

Dear Reviewers,

**Name of journal: World Journal of Gastrointestinal Surgery**

**ESPS Manuscript NO: 18202**

Thank you very much for your valued comments. We studied them carefully and altered our manuscript accordingly.

*Reviewed by 00058573*

Nicely written. Covers all aspects.

Reply:

*Reviewed by 00071687*

We have read with lot of interest the paper titled “Mesh Implants - An Overview on Crucial Mesh Parameters”, by Leiming Zhu et al. This paper aims to review the literature to identify all available information on the properties of synthetic mesh implants used for hernia repair. The authors evaluate crucial mesh parameters to choose the most appropriate mesh implant considering raw material and mesh composition, structure parameters and mechanical parameters. When reading the text, we can understand that the authors have an important knowledge of the different aspects related to the meshes in the human use, their qualities and strengths. The paper is well constructed and aims to give a clear guideline of different aspects related to all these meshes. The authors give a major role in the mechanical aspects and related bioquematical compositions of the meshes which is accurate. On of the few considerations, related to the paper is to know if the authors should try tp establish, if there are, a rational selection of the most appropriate device according to physicochemical properties of meshes. Can a mesh be better for elderly? For obese? For oncologic patients? We relieve that a final interest should be having a clinical classification for the mesh selection.

Reply: A rational selection of the most appropriate device according to physicochemical properties can be carried out by comparing the device properties with the identified mesh parameters recognized as the crucial mesh parameters: “Monofilament large pore structure with anisotropic mechanical properties similar to the native properties of the health host tissue and made from a highly biocompatible and long term stable raw material.” At this point it is beyond this paper to analyze all available mesh implants on the market. The second point (ideal meshes for elderly, for obese...) is more than interesting and probably a

matter of future investigation towards a personalized medicine. What we need for the acquisition of required knowledge in this respect is a large data pool and advanced analysis tools. Registers have the potential to overcome the current lack of large data bases and we are more than curious where the register route is heading here.

*Reviewed by 00468097*

Very well done and illustrated easy this essay needs some clinical "real world" interjection (1). The issues related to hernia mesh and female incontinence and prolapse (2) mesh should be included (abridged) for purposes of balance . Balance as defined by mechanical and technical issues. Technical errors of inception should be mentioned as critical to success or failure (3)

Reply: We react to all three aspects by adding additional elucidation/paragraphs:

- (1) "Potential mesh-related complications include chronic infections, chronic pain and mesh rupture.[1–3] The reasons for chronic pain and the impact of mesh fixation in this context are controversial.[4, 5]"
- (2) "The impact of mesh implants on clinical results is the current subject of much litigation in the field of stress urinary incontinence and pelvic prolapse, and some manufacturers were sued because of allegedly defective implants."
- (3) "However, many other factors besides mesh parameters must be considered in evaluations of the overall outcome of an intervention, including the patient's constitution, the selection of a proper operation technique and the operation performance, which are essential for the success or failure of a therapy."

Sincerely

Leiming Zhu, Philipp Schuster, Uwe Klinge