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Emergency and Semi-Elective Surgical Presentations after Bariatric Surgery at a Regional Non-Index Center: A Real-World Descriptive Cohort

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Abbreviations:
ASA: American Society of Anesthesiologists;
BMI: body mass index;
CT: computed tomography;
DRG: diagnosis-related group;
ERCP: endoscopic retrograde cholangio-pancreatography;
EUS: endoscopic ultrasound;
GERD: gastroesophageal reflux disease;
ICU: intensive care unit;
IQR, interquartile range;
OAGB: one-anastomosis gastric bypass;
RYGB: Roux-en-Y gastric bypass;
SG: sleeve gastrectomy;
SIRS: systemic inflammatory response syndrome;
upper-GI: upper gastrointestinal;
VTE: venous thromboembolism.

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Rezumat

Prezentări chirurgicale de urgență și semi-elective după chirurgia bariatrică într-un centru regional non-index: o cohortă descriptivă din practica reală

Introducere: Complicațiile după chirurgia bariatrică ajung în centre de urgență diferite de cel al intervenției index. Datele din aceste centre non-index sunt limitate.
Material şi metodă: Studiu retrospectiv, descriptiv, într-un centru regional de urgență fără chirurgie bariatrică. Am inclus 45 de prezentări identificate prin căutare țintită (martie 2021 - mai 2025), ale unor pacienți operați în alte centre. Am analizat demografia, intervenția index, intervalul până la prezentare, explorările, tratamentul, diagnosticul şi evoluția precoce.
Rezultate: Din 45 episoade (33 urgențe, 12 semi-elective), 73% au fost femei; vârsta mediană 44 ani, IMC median 36 kg/m²; gastrectomie longitudinală 84% (anatomie de tip sleeve 89%). Intervalul a depăşit 90 zile în 56%. Patologia biliară/pancreatică a reprezentat 27% (9 din 12 semi-elective), fistulele/perforațiile digestive superioare 16%, ocluziile/herniile 16%, iar stenozele/leziunile mucoase/reflux-like 22%. Management invaziv 80%, terapie intensivă 20%; compozit sever 11 (24%) şi acuitate înaltă 7 (16%), toate în urgență. A fost observat un deces intraspitalicesc (2,2%).
Concluzii: Au fost două fluxuri: unul semi-elective predominant biliar, invaziv dar fără evoluție severă, şi unul acut, care a concentrat severitatea observată. Simptomele de tip reflux după chirurgia bariatrică pot masca o patologie structurală. Proporțiile descriu case-mix-ul de trimitere, nu incidența.

Cuvinte cheie: chirurgie bariatrică, gastrectomie longitudinală, urgențe chirurgicale, litiază biliară, reflux gastroesofagian

Abstract

Background: Post-bariatric complications increasingly reach emergency centers that did not perform the index operation, but real-world data from non-index receiving centers are scarce.

Methods: Retrospective, descriptive, episode-level study at a regional emergency center performing no bariatric surgery. We included 45 keyword-identified emergency or semi-elective presentations (March 2021-May 2025) of patients operated elsewhere, recording demographics, index procedure, operation-to-presentation interval, workup, management, diagnosis, and short-term outcomes.
Results: Of 45 episodes (33 emergency, 12 semi-elective), 73% involved women; median age 44 years, median BMI 36 kg/m²; SG was the index procedure in 84% (sleeve-type anatomy 89%). The interval exceeded 90 days in 56%. The spectrum was led by biliary/pancreatic disease (27%; 9 of 12 semi-elective), foregut leak/fistula (16%), obstruction/hernia (16%) and foregut stenosis/mucosal/reflux-like disease (22%). Invasive management was used in 80%, intensive care in 20%; 11 episodes (24%) met the severe-course composite and 7 (16%) the narrower high-acuity definition, all in the emergency stream. One in-hospital death occurred (2.2%).
Conclusions: The cohort showed two streams: a predominantly biliary, semi-elective stream, invasive but without severe clinical course, and an acute stream carrying all observed severity. Reflux-like symptoms after bariatric surgery may mask structural disease. These proportions describe referral case mix, not incidence.

Keywords: bariatric surgery, sleeve gastrectomy, surgical emergencies, cholelithiasis, gastroesophageal reflux

Introduction

Bariatric and metabolic surgery has expanded rapidly, and sleeve gastrectomy (SG) has become the most frequently performed primary bariatric procedure worldwide (1,2). As cumulative operative volume grows, so does the pool of patients who may later present with a complication. These complications span a wide range – staple-line leak and fistula, stenosis and functional obstruction, hemorrhage, internal and incisional hernia, accelerated biliary lithogenesis, and de novo or worsening gastroesophageal reflux – and may appear from the first postoperative days to many years after surgery (3-6).

