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Investigating the clinical significance of mesh peritonization in abdominal vault suspension surgery using a comparative rabbit model



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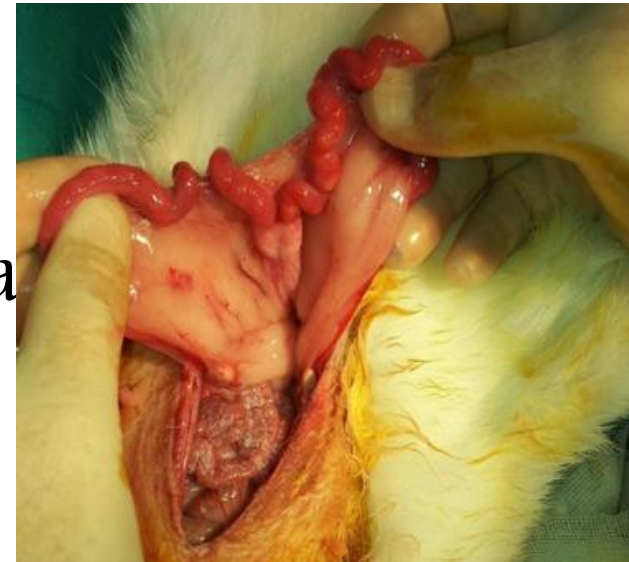
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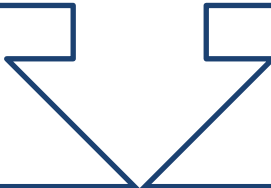
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The vaginal and the abdominal approach to pelvic reconstruction have been widely used all over the world to treat pelvic organ prolapse.

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Sacrohysteropexy and sacrocervicopexy involve the use of mesh to suspend the uterus or cervix to the anterior longitudinal ligament of the sacrum.

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Although there are no comparative studies, the majority of authors recommend the systematic use of peritonization during abdominal vault suspension surgery.

Abdominal sacrocolpopexy for vault prolapse without burial of mesh: a case series

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Philip Tooze-Hobson,^c Brian Wise^d**

Objectives To audit the clinical outcome of abdominal vault suspension (sacrocolpopexy, hysteropexy or cervicopexy) using non-absorbable mesh, without burial by closure of the peritoneum.

A prospective multicenter study of 128 patients undergoing apical prolapse surgery has shown that non-closure of the peritoneum is not associated with mesh-induced bowel injury.

We purposed in this study to investigate whether mesh peritonization is clinically significant in an experimental rabbit model.

Non-pregnant 20 New Zealand white rabbits, at least 6 months of age, weighing 2500-3000 gr were enrolled in the study

Rabbits were isolated for one month in order to exclude pregnancy. Subsequently, were assigned randomly into two groups of 10 each

