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Tissue engineered urethral substitution: Recent trends and our results

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Strictures and abnormalities of the urethra are still considered as complex urological problems. In such patients, the most effective treatment option is urethroplasty (anastomotic or substitution). Substitution urethroplasty implies widening the urethral lumen using flaps or grafts (e.g., buccal mucosa, foreskin, retroauricular or penile skin). Unfortunately, conventional approaches are less effective in case of longer and/or recurrent strictures. This requires development of novel treatment techniques such as implantation of the tissue-engineered urethra. However, one of the major challenges in growing any tissue-engineered organ is finding a proper material for its scaffold. This report reviews recent advances and perspectives in tissue-engineered urethral reconstruction and is particularly focused on using both acellular and recellularized constructs in humans and animal models.

Biography

Butnaru Denis did his Residentsip and PhD at the Department of Urology of the I.M. Sechenov Moscow State Medical Academy in 2004 and 2008, respectively. Since 2010, he has been actively working on the issues of reconstructive urogenital surgery. He has worked as the Head of the Surgical Department at the Urological Clinic from 2011-2012 and in 2012, he became the Head of the Department of Reconstructive-Plastic Urology at the Urology Research Institute of the I.M. Sechenov First Moscow State Medical University. He has worked as an Associate Professor of the Department of Urology at the I.M. Sechenov First Moscow State Medical University in 2015 and was then appointed as the Deputy Director of Research of the Urology Research Institute. Since 2016, he has been working as the Director of the Institute for Regenerative Medicine (IRM).

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