Peer Review Report

Review Report on Closure of iterative laparotomy in patients with previous mesh reinforcement a cohorts' study. Short-term results.

Original Research, j. of abdom. wall surg.

Reviewer: Bruce Tulloh
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EVALUATION

Q 1 **Please summarize the main findings of the study.**

The outcome of midline laparotomy in patients who have had a prophylactic onlay mesh placed at a previous laparotomy is very similar to that in patients whose previous laparotomy wounds were closed with sutures alone, except that the rate of incisional hernia after the second laparotomy was lower in patients who had NOT had a previous mesh placed, and lowest of all in patients who had no previous mesh AND and only mesh placed at the second laparotomy.

Q 2 **Please highlight the limitations and strengths.**

We constructed and performed, but the conclusions are of limited clinical application because
(i) few surgeons would use a prophylactic onlay mesh. The majority of re-laparotomies through previous mesh would involve a sublay mesh;
(i) many of the analyses, especially the subgroup analyses, showed no significant difference and this was partly owing to the relatively low numbers in each subgroup considering the low incidence of recurrent herniation overall.

Q 3 **Please comment on the methods, results and data interpretation. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.**

The authors report that factors such as the use of a slowly absorbable suture in the closure, or the small bites technique, or use of a 2/0 suture gauge, were associated with better outcomes but this was not supported statistically and is misleading, perhaps indicating underlying bias. The authors should be more objective and say there was no advantage in these techniques.

Also the higher incidence of incisional herniation after re-laparotomy through old mesh may be because they used absorbable sutures to close the fascia. This was hinted at in the discussion but not explored more deeply. To explain this they talked about the mesh "losing its protective effect" when surely it is due to the fact that the mesh was divided and not reconstituted. The authors do mention that some patients in the PreM were closed with non-absorbable sutures (and the incisional hernia rate was higher) but I can't see where that data came from. It is not mentioned elsewhere but it is important information. Figure 1 says that there were 62 patients in the PreM group abut table 1 says there were 68. Either way there is no mention of who had non absorbable suture closure.

The PreM group had a "highly statistically significantly" higher incisional hernia rate but the odds ratio was only 1.2. In fig 2 it looks to be a major outlier, but what is the scale in the x axis?
Also Fig 3 suggests that there was 100% incisional herniation rate at 35 months. Does this graph contain ONLY those who developed hernias? It should be the whole population, as this may affect the analysis and would certainly affect the visual impact. Finally what is the scale on the Y axis in Fig 3?

Check List

Q 4 Please provide your detailed review report to the editor and authors (including any comments on the Q4 Check List)

See above

Q 5 Is the English language of sufficient quality?

Yes.

Q 6 Is the quality of the figures and tables satisfactory?

Yes.

Q 7 Does the reference list cover the relevant literature adequately and in an unbiased manner?

Yes.

Q 8 Are the statistical methods valid and correctly applied? (e.g. sample size, choice of test)

No.

Q 9 Are the methods sufficiently documented to allow replication studies?

No.

Q 10 Are the data underlying the study available in either the article, supplement, or deposited in a repository? (Sequence/expression data, protein/molecule characterizations, annotations, and taxonomy data are required to be deposited in public repositories prior to publication)

Not Applicable.

Q 11 Does the study adhere to ethical standards including ethics committee approval and consent procedure?

Not Applicable.

Q 12 Have standard biosecurity and institutional safety procedures been adhered to?

Not Applicable.

QUALITY ASSESSMENT

Q 13	Originality	
Q 14	Rigor	
Q 15	Significance to the field	
Q 16	Interest to general audience	
Q 17	Quality of the writing	
Q 18	Overall quality of the study