An under-examined feature of this landscape is that complications frequently do not present to the center that performed the index operation. Patients reach the nearest emergency department, often a general or regional unit that does not itself perform bariatric surgery (3,7,8). In such settings the emergency surgeon inherits an anatomy they did not create and must reason about it acutely, frequently without the original operative note. Published series, by contrast, are largely generated by high-volume bariatric centers reporting their own patients, which may filter the spectrum that a non-index emergency center actually sees (9-11).

Two principles frame the problem. First, the consequences of a post-bariatric complication are often anatomy-dependent rather than intrinsically severe: a common bile duct stone is manageable after SG but becomes a major access problem after RYGB or OAGB, where the papilla can no longer be reached with a standard duodenoscope and laparoscopy-assisted or endoscopic ultrasound (EUS)-directed transgastric ERCP is required (12,13). Second, several of these scenarios are individually low-incidence but high-stakes, the combination that most challenges an emergency service (14).

Most available evidence on post-bariatric complications originates from the bariatric centers that performed the index operation; far fewer data describe the spectrum as it presents to non-index, non-bariatric emergency units. We therefore describe post-bariatric surgical presentations (emergency and semi-elective) at a regional emergency center that does not perform bariatric surgery. Our aim is deliberately descriptive – to map the range of diagnoses, workup, management and short-term outcomes from this receiving-end vantage point – rather than to estimate incidence or identify risk factors. The intended contribution is twofold: a real-world catalog of what reaches a non-index emergency service, and the clinical corollary that such services must be prepared to recognize and manage a bariatric anatomy they did not create. A secondary analysis, defined for this retrospective analysis, addresses the upper-GI/reflux-like subgroup within the broader post-bariatric spectrum.

Material and Methods

Design and Setting

This retrospective, descriptive, episode-level observational study was conducted in the surgical emergency service of the Sf. Apostol Andrei Emergency County Clinical Hospital, Constanța, a public regional center that did not perform bariatric surgery during the study period. It was therefore a non-index receiving

center for every included episode. The index procedures were performed elsewhere, predominantly in private Romanian units, with smaller numbers in public/academic or unspecified Romanian centers and abroad. The episode of care was the unit of analysis.

Case Identification and Adjudication

We screened the Hipocrate hospital information system over the study period (March 2021 - May 2025) using bariatric/metabolic search terms (sleeve gastrectomy, gastric sleeve, gastric bypass, mini/one-anastomosis bypass, adjustable gastric band, bariatric surgery and their Romanian equivalents) applied to discharge diagnoses, operative records and free-text history fields; candidate records were cross-checked against the corresponding paper charts and discharge documents, and all episodes meeting the criteria below were included (n = 45). This ascertainment strategy was not validated against manual review of all emergency attendances or against an independent registry; therefore its sensitivity and specificity could not be estimated. The query log does not permit reconstruction of the initial search yield, so a screened-record denominator is not reported, and selection is defined by the search strategy together with the explicit inclusion and exclusion criteria. We included every emergency or semi-elective surgical presentation of an adult with a documented prior bariatric/metabolic operation performed at another center. Presentation type was classified from the admission pathway as emergency (unplanned acute attendance or admission) or semi-elective (scheduled or expedited definitive treatment of a previously recognized symptomatic condition), independently of subsequent treatment intensity and outcome. We excluded presentations without a plausible bariatric link, elective bariatric follow-up without an acute problem, and duplicate entries for the same admission (deduplicated by unique admission identifier). Each episode was reviewed against its source documents; the final diagnosis, diagnostic category and etiologic group were adjudicated by the authors, with disagreements resolved by consensus.

Data Source and Availability

Variables were extracted from primary source documents – the Hipocrate hospital information system, paper charts, and imaging, operative and discharge reports – and entered into a de-identified, one-row-per-episode analysis dataset; no patient identifiers were retained in the analysis file. Because they contain identifiable clinical information, the underlying source documents cannot be shared publicly; they may be made available to the editors or reviewers on a strictly confidential basis, subject to institutional Ethics Committee approval and applicable data-protection regulations.

