VE02 Salvage robot-assisted laparoscopic prostatectomy: Tips and tricks for challenges due to different primary treatments

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Introduction & Objectives: Salvage robot-assisted laparoscopic prostatectomy (sRARP) is a technically demanding procedure due to significant alterations in anatomical landmarks and loss of tissue planes. In this video, we present the challenges associated with different primary treatments and describe key points in their management.

Materials & Methods: Between 2008 and 2018, 126 patients underwent sRALP by a single experienced surgeon. All procedures were performed using a transperitoneal six-port technique. Ninety-four patients had received external or internal radiation (EBRT: 39, IMRT: 15, proton beam: 3, brachytherapy: 23, EBRT+brachy: 14) and 32 had received focal therapy (cryotherapy: 20, HIFU: 9, microwave/electroporation: 3) as primary treatment. Difficulties caused by different primary therapies at each surgical step were identified and key points in their management were presented.

Results: 1. Endopelvic fascia dissection (EFD): Ipsilateral pelvic side-wall fibrosis and troublesome bleeding from vessels obscured by scarring were common after cryoablation. Opening the endopelvic fascia at the prostate base where the space between the prostate and the levators is least vascular and dissection away from the prostate capsule towards the apex facilitated EFD. Apical dissection around the sphincter was typically difficult in brachytherapy patients due to inflammation caused by misplaced seeds.
2. Bladder neck dissection (BND): In cases with HIFU, the prostate was atrophic and fused anteriorly behind the pubic tubercle. In such cases, opening the anterior BN provided better identification of the anatomy followed by antegrade prostatectomy.
3. Posterior dissection (PD): IMRT and proton beam were noted to cause more extensive fibrosis in the pelvis. In such cases, identification of the correct plane for posterior dissection was especially difficult due to lack of prerectal fat and ‘tenting’ of the rectum. We have used the instant toggling feature of DaVinci Xi robot (180 degrees upward rotation of the 30-degree camera) to facilitate visualization of the posterior plane and careful cold dissection.
4. Vesicourethral anastomosis (VUA): Loss of tissue vascularization after EBRT and proton beam radiation adversely affects VUA vitality and leads to anastomotic dehiscence or leaks. In our experience, use of an acellular and resorbable scaffold graft to reinforce base of the VUA resulted in decreased leak rates and catheterization times (Ogaya-Pinies et al, EurUrol 2018).

Conclusions: sRALP should be performed by experienced surgeons due to lack of tissue planes and anatomical landmarks. The surgeon should be familiar with challenges specific to different primary therapies. Opening endopelvic fascia away from prostate capsule, antegrade prostatectomy when prostate and BN are fused to the pubis, 30° Toggling during posterior dissection, and Acell graft to reinforce VUA are keys in management of complex cases.