Analysis of National Bariatric Surgery Related Clinical Incidents: Lessons Learned and a Proposed Safety Checklist for Bariatric Surgery

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Background:

Hundreds of thousands of patient-safety clinical incidents are reported to the National Reporting and Learning System (NRLS) database in England and Wales every year. The purpose of this study was to identify bariatric surgery-related learning points from these incidents.

Methods:

We analysed bariatric surgery-related clinical incidents reported to the NRLS database between 01 April 2005 and 31st October 2020. The primary outcome measure of this study was to collate the incidents into specific themes. The secondary outcome measures were developing recommendations for the prevention of each theme a safety checklist for patients undergoing bariatric surgery.

Results:

- We identified 541 bariatric surgery-related clinical incidents in 58 different themes.
- incidents were attributed high, medium and low severity respectively.
- The most commonly reported high severity theme was the failure of thromboprophylaxis (50;9.2%).
- Intraoperative high severity incidents included 17 incidents of stapling of orogastric/nasogastric tubes or temperature probes, 8 missed needles, 8 broken graspers, and 6 incidents of band parts left behind.
- Postoperatively, the most commonly reported high severity theme was improper management of Diabetes Mellitus (DM) (35;6.5%). Medication errors represented a significant proportion of the medium severity incidents.



- Endocrine and renal review of DM patients on Insulin or those with uncontrolled DM; and Stage 4 and 5 CKD patients for clear peri-operative plans.
- Counselling to avoid pregnancy for at least 3 months after weight loss has plateaued.
- Bariatric Surgery should only be carried out in fully equipped centres. Avoid long preoperative delays by reviewing progress at 3 monthly intervals.

- Obtain Consent. Discuss circumstances when no procedure may be feasible or only a particular procedure possible. Is there a procedure patient would never want?
- Check preoperative work up complete as per the MDT recommendations. Clear protocol for liver reducing diet for patients with DM or hypertension on multiple medications.
- Use electronic booking forms. Booking by consultant/Senior Surgeon. Use codes for procedures.

 - Clearly state the need for HDU/ICU bed.

Pre-Check

- Check procedure name with patient.
- Review by Bariatric Pharmacist/Internist Prescribe DVT Pharmaco-prophylaxis and Routine meds for administration on admission.
- Urine pregnancy test for childbearing age female patients.
- Check plans for managing comorbidities (DM CKD OSA).
- Institutional Policy for anti-coagulants, anti-platelets, immunosuppressive agents etc.

Ward

Theatre

- Follow institutional protocol for VTE Prophylaxis and patients with DM.
- Check consent, urine pregnancy test (if not done), and group and save. • For OSA patients on CPAP, have they brought their machine?
- Confirm HDU/ICU (if needed) or ward bed availability.

Proper table and positioning.

- Replace instruments as soon as they start wearing out.
- Have adequate stocks of commonly used items. • Team brief: check instruments required, HDU/ICU bed, staff availability.
- WHO checklist should include VTE, antibiotics, group and save, consent review.
- Avoid NGT and temperature probe. Use soft bougie and consider a stapler check list.
- All parts of bands and specimens should be included in the final count.
- Allergy cards in theatre. Clear handover for staff joining in the middle.
- Standardised steps.

Post-op Ward

Follow-up

- Review by dietitian and bariatric pharmacist/Internist standardised post-op dietary protocol.
- Endocrine review for patients with DM.
 - Automated discharge letters that pull out the procedure name and follow up advice from the operative notes / add VTE, dietary advice, follow-up arrangements, type of procedure, supplements details.
- Robust handover, clear escalation plans for early signs of complications.
- Information leaflet to patients on discharge with clear follow-up plans.

Regular life-long follow up with appropriate haematological monitoring.

- Consider low sensitivity of CT scan in detecting internal hernia after gastric bypass, keep a low threshold for diagnostic laparoscopy.
- Patient should be lying during band adjustments.
- A&E and acute care surgical wards should have non-coring needles for urgent band deflations.
 - Watch and warn for signs of deficiencies Dietitian and pharmacist/Internist review.

Bariatric Safety Checklist

Conclusion:

We identified 58 specific themes of bariatric surgery-related clinical incidents. We propose specific recommendations for the prevention of each theme and a safety checklist to help improve the safety of bariatric surgery worldwide.



