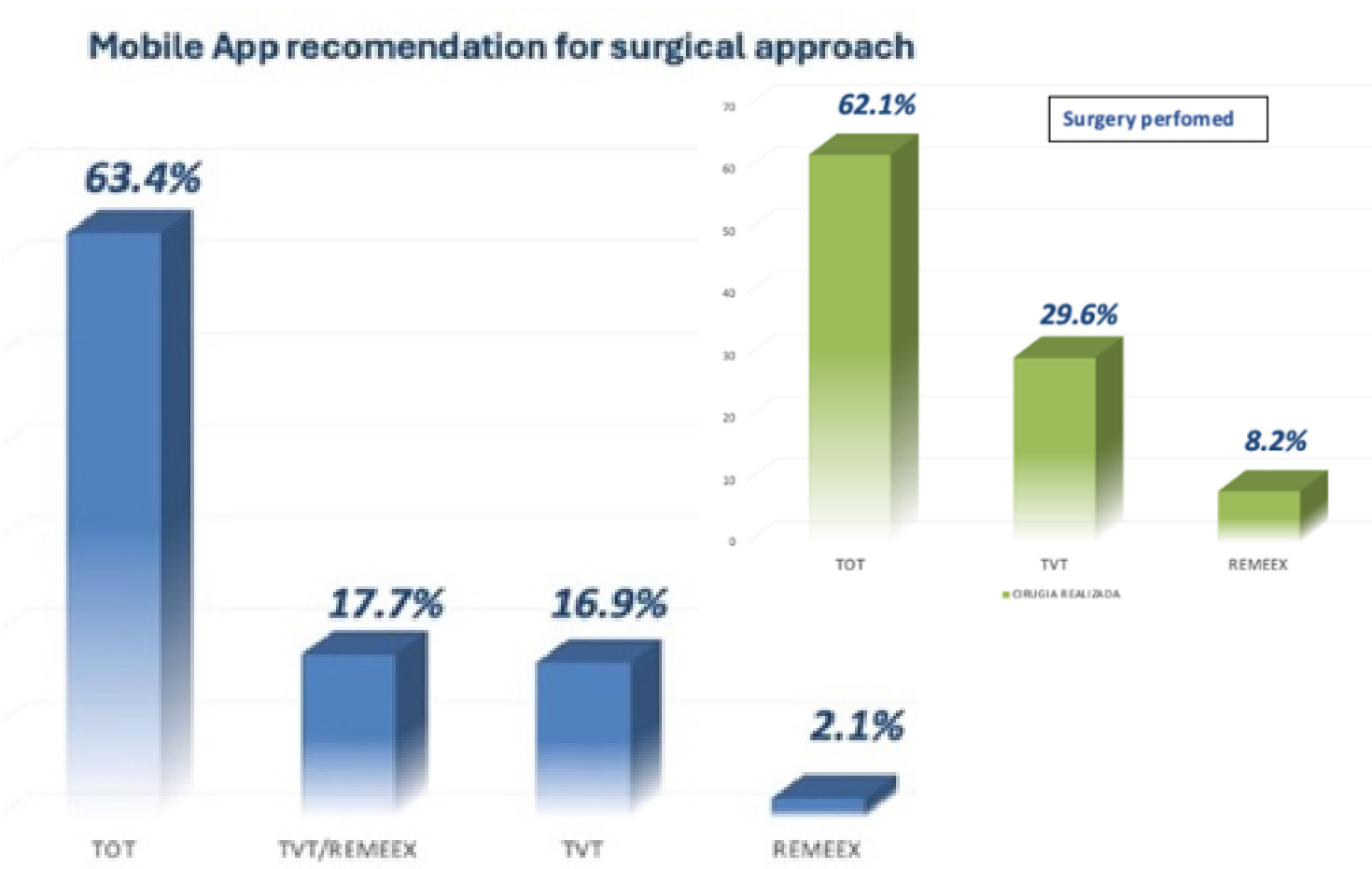
The primary aim of the study was to determine the efficacy of the "mobile application" model as a tool in the surgical decision to select a midurethral sling for SUI.

