

Peer Review File

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Reviewer A

This is a well written article of single centre experience of management of GI surgical neonatal cases .As stated by the Authors there is very little published information in the postoperative ICU management focussed on narcotic administration and management strategies in surgical neonates. The results are pretty well ,as expected. Yes , this will stimulate further controlled reasearch on this subject.

There is lot of growing evidence on long term outcomes following current anaesthetic and post operative management of neonates I believe the authors should mention couple of those and their impact on well being of neonates. The future studies must consider this and try to incorporate that if possible.

It is also important to stress the positive and negative influences of strategies and lay foundation for future studies.

It appears to me that there is a distinct difference in outcomes of shorter gestation ELBW verses Larger gestation and heavier infants. If possible the authors should try to dig a bit deeper into this area and incorporate .I wonder you may need more cases.

Reply Reviewer A:

1. This is a well written article of single centre experience of management of GI surgical neonatal cases .As stated by the Authors there is very little published information in the postoperative ICU management focussed on narcotic administration and management strategies in surgical neonates. The results are pretty well ,as expected. Yes , this will stimulate further controlled reasearch on this subject.

Reply: Thanks for getting our message. Although the use of NIV to facilitate weaning from invasive MV has become standard practice, NIV is used cautiously in the early post-operative period for infants who have had foregut surgery. So far there is very little published information in the postoperative ICU management focussed on NIV use and risk factors for prolonged mechanical ventilation in neonates following gastrointestinal surgery. We hope our study will stimulate further controlled reasearch on this subject.

2. There is lot of growing evidence on long term outcomes following current anaesthetic and post operative management of neonates I believe the authors should mention couple of those and their impact on well being of neonates. The future studies must consider this and try to incorporate that if possible.

Reply: Thanks. In discussion part, we mentioned exposure to painful stimuli at

early stage of life results in short- and long-term adverse sequelae including physiologic instability, altered brain development and abnormal neurodevelopment that can persist into childhood. Although administration of opioids in neonates has increased over time, post-operative pain assessment and management vary widely among surgical neonates and different institutions. We can't agree you more!! Evidence-based and standardized evaluation and management of pain among neonates during the post-operative period is required.

3. It is also important to stress the positive and negative influences of strategies and lay foundation for future studies.

Reply: Many thanks. Endotracheal intubation and MV support are essential to perform multiple GI surgical procedures under general anesthesia. However, extended use of opiates for post-operative pain management correlated with prolonged MV, while orotracheal intubation can contribute to additional discomfort, a "vicious circle" of opioid need and prolonged MV requirement. As answered in question 2, evidence-based and standardized evaluation and management of pain among neonates during the post-operative period is required.

4. It appears to me that there is a distinct difference in outcomes of shorter gestation ELBW verses Larger gestation and heavier infants. If possible the authors should try to dig a bit deeper into this area and incorporate .I wonder you may need more cases.

Reply: Many thanks for all the thoughtful and informative reviews. The difference in outcomes of shorter gestation ELBW verses larger gestation and heavier infants was partly due to the different diagnosis. This study has limitations that it was retrospective data collection and 253 neonates during a 2-year period weren't enough. Further study with more cases is needed.

Reviewer B

During a 2-year period, authors reported on intestinal pathologies necessitating intestinal surgery including necrotizing enterocolitis/spontaneous intestinal perforation (NEC/SIP) in 21%, intestinal atresia in 16%, esophageal atresia/tracheoesophageal fistula 14%, ano-rectal malformation 13%, malrotation/volvulus 11%, gastroschisis 9% and omphalocele 4%. The mean duration of MV post-surgery was 9+16 days with 25.7 % (n=65) of neonates on MV for > 7 days. Compared to infants on MV post-surgery for 7 days were of lower gestational age, birth weight and weight at surgery, but a higher proportion underwent stoma creation, had a longer duration of opioid administration and higher rates of moderate to severe BPD and mortality (p 0.05). Of the 122 patients handled by one-stage resection with primary anastomosis, 22.1% (n=27) 42 received NIV with 74.1% (n=

20) commenced on NIV after 7 days post-surgery, anastomotic leak was detected in 2.5 % (3/122) patients and didn't correlate with NIV. They concluded that NEC/SIP remains the most common diagnosis requiring surgery. Lower GA and longer opioid administration were risk factors for prolonged MV in neonates following intestinal surgery.

This is a well written and nice to read report on intestinal surgery and the risk factors for prolonged MV defined as ventilation longer than 7 days. Results are well known, nevertheless the information provided is worth being published.

There are some remarks:

In the abstract it would better fit to give MV duration in median days and range or IQR.

The conclusion might be changed as far as NEC/SIP rate in relation to other diagnoses was not the aim of the study. Second sentence of the conclusion is ok, third sentence might be deleted and might be replaced by a conclusion on NIV and anastomotic leakage. Further research is always needed, but it diminishes the message of the manuscript.

Table 5 is unnecessary. The short information of table 5 can be given in the text. Thus, delete table 5.

Reply Reviewer B:

1. This is a well written and nice to read report on intestinal surgery and the risk factors for prolonged MV defined as ventilation longer than 7 days. Results are well known, nevertheless the information provided is worth being published.

Reply: Thanks for getting our message. Although the use of NIV to facilitate weaning from invasive MV has become standard practice, NIV is used cautiously in the early post-operative period for infants who have had foregut surgery. So far there is very little published information in the postoperative ICU management focussed on NIV use and risk factors for prolonged mechanical ventilation in neonates following gastrointestinal surgery.

We hope our study will stimulate further controlled research on this subject.

2. In the abstract it would better fit to give MV duration in median days and range or IQR.

Reply: Thanks. We changed MV duration in median days and IQR.

3. The conclusion might be changed as far as NEC/SIP rate in relation to other diagnoses was not the aim of the study. Second sentence of the conclusion is ok, third sentence might be deleted and might be replaced by a conclusion on NIV and anastomotic leakage. Further research is always needed, but it diminishes the message of the manuscript.

Reply: Thanks. We reedited the conclusion in abstract.

4. Table 5 is unnecessary. The short information of table 5 can be given in the text. Thus, delete table 5.

Reply: Thanks. We deleted table 5 and put information in table 5 in the text.