Variables

We recorded demographics, index procedure and year, index-center type and country, operation-to-presentation interval, presenting picture and dominant clinical axis, imaging and endoscopic workup, consultations and the revised cardiac risk index, laboratory data, management, final diagnosis with a 13-category taxonomy and a three-level etiologic grouping (bariatric-specific, bariatric-associated, diagnostic pitfall), and short-term outcomes. Index-center type and country were used descriptively only.

Operational Definitions

Clavien-Dindo grade was recoded for this retrospective analysis (pharmacologic or conservative management coded as grade II; therapeutic endoscopy or drainage without general anesthesia as IIIa; surgery under general anesthesia as IIIb; single-organ dysfunction or ICU admission as IVa; and death as V) (15). Because retrospective records did not always allow organ dysfunction to be graded independently of the admission decision, ICU admission was used as the grade IVa marker, so the recoded grade is a management-anchored adaptation of the original Clavien-Dindo classification (15). Sepsis was adjudicated clinically by the treating team, informed by Sepsis-3 concepts; full SOFA reconstruction was not possible from the retrospective record, so the endpoint is reported as clinician-adjudicated sepsis (16). Only three of the four SIRS criteria (temperature, heart rate and white-cell count) were consistently retrievable from the records, so the SIRS count denotes criteria met out of these three. An author-defined severe-episode composite was specified for this retrospective analysis, independent of Clavien grade, as any of clinician-adjudicated sepsis/shock, documented hemodynamic instability, vasopressor requirement, lactate $\geq$ 4 mmol/L, ICU admission, unplanned reintervention, or in-hospital death. This is a non-validated descriptive endpoint and is not a prognostic score: components were unweighted, were retained separately in the dataset, and the composite was recomputed deterministically from them. Because ICU admission and reintervention may follow initial assessment, the endpoint describes the severe clinical course of the episode rather than severity strictly at presentation.

High-acuity was a narrower subset defined by clinician-adjudicated sepsis/shock, vasopressor requirement, lactate ≥ 4 mmol/L, or in-hospital death; the single death also met the sepsis/shock criterion. Readmission was counted at episode level as a documented, unplanned, related return to the reporting center within 30 or 90 days after discharge; returns to other hospitals were not systematically captured. Because the index operation date was frequently known only by year, the operation-to-presentation interval is reported as a robust category (0-30 / 31-90 / >90 days); the exact day count is approximate for remote operations and was not used as a continuous variable. The presumptive diagnosis was the initial working diagnosis recorded by the receiving surgical team at emergency assessment, before cross-sectional imaging or endoscopy; the final diagnosis was the discharge diagnosis after complete workup and, where performed, operative or histopathological confirmation. Discordance between the two was adjudicated by the authors. The reflux-like subgroup was adjudicated clinically as documented reflux-type symptomatology at presentation; the stricter literal criterion (explicitly recorded pyrosis or regurgitation) is reported alongside it.

Statistical Analysis

Continuous variables are summarized as median (IQR) and categorical variables as n (%). Emergency and semi-elective presentations were compared descriptively (n, %); given the sample size and descriptive design, no formal hypothesis testing or multivariable modeling was performed. Missing data were treated as explicitly declared categories (investigation not performed vs not documented) without imputation. A tidy one-row-per-episode dataset was used, and all derived variables, together with calendar coherence, were recomputed from source fields by a scripted validation workflow. The study is reported following the applicable items of the STROBE statement for observational studies.

Ethics

The study was approved by the Ethics Committee of the Sf. Apostol Andrei Emergency County Clinical Hospital, Constanța (approval ref. no. 31227, dated 11 May 2026); given the retrospective, de-identified design, the requirement for individual informed consent was waived. The study was conducted in accordance with the Declaration of Helsinki.

Results

Cohort

The 45 episodes occurred in 45 individual patients; baseline characteristics are summarized in *Table 1*. The cohort was predominantly female and middle-aged, with a presentation body-mass index compatible with variable degrees of post-operative weight loss. Sleeve gastrectomy was the index procedure in the large majority; 40 episodes (89%) involved sleeve-type anatomy, three bypass-type reconstructions and two an adjustable band. Index procedures had occurred outside the reporting center: 35 in private Romanian units, 5 in public/academic Romanian units, 3 in Romanian centers of unspecified type and 2 abroad. More than half of presentations (56%) occurred beyond 90 days from the index operation, reflecting both early postoperative complications and late, anatomy-related disease.

