Peer Review File

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Reviewer A

Introduction:

Comment 1: Inclusion of rates of vascular injury for spinal surgery would enhance understanding of utility of the reported complication.

Reply 1: The incidence of vascular injuries during spinal surgery has been included.

Change in text: Text added to line 51.

Intraoperative course:

Comment 2: Would benefit from describing surgical suite (intraoperative imaging devices available) and patient positioning.

Reply 2: The description of the surgical suite has been added. The surgical suite did not have an O-arm, otherwise the screws were inserted freehand with the aid of X-rays from the C-arm machine.

Change in text: See line 70-71.

Comment 3: Clarify which surgical team made the choice to proceed with popliteal TEVAR

Reply 3: The vascular team made the choice to proceed with popliteal TEVAR.

Change in text: Text added to line 76-77.

Comment 4: Has this surgical team previously used TEVAR (via traditional approach) for spinal complications at this institution? Did this experience, or lack, contribute to decision making?

Reply 4: Whilst not common, the surgical teams at this institution have previously used TEVAR to repair iatrogenic vascular injuries during spinal surgery, both intra-operatively and in a delayed fashion. The previous experience did contribute to the decision making, and it was the haemodynamic of the patient which precluded routine transfer to the angiography suite. The rationale to forego the traditional approach was stated in line 74 – 75, comments on the experience of the institution were felt to be redundant.

Change in text: No text was added.

Comment 5: What additional materials were needed in the operating theatre to perform TEVAR (angiography set?)

Reply 5: A standard angiography tray was opened and prepared, this has been added to the text. The catheter and graft used are included in lines 79 – 86.

Change in text: Text were added to line 80.

Comment 6: What modifications, if any, to TEVAR technique were needed to be made based on popliteal access?

Reply 6: Fluroscopy needed to ensure the guidewire was through the lower part of the femoral artery, and the operator needed to account for the inverted fluoroscopy images obtained. This has been added to the manuscript. Vessel prepping, cannulation, and insertion of stent graft otherwise did not require significant modifications.

Change in text: Text were added to line 85-87.

Comment 7: What was the time from identification of injury to initiation of TEVAR to completion of TEVAR?

Reply 7: No clear timeframes were measured during the procedure. A rough estimate, from identification of injury along with initial attempts of haemostasis to completion of TEVAR, was 90 minutes. The time from identification of injury to initiation of TEVAR was estimated to be 60 minutes.

Change in text: Text added to line 95-96.

Comment 8: What was estimated blood loss?

Reply 8: 800 mL during intercostal arterial haemorrhage.

Change in text: Added to line 97.

Comment 9: How long after surgery was patient extubated?

Reply 9: Day 1 post op.

Change in text: Text added to line 98.

Comment 10: Was the rehab course altered because of the injury or is this typical for the spinal surgery described?

Reply 10: The initial period of rehabilitation has been entered in error. 6 weeks of inpatient rehabilitation has been replaced with 3 weeks of inpatient stay including a standard rehabilitation regime, including admission to a rehabilitation centre, and 3 weeks of outpatient rehabilitation. This has been added into the manuscript. The rehab course is typical for the spinal surgery described.

Change in text: Text added to lines 99-101.

Figures:

Comment 11: Consider including additional view of follow up sagittal image showing proximal ring of TEVAR placement (Figure 4).

Reply 11: The TEVAR was placed executed in usual fashion. It was felt the current image was able to identify adequate positioning of the TEVAR graft with flow to the abdominal viscera, as well as position of the cage with unilateral screws. Due to the lateralisation of the descending aorta, the proximal ring sits to the left of the vertebral column, the location of the proximal ring would be visible, however no additional information would be gained. Thus the additional view was not included at this time.

Change in text: No images were added.

Reviewer B

Introduction:

Comment 1: "This manuscript is written following CARE checklist." Move this to the methods and provide a reference.

Reply 1: There are no methods section to this case report. However, it has been added to its own paragraph, and a reference has been added.

Change in text: See line 57.

Case description:

Comment 2: "in the community" omit this from the sentence.

Reply 2: Omitted.

Change in text: phrase omitted from line 61.

Comment 3: State how much blood loss occurred and blood transfusions.

Reply 3: 800 mL with 4 units of red blood cells transfused. This has been added to line 96.

Change in text: See line 97-98.

Comment 4: How much time passed between vascular injury and decision to do TEVAR through poplitea? And how much between poplitea access and TEVAR deployment? Please state.

Reply 4: No clear timeframes were measured during the procedure. A rough estimate, from identification of injury along with initial attempts of haemostasis to completion of TEVAR, was 90 minutes. The time from identification of injury to initiation of TEVAR was estimated to be 60 minutes.

Change in text: Text added to line 95-96.

Comment 5: 6-weeks is the last followup. Can a longer followup period be provided and stated that no complications/particularities occurred? Ideally a year or earlier if death occurred (spinal mets patients have of course a poor prognosis).

Reply 5: The operation occurred in September 2022, thus no long term follow up has been done. However there is follow up at 2 months following surgery, where the patient resumed chemotherapy for disease progression.

Change in text: Text added to lines 102.

Discussion:

Comment 6: Can any reasons be given why till date not a lot of popliteal TEVAR deployment occur? In other words, in what kind of cases do you not want to do this?

Reply 6: Limitations of the popliteal puncture has been mentioned in lines 129-130. We could not find any popliteal TEVAR deployment in the literature nor its rationale, it has always been done supine and popliteal access is posterior, but there are many ergonomic benefits to the femoral cutdown, as it provides a larger vessel for access. For popliteal access the device size is limited via a smaller access vessel, delivery systems are not made long enough usually, and this was therefore only possible because of patient body and leg lengths. This also avoids anesthetising the patient in the prone position, and is standard and thus familiar to the operator. So far the popliteal deployment is only considered in the prone position for posterior approaches, and would not be appropriate for anterior approaches. A line has been added to the discussion section of the manuscript.

Change in text: Text added to lines 130-131.

Comment 7: Can any recommendations be given to future research designs how researchers should investigate your approach further? And please state how exactly, what kind of study design, etc.

Reply 7: Recommendations have been added in the discussion section, including future case series due to the low incidence of the pathology, and potentially future prospective cohort studies.

Change in text: See lines 140 - 145