



## Letter to the Editor

### Configuration of the glans and size of the urethral meatus



I read with great interest the article recently published as a meta-analysis in the Journal of Pediatric Urology with the title “Nomogram of pediatric urethral size: a systematic review” [1]. However, I have to say that a meta-analysis can be discarded by a simple observation that has been overlooked for decades. Apparently, the “septum glandis” of the penis has not been considered in any of the studies of hypospadias since it was first described in 1877 [2]. The reason it was overlooked in pediatric patients should be because of its noticeable appearance in adults, not children. The authors included the distended calibre of the normal urethral meatus in infants to adolescent boys (0–16 years). Although the authors mentioned two of our studies, they left out our key message, which I want to clarify.

The shape of the urethral meatus and the glanular urethra (fossa navicularis) depends on the formation of the preputial frenulum and the “septum glandis”. In fact, this is the final and most complicated stage in urethral development. The septum glandis is a thin ligamentous tissue formed by the extensions of the tunica albuginea of the corpus cavernosum and spongiosum. The glanular urethra is covered by this septum made of fine collagen fibrils. Its lower part (lower median septum) is located between the glans wings on the ventral midline and separates the glans wings. This separation also gives the glanular urethra a loose and stretchable fibroelastic ventral support. Together with the “upper median septum” (extensions of the “distal liagement”), the septum glandis ensures the slit-shaped form of the glanular urethra and the meatus and stability of the glans penis [2,3]. The compliance of the glanular urethra is different than of the proximal penile urethra, since it is not covered with the corpus spongiosum. The slit-shaped form of the meatus and the fossa

navicularis at rest differs from the shape during micturition or during meatal/urethral calibration. The adaptive configuration of the meatus and the fossa navicularis is most likely provided by the fibro-elastic septum glandis. In addition to the size and shape of the meatus, the navicular configuration of the glanular urethra and its connections within the glans penis, are important for the dynamics of urine flow [4,5].

Since the foreskin assumes a retracted position with increasing age (with increasing body and penile size), clinical observation of these ventral structures (frenulum and detached glans wings) takes place in adulthood. I can understand the difficulty of admitting that all the current debates on hypospadias and studies of the functional and cosmetic outcomes after hypospadias repair are pointless if a 150-year-old definition is accepted. However, the dictum “There is nothing new in hypospadias surgery not previously described” no longer applies if it is accepted.

### Conflicts of interest

None.

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