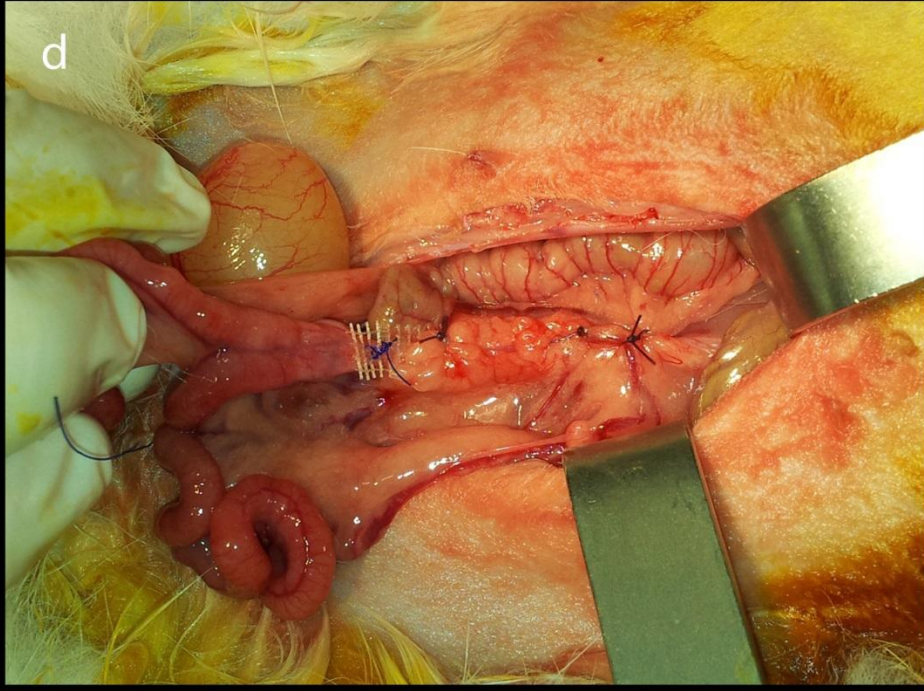
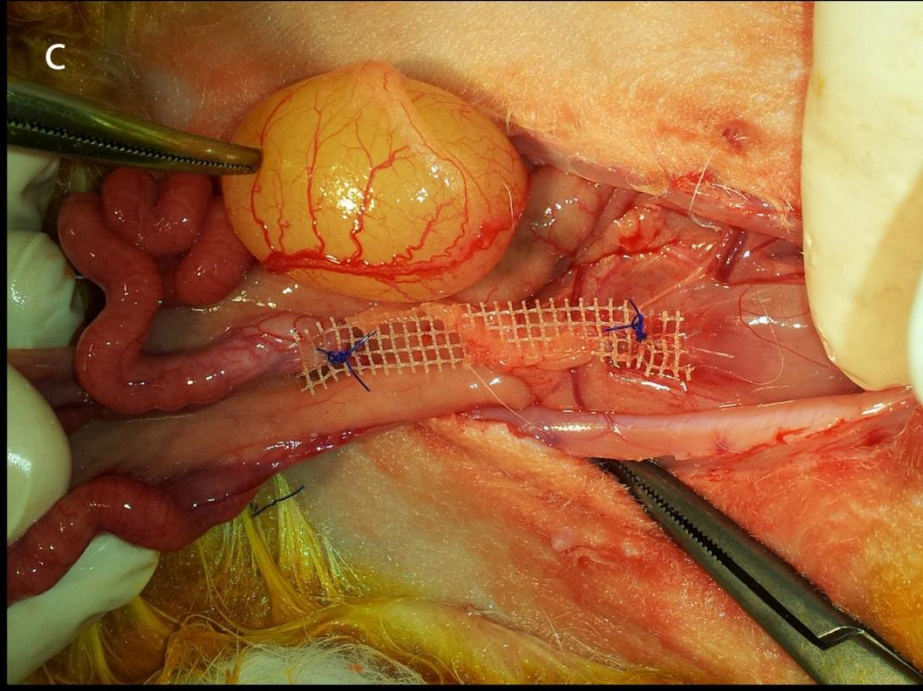
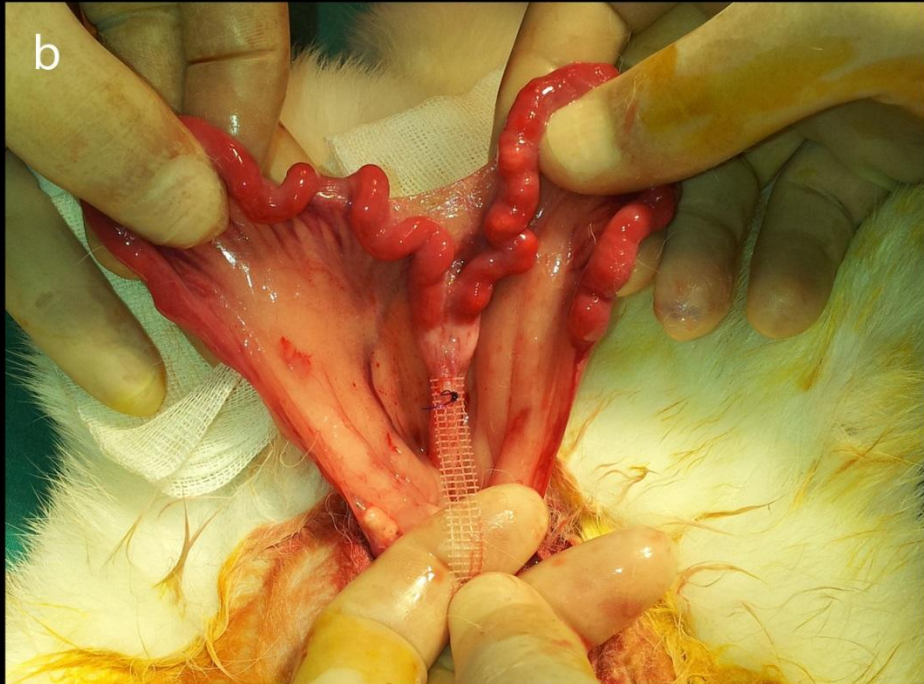