Study design, materials and methods

A historical cohort was performed, as inclusion criteria: women >18 years of age with SUI and/or MUI, undergoing anti-incontinence surgery with MUS at Urogynecology service of a third level medical center in Mexico City from January 2016 to March 2023. A web app was developed using the eBavel tool, which creates dynamic form capture applications, the following 3 forms were created: Patient registration where the following individual variables are recorded

Calculation of surgery where the following variables were recorded: Urodynamic study, ALPP, Cough stress test (CST), McGuire´s type of SUI, UUI, Recurrence, Immunological alteration and Chronic pelvic pain.

Calculation surgery following variables: ALPP, CST, McGuire´s type of SUI, UUI, Recurrence, Immunological alteration. When all these variables are answered, an automatic calculation is performed where it recommends the type of surgical approach recommended for each patient: TOT (transobturator), TVT (retropubic) or Remeex® (external mechanical regulator) female system placement. .



Results

We examined 298 records, of which only 243 patients met the inclusion criteria and were included in this study. The mean age was 63.18 years (± 9.9 years). The mean BMI was 28.69, we found a prevalence of MUI in 54.3% of the present sample. A recurrence of SUI was found in 11.5 %.

Objective success rate was 97.9% and persistence of SUI of 2.1%. At 1-year subjective success rate was 97.1% with 2.9% recurrence of SUI, for objective success rate was 97.9% with recurrence of SUI at 2.1%. The subjective success rate at 1 year for each type of approach was 100% for TOT, 95.8% for TVT and 80% for the Remeex® female system, and the objective success rate was 99.3%, 97.2% and 90%.

The mobile app final recommendation was mostly TOT (63.4%), followed by TVT/REMEEX® (17.7%), TVT (16.9%) and REMEEX® (2.1%) (Figure 1). The effectiveness of the mobile app in predicting the surgery recommended by experts was analyzed.

Interpretation of results

A concordance 205% cases (84.4%) was found (Figure 2). Secondly, the app results and the experts were classified as: 0 TOT approach 1 TVT approach. With this classification, the Cohen's Kappa value was calculated, finding a value of .745 (95% CI: 0.65876-0.83124) with a p <0.001. These findings are consistent with those reported by Ford et al.2017 (1) in their systematic review, who reported subjective cure rates of 62-98% and 71-97% for the TOT and TVT approach, as well as objective cure rate of 85.7% for TOT and 87.2% for TVT, evaluated at 1 year.

Conclusions

The selection of the surgical approach to treat SUI with MUS should not be based exclusively on statistical criteria, but should take into account the type of incontinence, her medical history, individual characteristics of each patient and comorbidities, in order to determine the best therapeutic alternative. it is crucial to emphasize that this tool should not replace the clinical judgment of the surgeon.

References

1.Ford, A. A., Rogerson, L., Cody, J. D., Aluko, P., & Ogah, J. A. (2017). Mid-urethral sling operations for stress urinary incontinence in women. Cochrane Database of Systematic Reviews, 2017. https://doi.org/10.1002/14651858.CD006375.pub4
2.M. Plata. (2018). Effectiveness of the Remeex systemTM in Colombian women with recurrent stress urinary incontinence or intrinsic sphincter deficiency. International Urogynecology Journal.
3.Imamura, M., Hudson, J., Wallace, S. A., Maclennan, G., Shimonovich, M., Omar, M. I., Javanbakht, M., Moloney, E., Becker, F., Ternent, L., Montgomery, I., Mackie, P., Saraswat, L., Monga, A., Vale, L., Craig, D., & Brazzelli, M. (2019). Surgical interventions for women with stress urinary incontinence: Systematic review and network meta-analysis of randomised controlled trials. The BMJ, 365. https://doi.org/10.1136/bmj.l1842