

The North Pacific Surgical Association

Medical tourism in bariatric surgery

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Abstract

BACKGROUND: The number of Canadians who self-refer for bariatric surgery outside of Canada or to private clinics within Canada remains undefined. The outcomes from this questionable practice have not been evaluated systematically to date.

METHODS: We completed a chart review of known cases referred to our center for complications related to medical tourism and bariatric surgery.

RESULTS: We present a series of patients who have experienced complications because of medical tourism for bariatric surgery and required urgent surgical management at a tertiary care center within Canada. Complications have resulted from 3 commonly used procedures: adjustable gastric banding, gastric sleeve resection, and Roux-en-Y gastric bypass.

CONCLUSIONS: Because of this review, we propose that a medical tourism approach to the surgical management of obesity—a chronic disease—is inappropriate and raises clear ethical and moral issues.
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Morbid obesity is a chronic disease that affects approximately 1 million Canadians.¹ Despite this public health priority, we estimate that far less than 1% of eligible patients are offered the only evidence-based approach to sustainable weight loss: bariatric surgery.^{2,3} Even with recent funding initiatives in some parts of Canada, many patients lack access to timely management of their obesity. Waiting lists for surgery continue to grow beyond acceptable limits at centers that offer definitive surgical management.⁴

A chronic disease management model is the most appropriate approach to care for patients with obesity. This approach implies that obesity is a complex disease and all

patients should have access to multidisciplinary assessment and long-term follow-up evaluation. If bariatric surgery is offered, patients should have access to a multidisciplinary bariatric surgical team in the long term for assessment and management if concerns or complications arise secondary to the specific surgical procedure undertaken.

Although medical tourism has been defined as patients travelling abroad for affordable healthcare, a newer definition may include the terms *availability* and *accessibility*.⁵ Medical tourism in bariatric surgery is an important emerging concern for bariatric surgeons in Canada and the United States. The remarkable growth of this industry has led to increasing numbers of North Americans undergoing bariatric surgery in foreign countries and returning home without a structured approach to care or follow-up evaluation. If these patients subsequently experience negative sequelae related to their obesity or develop complications related to

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profound weight loss or their surgical procedure, they must find a physician or surgeon willing to accept the complexities of their care. Bariatric surgeons therefore increasingly are called upon to manage these medical tourists who typically have complex presentations and an incomplete work-up for their obesity and bariatric surgery. The extent of this problem, the costs of care, and the surgical impact on bariatric centers remains unexplored.

We report our experience with patients who have pursued medical tourism for bariatric surgery and we discuss this challenging and growing problem, and the implications for Canadian and American bariatric surgeons.

Methods

All cases of medical tourists with bariatric surgical complications were identified retrospectively from the experience of a team of bariatric surgeons and an appropriate chart review was completed. Demographic information was collected and final diagnoses were established. Surgical management was characterized according to case costs and human resource costs. Length of stay also was used in costing analyses. Advanced imaging studies were recorded and included in costing.

As an adjunct to this retrospective review, the scope of medical tourism in Canada was investigated by contacting appropriate provincial and national organizations that may track these patient populations. Electronic correspondence was directed at the following organizations: College of Physicians and Surgeons of Alberta (provincial medical licensing body), Alberta Health and Wellness (provincial health ministry), Canadian Institute for Health Information (independent data analysis of Canada's health system),

Health Canada (Federal Department of Health), Canadian Medical Association (national medical body), and the Public Health Agency of Canada (federal body, health promotion). Electronic inquiries also were sent to one of the more popular medical tourism coordinating services (Medical Tourism Corporation).

Results

Chart reviews identified 10 patients who had self-referred for bariatric surgery within and outside of Canada and presented to our center as an urgent referral for complications related to surgical management of morbid obesity. These patients are presented in Table 1. Costs related to the care of these patients also are estimated in Table 1. Specific case presentations that highlight the challenges associated with these patients are detailed later.

Inquiries to the various health organizations identified earlier disclosed that there are no accurate data on the number of Canadians traveling outside of Canada for medical services, let alone bariatric surgery. One relevant source of provincial data were identified. Alberta Health and Wellness disclosed that between April 2008 and March 2009 there were 51 patients from Alberta who submitted claims for services related to laparoscopic adjustable gastric banding completed in Mexico and the United States.