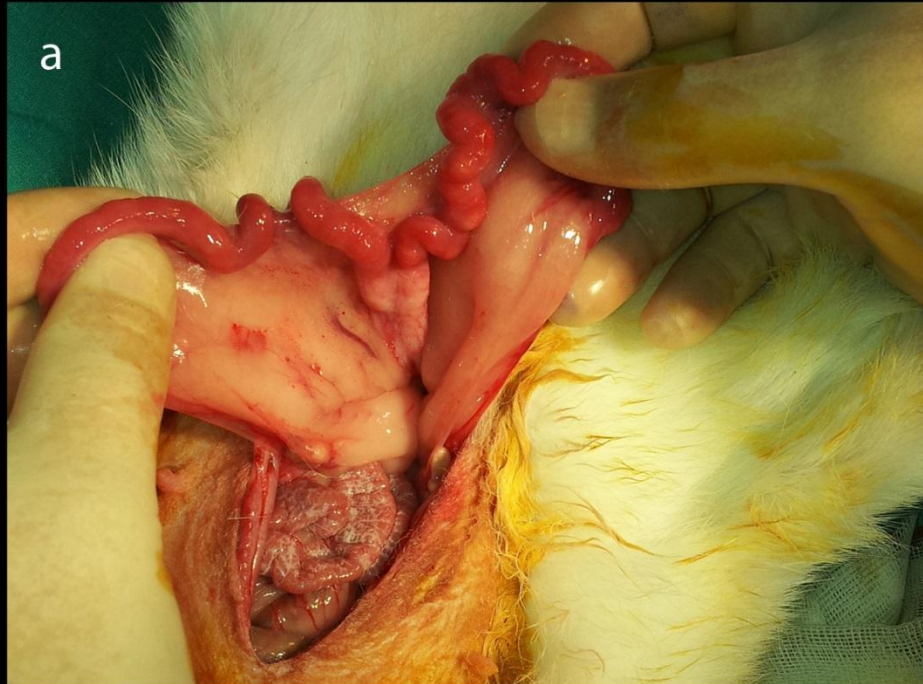
Sacruteropexy operation was performed to both groups using a monofilament polypropylene mesh

