Surgery Illustrated – Focus on Details

The dorsal venous complex (DVC): dorsal venous or dorsal vasculature complex? Santorini's plexus revisited

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The dorsal venous complex (DVC), originally described by Giovanni Domenico Santorini [1] in his seminal 1724 publication, *Observationes Anatomicae*, has been an important consideration as the technique of prostate extirpative surgery evolved over the last century. Pioneering anatomical dissections by Walsh and Reiner [2, 3] further refined the radical prostatectomy (RP) techniques of Young [4] and Millin [5] in an attempt to minimize the functional morbidities associated with the procedure. Ligation of the DVC before division is commonly performed to minimize blood

loss during the apical dissection of open RPs.

With the advent of laparoscopic and robotic technology, the increased intra-abdominal pressure afforded by CO₂ insufflation has allowed surgeons to divide the DVC safely without initial ligation. Approaching the DVC in this fashion permits the surgeon to precisely select the site of division and thereby increase the likelihood of achieving a negative anterior apical margin in addition to urethral length maximization and sphincteric preservation. This anatomical view provides a unique opportunity to further characterize the DVC. Specifically, previously undescribed small arteries have been identified within the complex. This is probably known to many robotic and

laparoscopic prostate surgeons who have used the above technique. These arteries are often located near the midline. They are commonly encountered during division of the DVC and are probably either a terminal branch of the internal pudendal artery or a small branch of the prostatic capsular artery.

Based on these observations, we suggest that the DVC be renamed the dorsal vascular complex. This would more accurately reflect the true character of the involved anatomical structures and neither the acronym nor the eponym would need changing. Further anatomical study is required to identify the origin of the 'dorsal vascular complex' arterial vessel and to determine its contribution, if any, to functional outcomes after RP.

Figure 1

The dorsal vascular complex has been divided during a robot assisted laparoscopic prostatectomy displaying both the venous plexus and a small arterial vessel.

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Abbreviations: DVC, dorsal venous complex; RP, radical prostatectomy.