Mid urethral sling remains the definitive management of stress urinary incontinence (SUI). In trans-obturator tape (TOT), tension and location of the tape are directly related to the postoperative clinical outcome through restoring the urethral support. Reappearance of symptoms of SUI has been related to tape migration. We aimed to increase the success rate of TOT procedure by minimizing the risk of tape migration.

We conducted a prospective randomized clinical trial involving 90 patients suffering from SUI, they were divided into 2 groups according to two different surgical techniques. The clinical outcomes were analyzed at 3.6 and 12 months after surgery as well the tape location was assessed using translabial ultrasound to assess the migration rate and its clinical impact. Other perioperative outcomes, like operation duration, postoperative pain, pelvic pain, tape erosion and the need of different procedures were also evaluated. Among the 90 patients enrolled in our study, 48 patients underwent the classical transurethral incision technique (group 1) and 42 patients underwent the two paramedian incisions representing group 2. Continence at 3 months in group 1 was 70.8%, 22.9% showed improvement in symptoms while 6% of cases showed no improvement while in group 2, cure rate was 78.6%, 16.7% showed improvement in symptoms while only 2 cases representing 4% showed no improvement. 41.1% of cases showed tape migration either proximal or distal by trans-abdominal ultrasound in group 1 resulting in a recurrence rate of 12% of cases, on the other hand no migration was noted in group 2 up to 12 months postoperatively.

We strongly believe that this type of incision provides an island of tissues proximal and distal to the tape that allow more stabilization and less migration of the tape which enhance the success rate of the procedure, minimizing recurrence of symptoms.

Methods and Materials
90 patients were selected for our study, complaining of genuine stress incontinence between January 2012 and February 2014 at the Urology department, Ad-Ilams University Hospitals. Those patients were randomly allocated into two groups using sealed envelopes. Patients were blinded to the type of intervention, informed consent were obtained for all patients prior to surgery, 48 patients underwent the classical TOT procedure (group 1) and 42 patients underwent the two paramedian incisions (group 2). Women with neurological disease, pelvic organ prolapse, previous urethral or pelvic floor surgery were excluded.

In group 1, a classical vertical incision was done proximal to external urethral meatus with dissection along the axis of the urethra III the mid urethral zone that is identified by palpating the urethra and the pubovisceral muscle at the bladder neck while in group 2, 2 paramedian incisions were done 1cm long in the anterior vaginal wall 2 cm apart parallel to the mid line and at the identification of the mid urethral portion, creating a tunnel between the 2 incision 1 cm wide where the tape will be placed, this technique provides an island of tissues proximal and distal to the tape that allow more stabilization and less migration (figure 1).

The rest of the surgical procedure is the same as the standard procedure of Trans-labial US Technique is the investigation of choice for tape evaluation regarding urethral position, the urethral tape can be assessed by X-ray or MRI but could be visualized by ultrasound (figure 2).

Discussion
The curative effect of the sling procedures depends mainly on the mechanical compression on the urethra and narrowing the gap between the symphysis pubis and the tape, as well the tape location relative to the urethra especially in the middle portion of the urethra which is important for the continence mechanism[3]. Based on this study and the classical trans-urethral incision, it can be attributed to be at mid urethral zone that usually occur after 1 year[2], this could be assessed by trans-labial ultrasound. We aim through our study to increase the success rate of TOT by decreasing the incidence of tape migration by using a new surgical technique of 2 paramedian incisions that allow tape stabilization with less dissection along the urethra versus the standard procedure using vertical incision.

Conclusions
Tape migration was associated with recurrence of symptoms especially in distal migration of the tape and appearance of DiNovo urgency in some cases of proximal tape migration. We strongly believe that this type of incision provides an island of tissues proximal and distal to the tape that allow more stabilization and less migration of the tape which enhance the success rate of the procedure, minimizing recurrence of symptoms.

References

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Figure 1 – tunnel created
Figure 2 – trans-labial US showing the tape

Tape migration was associated with recurrence of symptoms especially in distal migration of the tape and appearance of DiNovo urgency in some cases of proximal tape migration. We strongly believe that this type of incision provides an island of tissues proximal and distal to the tape that allow more stabilization and less migration of the tape which enhance the success rate of the procedure, minimizing recurrence of symptoms.