Case presentations

Case 1: laparoscopic Roux-en-Y gastric bypass. A 39-year-old woman with a preoperative body mass index (BMI) of 50 kg/m² underwent a laparoscopic Roux-en-Y gastric bypass in the fall of 2008. The patient suffered

Table 1 Clinical and operational outcomes of medical tourism in bariatric surgery

| Patient | Diagnosis | LOS, d | Endoscopic interventions | Imaging (CT, fluoroscopy) | OR time, min | Estimated costs, CDN |
|--------------|------------------|--------|--|---------------------------|--------------|----------------------|
| LAGB | | | | | | |
| 1 | Erosion | 4 | Gastroscopy × 1 | 1, 1 | 105 | \$8643 |
| 2 | Slip | 22 | Gastroscopy × 1 | —, 2 | 70 | \$15,096 |
| 3 | Slip/perforation | 9 | Gastroscopy × 5 | 1, 1 | 130 | \$12,368 |
| 4 | Slip | 1 | Dilations × 3 | —, 2 | 120 | \$209 |
| 5 | Slip | 1 | | —, 4 | 64 | \$7872 |
| 6 | Pouch dilation | 8 | | —, 2 | 75 | \$694 |
| 7 | Slip | 24 | | —, 2 | | \$7806 |
| 8 | | | | 1, 5 | | \$18,061 |
| LSG | | | | | | |
| 9 | Perforation | 142 | Polyflex stents × 3 Gastroscopy × 5 | 17, 18 | 120 | \$91,298 |
| LRYGB | | | | | | |
| 10 | Stricture, ulcer | | Gastroscopy × 3 Dilations × 2 | — | — | \$746 |
| Total | | | | | | \$162,791 |

CT = computed tomography; LAGB = laparoscopic adjustable gastric band; LOS = length of stay; LRYGB = laparoscopic Roux-en-Y gastric bypass; LSG = laparoscopic sleeve gastrectomy; OR = operating room; CDN = Canadian.

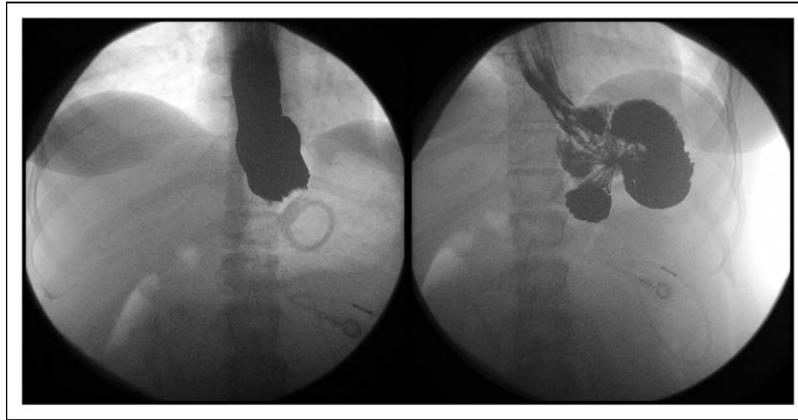


Figure 1 Initial images from a contrast study showing the abnormal position of the band and contrast draining through the band with a large anterior slip and grossly dilated gastric pouch.

severe postoperative dysphagia and struggled with intake of food and vitamin supplements. She was unable to contact her surgeon and frequented local emergency rooms with abdominal pain, dysphagia, and vomiting. The patient ultimately presented to the emergency room of our hospital with fatigue and severe dehydration. Investigations identified a stenotic gastrojejunostomy with marginal ulcer. The patient was treated with intravenous rehydration, proton pump inhibitors, and sucralfate. A bariatric dietitian was consulted and the patient was counseled on appropriate nutrition intervention including vitamin and mineral supplementation. She was encouraged to take appropriate vitamin supplementation. The patient was discharged on oral proton pump inhibitors and scheduled for a follow-up gastroscopy with possible anastomotic dilation.

Case 2: laparoscopic sleeve gastrectomy. A 35-year-old woman with a preoperative BMI estimated at less than 35 kg/m², no associated comorbid diseases, and a history of smoking underwent a laparoscopic sleeve gastrectomy in late fall 2007. She had profound weight loss after the procedure. On a flight to the United States for vacation, she developed severe abdominal pain. Ultimately, she sought medical care and was diagnosed with a perforated viscus. She underwent laparotomy and subsequently developed severe sepsis. She required further surgery, intensive care, and ultimately returned to Canada when she was deemed stable. She was treated at several institutions before being referred to our center. She eventually was stabilized with a controlled gastrocutaneous fistula from the proximal aspect of the staple line, just distal to the gastroesophageal junction. The fistula did not respond to injection with fibrin glue on 2 occasions, drainage, intravenous nutrition, or Polyflex stent placement (Boston Scientific, Natick, MA). She stabilized on oral nutrition and was discharged home after almost 5 months at our institution. Further consideration will be given to management of the fistula.

