"ROAD MAP" toward establishing clinical practice guidelines for anesthesia in morbidly obese patients undergoing weight loss surgery

Clinical practice guidelines (CPGs) are systematically developed statements to assist the practitioners and patients in making decisions about health care for specific clinical circumstances. They provide basic recommendations that are ideally supported by analysis of the current literature and when necessary by a synthesis of expert opinion, open forum commentary and clinical feasibility data. Over the past 20 years, CPGs have become an increasingly popular tool for synthesis of current best available scientific and clinical information so as to optimize clinical practice and improve the quality of health care. It is possible for any health care worker to access guidelines relevant to their practice, but it is difficult to comment on their reliability, and guidelines will need periodic updates integrating emerging scientific evidence to stay current. Several developed countries encourage local adaptation of international good-quality guidelines to avoid duplication of work and cost involved in guideline development. A number of appraisal instruments are designed to assess the quality and implementation feasibility of currently available guidelines before adapting them locally. Appraisal of Guidelines for Research and Evaluation (AGREE II) is the most well-developed instrument.[1] In order to accomplish CPGs for a specific topic, the proposal has to pass into three phases [Figures 1 and 2].

PHASE I

Set-up phase which includes six steps as follows:

Step 1: Feasibility of adaptation
Step 2: Establishment of an organizing committee and subcommittee
Step 3: Selection of the topic
Step 4: Identification of the necessary resources and skills
Step 5: Completion of setup tasks
Step 6: Writing an adaptation plan

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For adaptation, we selected to search guidelines on "Anesthesia for morbidly obese patients undergoing weight loss surgery – Perioperative care and pain management." The main reason to choose this topic is the high incidence of obesity in Saudi Arabia and the increasing number of weight loss surgeries conducted in our setting. The current protocol we adopted for perioperative management of morbidly obese patients undergoing weight loss surgery is as follows:

Preoperative period

- History of obstructive sleep apnea (OSA) and or assisted continuous positive airway device (CPAP) to be noted. If positive history of OSA, a high dependency unit (HDU) or intensive care unit (ICU) bed is reserved ahead of surgery for possible admission after the surgical intervention.
- Airway assessment
- Cardiac/pulmonary referrals if indicated
- Routine laboratory investigations include biochemical analysis, chest X-ray, and ECG if needed
- Premedication includes metoclopramide, ranitidine, and or pantaprazole

Intraoperative period

- Monitoring includes ECG, pulse oximeter, end-tidal CO_2, non-invasive blood pressure or invasive

Figure 1: Phases of establishing CPGs

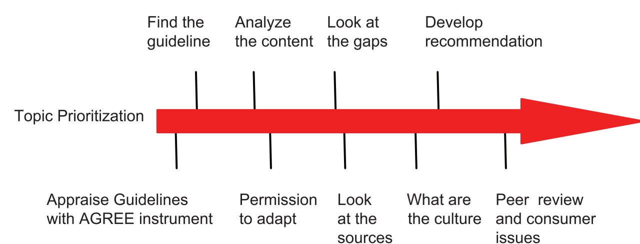

Figure 2: Summary of methodology for local adaptation of CPGs

blood pressure monitoring when indicated, besides temperature and neuromuscular transmission monitoring
- Insertion of large IV cannula
- Ramp position at induction
- Induction of anesthesia: Pre-oxygenation/fentanyl/propofol followed by rocuronium and tracheal intubation by direct laryngoscope or assisted with GlideScope if indicated
- Maintenance of anesthesia: Oxygen/air in either sevoflurane or desflurane. Remifentanil infusion according to lean body weight at a dose of 0.05-0.2 mcg/kg/min
- IV dexamethasone to prevent postoperative nausea and vomiting (PONV) and avoiding giving it to diabetic patients
- Insertion of a calibrated gastric tonometric tube to test gastric leakage using methylene blue following sleeve gastrectomy upon surgeon's request
- Reversal of residual neuromuscular paralysis using mixture of neostigmine/glycopyrrolate or sugammadex instead of neostigmine when indicated, followed by awake tracheal extubation in the reverse Trendelenburg position

