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Letter to the Editor

Boundary tissues and layers in the anatomy of the penis — Comment on 2-stage STAG vs 3-stage STAC for primary proximal hypospadias repair

In this article, the authors criticize procedures for penile straightening with grafting for proximal hypospadias and present a technique that includes only straightening as a first step and delayed grafting as a secondary step and finally urethroplasty [1]. The authors focused particularly on graft contracture and/or closure of the healthy graft or skin in two groups and drew all their conclusions accordingly. The authors conclude that delaying urethroplasty grafting to a second, separate operation as part of 3-stage repair resulted in fewer "complications" that were not explicitly mentioned. It is also difficult to understand how the authors accept the fact that longer follow-up may lead to additional complications, but at the same time assume that this will not change the main results of their study. From an anatomical point of view, the authors' definition of proximal hypospadias seems to be very superficial and limited to the penile curvature, penile skin and the position of the meatus. Proximal hypospadias involves not only a ventral curvature and absence of the ventral penile skin, but also the absence of the corpus spongiosum. There is no information on how the authors reconstruct a layer that plays the role of the corpus spongiosum.

According to the authors, the "glans fusion" refers to the fused glans between the ventral lips of the meatus and corona, which, however, is not based on anatomical facts. In normal anatomy, there is no "glans fusion", but rather a septum (*septum glandis*) that separates the two wings of the glans on the ventrum. Apparently, as usual, the authors reconstruct the glans with "glans fusion" and the urethra as a straight tube through this fused glans, ignoring the *septum glandis* and the *navicular fossa*. We have described the detailed structure of the septum glandis and the fossa navicularis based on the anatomical descriptions of Dr. Henle and our clinical and MRI findings [2—5] (Fig. 1). A septum is a fibrous partition (dividing wall or membrane) that separates two body spaces or soft tissue masses from each other. Without a septum, serious functional (e.g. meatal stenosis in hypospadias) and/or aesthetic problems arise. In a simple analogy, a glans repaired without a septum can be described as a nose reconstructed without a septum, and a urethra without a navicular fossa is like a simple tube. Furthermore, the fact that the navicular fossa and the septum glandis are solid anatomical facts invalidates the surgical technique popularized by the authors (Tubularized Incised Plate Urethroplasty; TIPU), which has unfortunately been used worldwide for almost 30 years [2—6]. Despite the known and high complication rates (especially meatal stenosis), the popularization of the TIPU technique highlights the influence of the fallacy of tradition in the history of hypospadias and is an example of how the person is prevented from getting out of the box.

I do not open a nice book completely flat because I'm afraid of damaging the spine and thus compromising its stability. The *distal ligament*, like a spine of a book, is the most important ligamentous structure of the penis. The distal ligament and the septum glandis (especially its lower median septum) connect the glans to the shaft of the penis and ensure the stability. Since hypospadias already involves a defect in the septum glandis, opening the glans "like a book" can damage the distal ligament and later lead to instability and erectile dysfunction [7,8]. I believe that anatomical facts, general and current concepts of anatomy and the anatomical definitions established hundreds of years ago are the mainstays of surgery.

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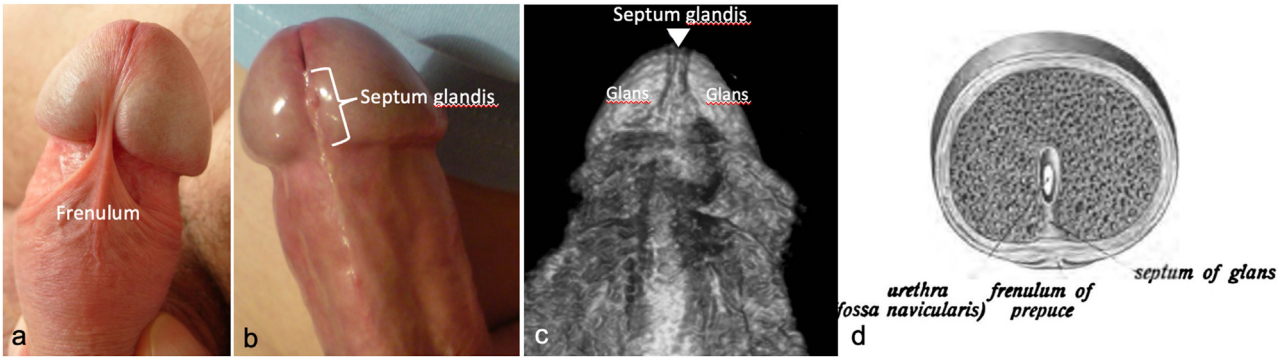

Fig. 1 a) Normal appearance of the penis with frenulum, b) Circumcised penis, frenulum removed, septum glandis remains visible (images a and b are from Wikipedia; Frenulum of prepuce of penis), c) MRI view of the septum glandis (Özbey, 2017), d) Cross section of the distal end of the penis showing the septum glandis and frenulum (Sobotta Atlas and Text-book of Human Anatomy-1906) Copyright© Hüseyin Özbey-2024.

Conflict of interest

None.

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