Case 3: laparoscopic adjustable gastric band. A 24-year-old woman presented to a local hospital 14 months after

placement of a laparoscopic adjustable gastric band for a BMI estimated at 35 kg/m². She had persisting dysphagia, nausea, and vomiting. She was 33 weeks' pregnant and had been admitted by an obstetrician for intravenous antiemetics and peripheral nutrition. The bariatric surgical team was contacted and a contrast upper-gastrointestinal series was suggested. This identified a large gastric pouch with an anterior slip and gastric body obstruction (Fig. 1). The patient was transferred to our institution and an obstetric consultation was obtained. The patient was assessed by a dietitian and stabilized on a complete fluid diet with supplementation and managed expectantly until fetal lung maturity was confirmed at 37 weeks' gestation. She had a cesarean section and 4 days later she underwent a laparoscopic removal of the slipped band. At 3 weeks after surgery both she and the newborn were healthy.

Case 4: laparoscopic adjustable gastric band. A 51-year-old woman presented to her family physician with an erythematous mass on her abdominal wall. The family physician performed an incision and drainage, suspecting a subcutaneous abscess. Fig. 2 shows the exposed port after this procedure. The patient was sent to the emergency room of our center and ultimately referred to the bariatric surgical team. She was diagnosed clinically with an eroded gastric



Figure 2 Exposed port after incision and drainage for a suspected subcutaneous abscess.

band and had an urgent gastroscopy to confirm. A laparoscopic transgastric and endoscopic approach was used to remove the eroded band.

Comments

The idea of medical tourism is certainly not new—ancient Greeks are said to have traveled to the Saronic Gulf to visit Asklepios for treatment of various ailments. The origin of the term *medical tourism* is attributed to the mass media citing the increasing trend of patients willing to travel great distances to access and pay for health care that they deem necessary. Presumably, patients are willing to take the initiative and assume responsibility for their own medical decision making if they believe that they cannot access the care they need in their country of origin, if they believe that the expected wait time for care is unacceptable or may place them at risk for additional morbidity, if they encounter excessive costs to receive care locally, or if patients believe that they may receive better medical care and improved outcomes by traveling to another country.

The extent of Canadian medical tourism seems to be relatively unexplored. Although it is suspected that many Canadians travel abroad for some form of medical service, the overall numbers and the specific nature of the care that they receive is unknown. We contacted numerous health authorities, organizations, and investigators and have been unable to clarify the extent of this important medical treatment option. Interestingly, Canada also is seen as a destination for private medical care by Americans and at least one company markets this business aggressively on the Internet (www.findprivateclinics.ca).

The Internet has created a readily available portal for any interested party to search for and arrange a variety of medical procedures at their convenience, provided they are willing to pay for and accept full responsibility for the impact of these important decisions on their overall health. Our limited, anecdotal impressions are that obese patients are poorly informed when they seek bariatric surgery as medical tourists. They do not consider the far-reaching implications of having complex gastrointestinal surgery for morbid obesity (a chronic disease) in a foreign country and they have made no plans whatsoever for appropriate, informed follow-up care. As a result, when future health care issues arise related to their obesity or bariatric surgery they must locate a physician or surgeon willing to accept their care. It is not known what percentage of bariatric physicians or surgeons are willing to accept these patients or if underlying bias may impact their future care by health care professionals in their country of origin.

It may be more appropriate to consider medical tourism as an example of global health care and a reflection of the complexities of health care in a rapidly changing economic climate.⁵ This has been suggested by some because this is now seen as a reasonable option for many medical services. Certain American insurance companies apparently allow for health services outside of the United States because of the

reduced costs. The financial incentive for countries offering health care to foreign patients is quite important to consider. It is estimated that medical tourism to Asia could generate as much as \$4.4 billion by 2012, with approximately half of this revenue going to India.⁶ In contrast, a report by Deloitte⁷ recently suggested that by 2012 medical tourism may represent as much as \$162 billion in lost spending.

