PE22 Is it possible to accelerate continence return and potency recovery after nerve-sparring robot-assisted radical prostatectomy with the use of dehydrated human amnion/chorion membrane?

EUR Urol Suppl 2019;18(6):e2579

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Introduction & Objectives: Several reports described the use of dehydrated human amnion/chorion membrane (dHACM) allograft wrapped around the neurovascular bundles (NVB) during a robotic-assisted radical prostatectomy (RARP) (Patel V. et al., 2015; Ogaya-Pinies G. et al., 2018). The aim of our study was to determine if the use of dHACM accelerates the return to urinary continence (UC) and potency after a nerve-sparing RARP in a large group of low-risk prostate cancer (PCa) patients with a minimum 12 months follow-up.

Materials & Methods: From 2015 to 2017 1274 patients who were pre-operatively potent (Sexual Health Inventory for Men (SHIM) score ≥20) and continent underwent RARP with full nerve sparing. Of these, 91 had had bilateral placement of dHACM graft around NVBs. We have analyzed post-RARP outcomes between propensity-matched graft and no-graft groups, including time to return to UC and potency.There was no significant difference between the patients' pre-surgical characteristics in two groups. Potency was defined as the ability to achieve and maintain erection firm enough for sexual intercourse (with the use of daily tadalafil 5 mg). UC was defined as the use of no pads.

Results: At 1, 3, 6 and 9 months the UC and potency recovery rates were superior for dHACM group vs no-dHACM. There was no significant difference at 12 months follow-up. Mean time to UC was enhanced in dHACM (1.41 mo) vs no-dHACM (1.94 mo; p=0.02). Mean time to potency recovery was lower in dHACM (2.1 mo) versus no-dHACM (4.42 mo; $p < 0.01$) group. The analysis of functional outcomes depending on younger versus older patients' age is ongoing.The presence of positive surgical margins (12.1% vs 12.9%, p=0.81), extraprostatic extension (31.9% vs 31%, p=0.88) and the risk of biochemical recurrence at 12 months (4.4% vs 5%, p=0.85) did not differ between dHACM and no-dHACM groups, although the follow-up was short for "oncological" evaluation.The non-randomized patient inclusion and single-center experience are limitations of the study.

Conclusions: The use of dehydrated human amnion/chorion membrane allograft wrapped bilaterally around neurovascular bundles accelerates the return of urinary continence and potency recovery in low-risk PCa patients following nerve-sparing RARP when compared to a similar control group without the use of the allograft. Oncological results of surgery are not compromised with the use of the membrane providing growth and neurotrophic factors, although longer follow-up is needed – especially in pT3 and high-grade prostate cancer patients. The study was supported by Russian Science Foundation grant (Project 19-15-00379).