



Genital Sensibility in the Neophallus: Getting a Sense of the Current Literature

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Introduction

- Formation or reconstruction of the phallus after congenital or acquired absence of the penis or during gender-affirming surgery can have profound psychosocial impacts for patients and improved quality of life (1,2).
- The microsurgeon's toolset has expanded options for phalloplasty with pedicled perforator and free flaps.

Goals of phalloplasty:

1. Resemble a penis in normal circumference, length, and aesthetics
2. Capacity to transmit urine through the full-length of the phallus
3. Maintain "tonicity" or "rigidity" to allow for inclusion of an implant
4. Transmit sensory impulses to be interpreted as erotic sensation

- Variety of donor and recipient nerves available for microneuroreconstruction available:

- Donor: ilioinguinal, lateral femoral cutaneous, genitofemoral, and dorsal branch of the pudendal nerve
- Recipient: lateral antebrachial cutaneous, medial antebrachial cutaneous, lateral femoral cutaneous, lateral sural cutaneous nerves

- We hypothesized that microneuroreconstruction of the neophallus in which the recipient nerves are connected to the type of sensory nerve that is already sending input to the sensory cortex with association cortex match to erotic sensation will produce the best outcome.

Methods

Primary Literature Search: 341 Papers

Did Not Meet Inclusion Criteria: 272 Papers

Met Initial Inclusion Criteria: 69 Papers

Did Not Have Appropriate Outcomes Data: 43 Papers

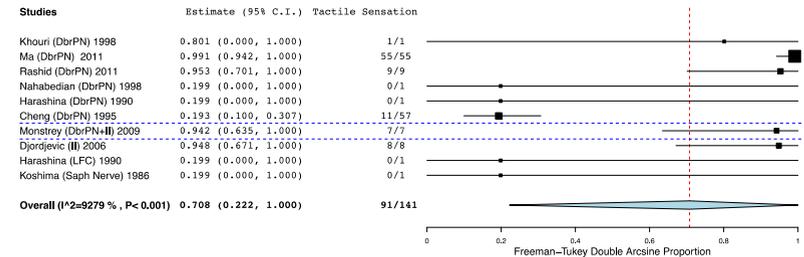
Included in Final Analysis: 26 Papers

- Pooled event rates determined for recovered glans sensibility and erogenous sensation using Freeman-Tukey Arcsine Transformation.
- Stratified by donor and recipient nerve for trans and cismales
- Recovered glans sensibility was recovered two-point discrimination <2 cm.

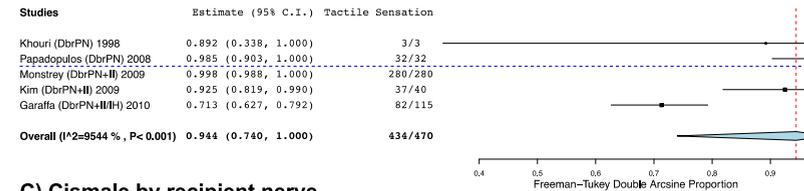
Results

Figure 2 Sensibility

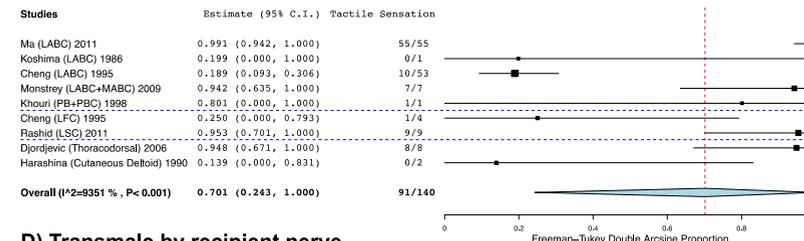
A) Cismale by donor nerve



B) Transmale by donor nerve



C) Cismale by recipient nerve



D) Transmale by recipient nerve

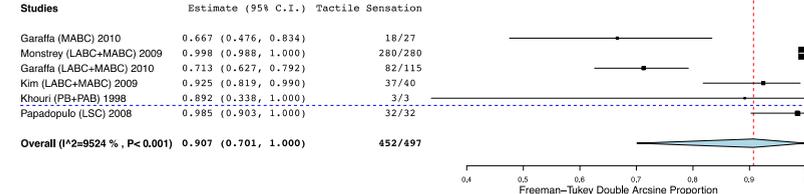
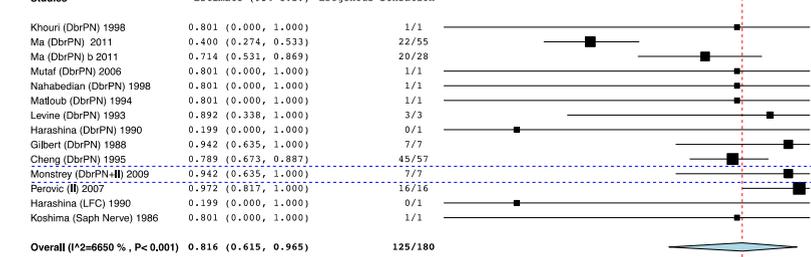
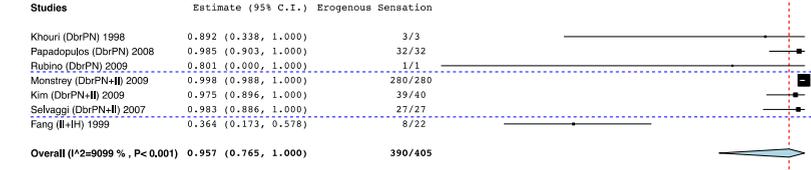


Figure 3 Erogenous

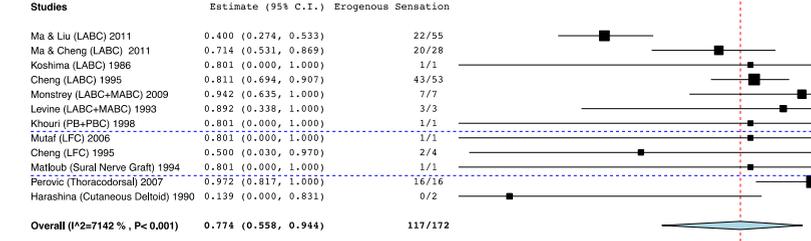
A) Cismale by donor nerve



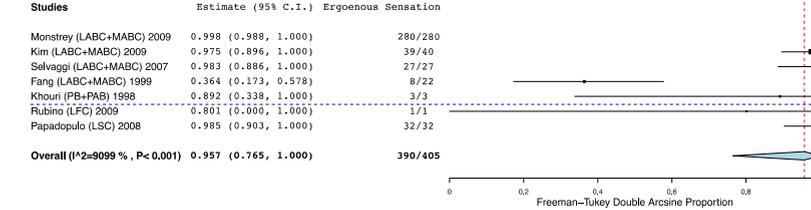
B) Transmale by donor nerve



C) Cismale by recipient nerve



D) Transmale by recipient nerve



Conclusions

- Limited data on recipient and donor nerves makes it difficult to draw evidence-based conclusions on outcomes
- Sensation with neural coaptation appears superior than those without neural coaptation, but still remains less sensible than control cismales phalluses

References:
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 2. Ma, S., Liu, Y., Chang, T., Cheng, K. Long-term follow-up of sensation recovery of the penis reconstructed by Cheng's method. *Plastic and reconstructive surgery* 2011;127(6):1546-1552.
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 4. Morrison, S. D., Chen, M. L., Crane, C. N. An overview of female-to-male gender affirming surgery. *Nature reviews Urology* 2017;14(8):486-500.