Medical tourism for bariatric surgery is an issue relevant to Canadian and American surgeons—many Americans pursue bariatric surgery in countries such as Mexico, India, and Costa Rica, among others. Michael Horowitz (President, Medical Insights International) estimates 350,000 American patients traveled abroad for health care in 2003, and this number may have increased to 750,000 in 2007.⁸ In 2007, the Colorado and West Virginia state legislatures introduced bills that would require the insurance companies for state employees to cover medical procedures in overseas hospitals, including travel expenses as well as hotel stays for the recovering patient and a travel companion. In addition, some US corporations are investigating the best locations to outsource elective surgery for their covered employees. Recent position papers on medical tourism from the American College of Surgeons and the American Medical Association generally are supportive of patients' rights to seek medical care outside of their country of origin, with recommendations related to safety, documentation, and follow-up care.^{9,10}

Our investigations suggest that the province of Alberta also supports medical tourism by accepting claims for medical services related to obesity and bariatric surgery. We have estimated that the additional annual costs incurred by the province for this treatment option are more than \$162,000 Canadian at one center alone. We advise that Canadian and American centers of excellence for obesity and bariatric surgery anticipate and budget for care that may need to be provided to medical tourists. These patients will consume resources that may have been intended for primary care of obesity within these centers and ultimately may have such a significant operational impact that resources will be lost to their own patients.

It is unlikely that medical tourism for bariatric surgery will diminish. According to experts this medical treatment option will in fact expand as the number of medical tourism companies operating in Canada continues to grow.¹¹ These patients undoubtedly will require the expertise and care of a bariatric surgical team at some point in their lives and, as such, will continue to burden the limited resources currently available. New management algorithms may need to be created to appropriately deal with the many and varied scenarios that will arise in this unselected patient population.

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Discussion

Dr Rajan V. Nair (Salem, OR): Medical tourism is undoubtedly a growth industry. The Deloitte Center for Health Solutions estimates that 6 million people will go to other countries for health care next year.¹ The destinations for American patients varies from Central and South America, to the Indian subcontinent and Southeast Asia, and even Europe. The types of procedures performed include minimally invasive operations, plastic surgeries, transplants, in vitro fertilization, orthopedic procedures such as joint replacements, as well as bariatric surgery.²

The stakeholders in medical tourism include employers, commercial insurances, state governments, and patients themselves. Canadian patients, for example, often cite the restricted access to services in their home country as the reason to choose care overseas. It is clear that when compared with the United States, the overseas costs are on average about 50% to 80% less.³ There is even an argument that quality of care, including nursing staff ratios, may actually be better overseas.

Some of the concerns raised about medical tourism have to do with quality of care, credentialing of providers and accreditation of facilities, the limited recourse that patients may have should something go wrong, and continuity of care once the patient returns to their home country, especially after procedures such as bariatric surgery, which require long-term follow-up.⁴ Some have also predicted that medical tourism will result in “internal brain drain,” whereby the quality of care for native populations will suffer as specialists overseas choose to provide care only to

incoming medical tourists rather than to the lower-paying health systems of their own countries.⁵

Proponents of medical tourism have countered these arguments with their own. In terms of quality of care, there is certainly data to suggest that some overseas centers have equal, if not superior, results for certain procedures. The perioperative mortality rate after coronary artery bypass surgery at the Escorts Heart Institute and Research Center in India is .8%, less than half the rate of most hospitals in the United States.⁶ Standardized credentialing of facilities is now being done by the Joint Commission International as well as by the International Standardization Organization.⁷ Medical concierge companies are partnering with legal firms to develop liability products for both patients and employers.⁶ And, finally, following the old adage, “If you can’t beat ‘em, then join ‘em,” various prominent academic institutions in the United States, including the Mayo Clinic and the Cleveland Clinic, have lent their names to partner with overseas hospitals, to improve both quality of care as well as continuity of care.⁸

Drs Birch and colleagues present their experience treating postoperative complications in patients who have left their province to undergo bariatric surgery in other locations. The manuscript describes 8 laparoscopic band complications, the majority of which involved slips. One laparoscopic sleeve gastrectomy had a prolonged and costly hospital stay for a perforation/staple line leak, requiring multiple operations, and eventually managed as a controlled gastrocutaneous fistula. Finally, one laparoscopic Roux-en-Y gastric bypass was complicated by an anastomotic stricture and marginal ulceration treated as an outpatient with upper endoscopy and dilatations. The overall cost for management of all of these complications amounted to \$162,971 (Canadian).

The issue of medical tourism is here to stay. I think the most relevant question is how we as providers and as a society will deal with the issues raised by the authors of this manuscript, especially as our health care systems undergo substantive reform.

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