TRANSOBTURATOR TAPE (TOT): RELATIONSHIP TO THE VASCULAR ANATOMY OF THE OBTURATOR FORAMEN

Derek Ottem

Lynn Stothers

Introduction

- Several minimally invasive retropubic sling procedures, such as the tension free transvaginal tape (TVT), have been used commonly to treat stress urinary incontinence
- A new procedure, the transobturator tape (TOT), has been recently developed, with a proposed benefit being a decreased risk of vascular complications compared to retropubic procedures

Objectives

- Describe the anatomy of the obturator canal
- Describe the variations in the arterial and venous anatomy of the obturator vessels
- Record the proximity of the vascular structures to the optimal point of placement of the TOT trochar

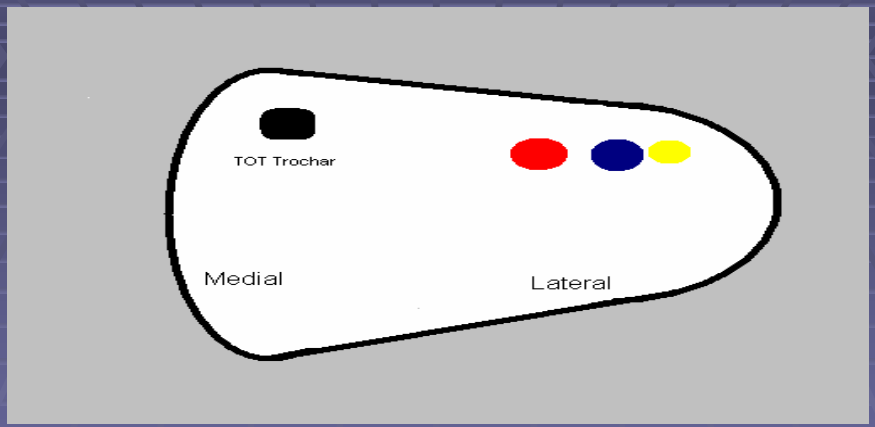
Materials and Methods

- 18 obturator foramens were dissected in nine female cadavers
- Abdominal and perineal dissection was performed to expose the obturator foramen
- The obturator nerve, artery, and vein were exposed as they entered the obturator canal

Materials and Methods

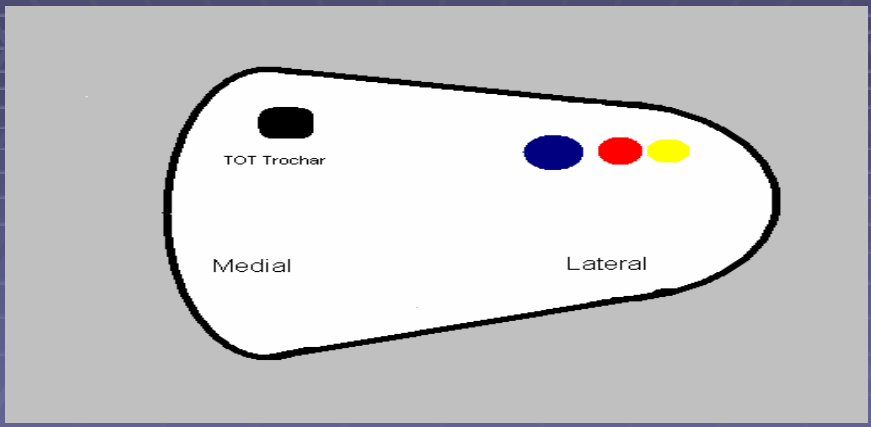
1) Orientation of obturator canal contents:
   -the order of the vein, artery and nerve from medial to lateral was recorded
2) Arterial and venous branches:
   -branches >1mm crossing the obturator membrane were noted
3) Distance from TOT trochar to canal:
   -the direct distance from the site of optimal TOT trochar placement to the obturator canal was measured in mm

Results: Orientation



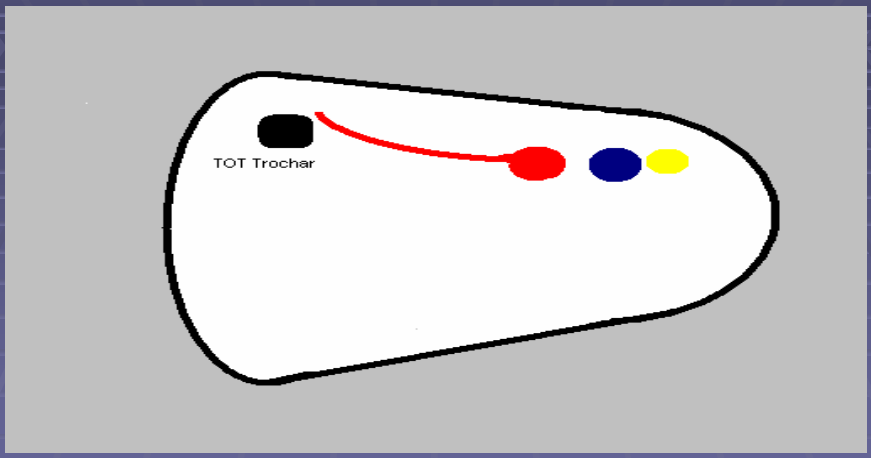
4 of 18 obturator foramens (22%)

