Tissue engineering as a potential alternative or adjunct to surgical reconstruction in treating pelvic organ prolapse: comment on Boennelycke et al.

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Published online: 4 January 2013
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Dear Editor,

We read Boennelycke et al.'s timely review on the emerging field of tissue engineering for pelvic organ prolapse (POP) repair with interest [1]. The authors emphasise that tissue engineering can provide materials to replace or repair diseased or degenerative tissue. Researchers seeking to design new materials are largely guided by assumptions on why complications occur with the existing materials. From these we suggest that materials that can contribute to constructive tissue remodelling (bioabsorbable) while providing appropriate mechanical properties and durability are what we need to achieve. Avoidance of materials that contribute to chronic inflammation (and perhaps excessive fibrosis) seems desirable. We suggest that for a bioabsorbable material to lead to long-lasting repairs, the introduction of cells (or tissue) is also needed. Our current studies aim to establish which cell (or tissue)/scaffold combination best meets the demands of the in

vivo conditions. In this regard we have found electrospun polylactic acid and porcine small intestine submucosa to both be promising degradable scaffolds whilst autologous buccal mucosal fibroblasts and lipoaspirate stem cells demonstrate the ability to produce the appropriate extracellular matrix (ECM) proteins that may drive tissue regeneration. In summary, this is an area of real need where lessons from soft tissue engineering need to be translated into clinical benefit.

Reference

1. Boennelycke M, Gras S, Lose G (2012) Tissue engineering as a potential alternative or adjunct to surgical reconstruction in treating pelvic organ prolapse. *Int Urogynecol J*. Epub 2012/09/04, doi:[10.1007/s00192-012-1927-4](https://doi.org/10.1007/s00192-012-1927-4)

An author's reply to this comment is available at doi [10.1007/s00192-012-2022-6](https://doi.org/10.1007/s00192-012-2022-6).

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