Postoperative period

- IV morphine started at 0.1 mg/kg ideal body weight in incremental doses to control postoperative pain
- IV acetaminophen 1 g
- IV metoclopramide 10 mg to control PONV
- The patient transferred to the recovery room/HDU/ICU

PHASE II

Adaptation

The adaptation process usually starts by defining the clinical question for which the CPGs are to be established. In our case, the clinical question was, "What are the best practice recommendations for anesthetic perioperative care and pain management in obese patients undergoing weight loss surgery?" In order to define the health question, the PIPOH tool was used as follows:

- Population – The population concerned are the obese patients undergoing weight loss surgery
- Intervention – The intervention included anesthetic perioperative management as well as postoperative pain control
- Professionals – All the anesthetists as well as the technicians and nurses working in the theater are the targeted professionals
- Outcome – Expected to decrease practice variation and reduce perioperative morbidity
- Health care setting – Is the operation theater and immediate postoperative care areas where the guideline will be applicable.

The next step after identifying the clinical question was to search for the topic in the English language literature between 2005 and 2011. A comprehensive search for guidelines was done. We searched US National Guidelines Clearing House (NGCH), Guidelines International Network (GIN), PubMed, and Google Scholar. We have identified three guidelines near to our clinical search.

Guideline 1 title

Perioperative management of morbidly obese patient.

This was developed by the Association of Anesthetists of Great Britain and Ireland.[2] The date of research was not mentioned, but the references supplied indicated that the search period was from 2001 to 2006. Unfortunately these guidelines did not fulfill the clinical need of the topic under discussion.

Guideline 2 title

Anesthetic considerations and management of obese patients presenting for bariatric surgery.

This was developed by the Department of Anesthesia, Beaumont Hospital Dublin, Ireland, by Tanya O'Neil and Joanna Allam.[3] The search period was from 2001 to 2009 with no recommendations separately mentioned either as tables or appendixes.

Guideline 3 title

Best practice recommendations for anesthetic perioperative care and pain management in weight loss surgery.

This was developed by Roman Schumann *et al*.[4,5] They developed these guidelines within a comprehensive review of the topic for the State of Massachusetts in the USA with intended broad applicability beyond just an individual institution in 2005 and updated in 2009. The recommendations are published in the English language in the United States of America. The recommendations of this work have met most of the requirements for anesthetic perioperative care and pain management in weight loss surgery.

PHASE III

Finalization

The above three guidelines underwent assessment via AGREE II instrument where guideline 3 scored the highest percentage. The next step was to adapt it. We have contacted the lead author of that practice recommendation and obtained his opinion regarding its adaptation in our setting.

Currently we are in the process of revising it and will include any new data from the most recent literature before sending the revised version for peer review prior to adaptation.

In conclusion, what we have presented in this editorial is a "ROAD MAP" which ultimately resulted in the possible establishment of a CPG of anesthesia for morbidly obese patients undergoing weight loss surgery. We are in the process of establishing additional CPGs on different topics in anesthesia practice, taking into consideration the model described above.

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REFERENCES

1. National Collaborating Centre for Methods and Tools. Critically appraising practice guidelines: The AGREE II instrument. Hamilton, ON: McMaster University; 2011. Available from: http://www.nccmt.ca/registry/view/eng/100.html. [Last accessed on 2011 Nov 28].
2. Peri-Operative management of the morbidly obese patient. London W1B 1PY: The Association of Anaesthetists of Great Britain and Ireland, 21 Portland Place, 2007. Available from: www.aagbi.org. [Last accessed on 2077 Mar].
3. O'Neill T, Allam J. Anesthetic considerations and management of the obese patient presenting for bariatric surgery. Curr Anaesth Crit Care 2010;21:16-23.
4. Schumann R, Jones SB, Ortiz VE, Connor K, Pulai I, Ozawa ET, *et al*. Best practice recommendations for anesthetic perioperative care and pain management in weight loss surgery. Obes Res 2005;13:254-66.
5. Schumann R, Jones SB, Cooper B, Kelley SD, Bosch MV, Ortiz VE, *et al*. Update on best practice recommendations for anesthetic perioperative care and pain management in weight loss surgery, 2004-2007. Obesity (Silver Spring) 2009;17:889-94.

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Announcement

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