Results: Orientation



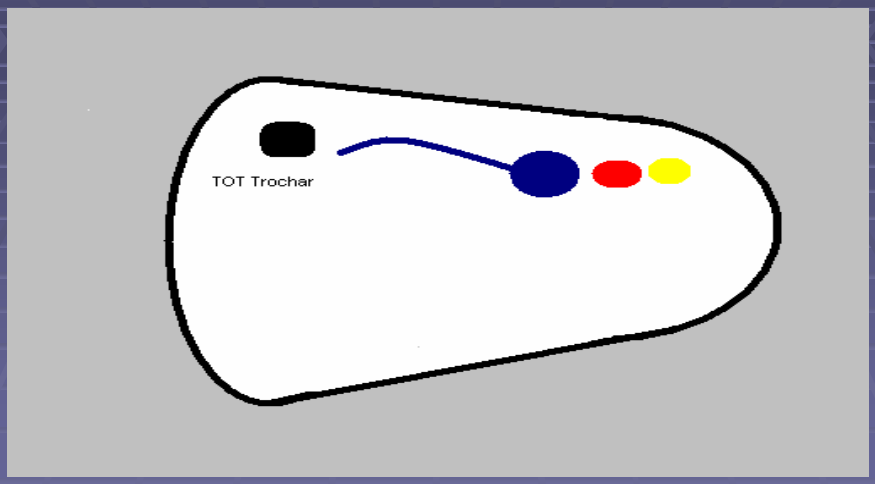
14 of 18 obturator foramens (78%)

Results: Arterial Branches



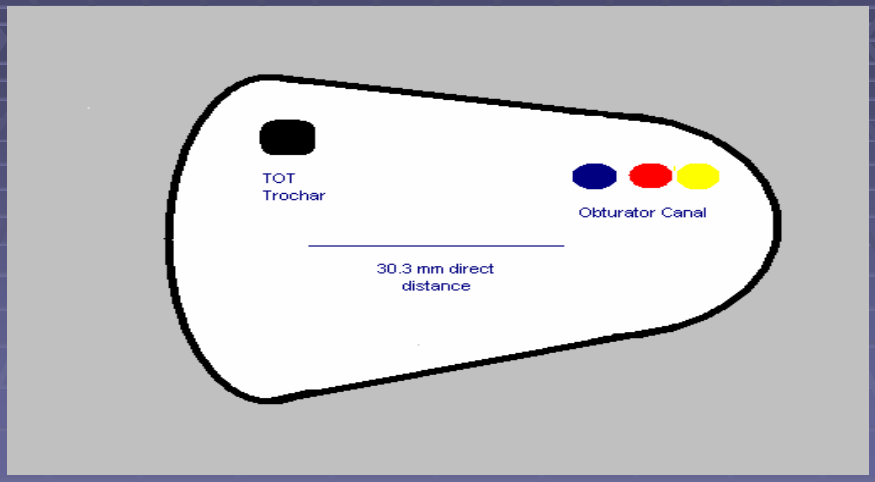
3 of 18 obturator foramens (17%)

Results: Venous Branches



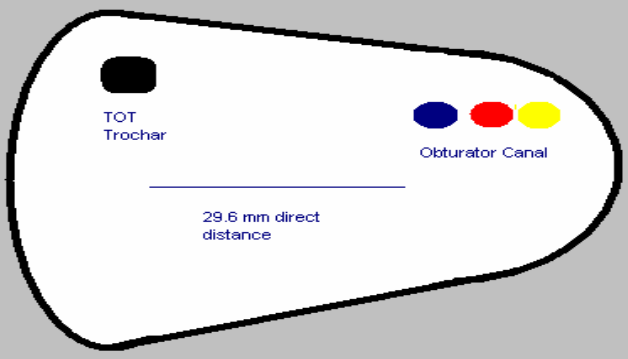
4 of 18 obturator foramens (22%)

Results: Distance



Left obturator canal to TOT = 30.3mm (23-50mm)

Results: Distance



Right obturator canal to TOT = 29.6mm (24-43mm)

Results

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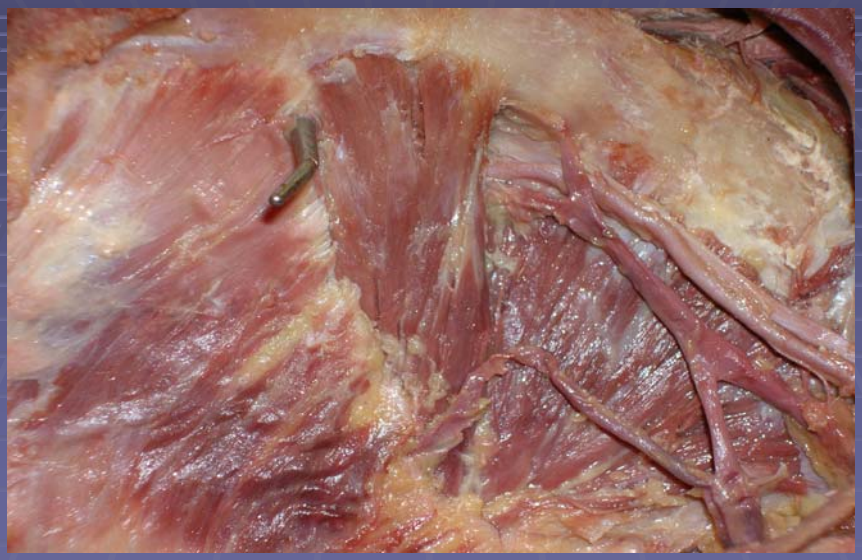

Results

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Discussion

- The orientation of structures in the obturator foramen is frequently different than classically described in anatomy texts
- In approximately 20% of obturator foramina arterial or venous branches >1mm cross medially towards the site of optimal TOT trochar placement
- The obturator canal lies on average 3cm from the site of optimal TOT tochar placment. The distance varied greatly between cadavers.

Conclusion

- The close proximity of the obturator canal to the TOT trochar, the medially crossing venous and arterial branches as well as the frequent variation in the obturator canal orientation should be considered when performing the TOT procedure.