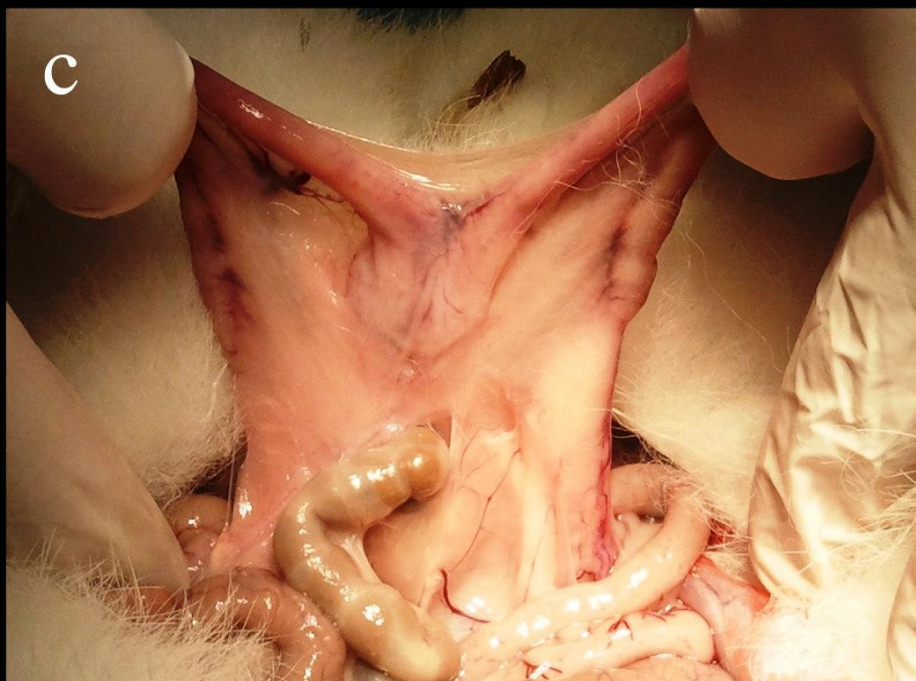
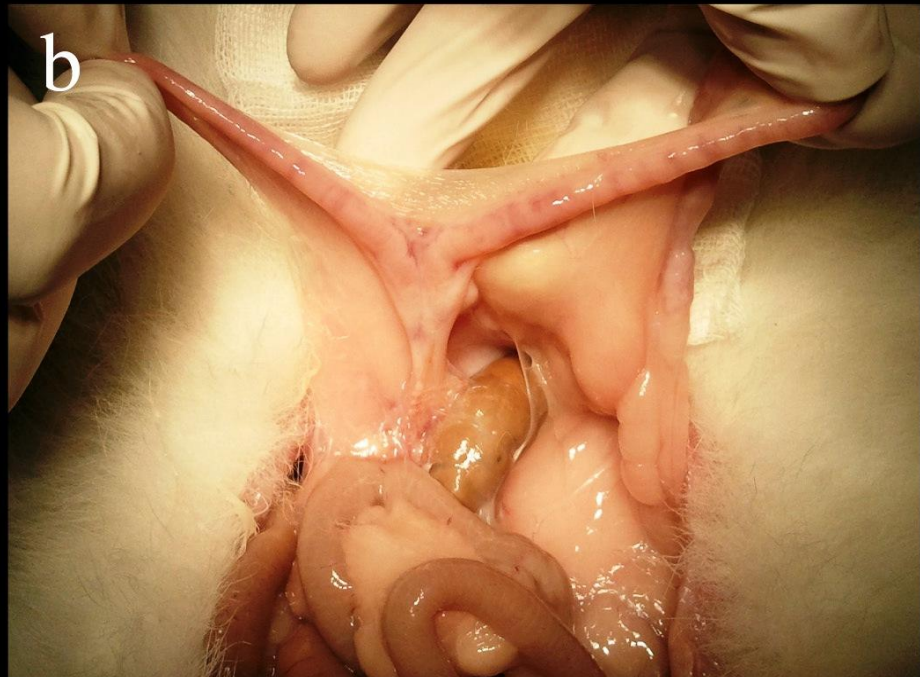
In the first group pelvic peritoneum was not closed over the mesh



In the second group mesh was buried throughout the pelvic retroperitoneal tunnel


The rabbits were sacrificed 4 week after mesh implantation.
Two rabbits died in both groups.
Adhesion skore, collagen organization and inflammatory cell reaction were evaluated





Conclusion

- We performed pelvic vault suspension surgery with or without peritonization in the rabbits and then compared the results of adhesion scoring, collagen organization and inflammatory cell reaction.
- We did not find any statistically significant differences in adhesions and collagen organization between the two groups.
- In the group that underwent peritoneal closure, a statistically significant increase in the inflammatory reaction was observed.

A laparoscopic view of the abdominal cavity. The uterus is centrally located and appears enlarged. A large, rounded, reddish-pink fibroid is attached to the anterior surface of the uterus. Surgical instruments are visible, including a grasper on the left and a dissector on the right, both engaged with the fibroid. The surrounding peritoneum is pinkish and moist.

Laparoscopic Hysteropexy

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