Presenting Features

The presenting picture was heterogeneous and often non-specific (*Table 2*). Epigastric and diffuse abdominal pain dominated, followed by nausea or vomiting and right-upper-quadrant pain, whereas classic foregut symptoms (pyrosis, retrosternal pain, regurgitation and dysphagia) were less frequent. Physical findings ranged from bowel-obstruction signs to hemodynamic instability, sepsis or shock, fever and peritonitis. At least two of the three retrievable SIRS criteria were met in 14 episodes (31%) and lactate was 4 mmol/L or higher in 3 (7%).

Comorbidity Burden

Beyond the hypertension, type-2 diabetes and obstruc-

Table 1. Baseline characteristics of the cohort (N = 45 episodes).

Characteristic	Value
Sex – female / male, n	33 / 12
Age, years – median (IQR)	44 (35–53)
Residence – urban / rural, n	34 / 11
Presentation BMI, kg/m^2 – median (IQR)	36 (32–41)
Index procedure – sleeve gastrectomy, n (%)	38 (84%)
band / bypass-type / sleeve+cholecystectomy, n	2 / 3 / 2
Index anatomy – sleeve-type / bypass-type / band, n	40 / 3 / 2
Country of index operation – Romania / abroad, n	43 / 2
Index center – private Romanian / public-academic Romanian / Romanian unspecified / abroad, n	35 / 5 / 3 / 2
Operation-to-presentation – 0–30 / 31–90 / >90 days, n	17 / 3 / 25
Presentation type – emergency / semi-elective, n	33 / 12
ASA class – II / III / IV, n	23 / 12 / 10
Diabetes / hypertension / OSA, n	19 / 30 / 16

Table 2. Presenting symptoms and clinical signs (N = 45 episodes).

Feature	Value
Symptoms	**n (%)**
Epigastric pain	12 (27%)
Diffuse abdominal pain	12 (27%)
Nausea / vomiting	11 (24%)
Right-upper-quadrant pain	9 (20%)
Chills	9 (20%)
Pyrosis	5 (11%)
Retrosternal pain	4 (9%)
Regurgitation	3 (7%)
Dysphagia	3 (7%)
Food intolerance	2 (4%)
Clinical signs	
Bowel-obstruction signs	9 (20%)
Hemodynamic instability	8 (18%)
Sepsis / shock	7 (16%)
Fever	7 (16%)
Peritonitis	5 (11%)
Parietal suppuration	5 (11%)
Hemorrhage signs	4 (9%)
Jaundice	2 (4%)

SIRS criteria met (≥ 2 of 3 documented) / lactate ≥ 4 mmol/L, n 14 (31%) / 3 (7%)

tive sleep apnea recorded in *Table 1*, the cohort also carried cardiovascular disease in 7 episodes (16%), chronic kidney disease in 6 (13%) and chronic obstructive pulmonary disease in 3 (7%); five patients were active smokers.

Diagnostic Spectrum

The spectrum was broad (*Table 3*, *Fig. 1*), and the operation-to-presentation interval within each diagnostic group is shown in *Fig. 2*. Biliary/pancreatic disease was the most frequently identified group in this captured series, with 12 episodes (27%), followed by foregut leak/fistula/perforation and mechanical obstruction/hernia/ileus with 7 episodes each, the combined foregut stenosis/mucosal/reflux-like group with 10, hemorrhagic complications with 3, wound/parietal infection or foreign-material complications with 4, and two extra-digestive diagnostic pitfalls (a postoperative capnothorax and a segmental pulmonary embolism initially masked by an upper-abdominal presentation). By etiology, 24 episodes (53%) were bariatric-specific, 19 (42%) bariatric-associated and 2 (4%) extra-digestive diagnostic pitfalls.

Table 3. Diagnostic spectrum, grouped by etiologic category and analysis group. Percentages sum to 99% owing to rounding.

Category / group	n
Bariatric-specific — n (%)	24 (53%)
Foregut leak/fistula/perforation	7
Foregut structural/mucosal reflux-like	10
Hemorrhagic	3
Wound/parietal infection/material	4
Bariatric-associated — n (%)	19 (42%)
Biliary/pancreatic	12
Mechanical obstruction/hernia/ileus	7
Diagnostic pitfall (extra-digestive) — n (%)	2 (4%)
Pulmonary/VTE diagnostic pitfall	2

Workup and Management

Management was invasive in 36 of 45 episodes (80%), and the recoded Clavien-Dindo distribution together with the cross-sectional and endoscopic workup are detailed in *Table 4*. Nine episodes (20%) required

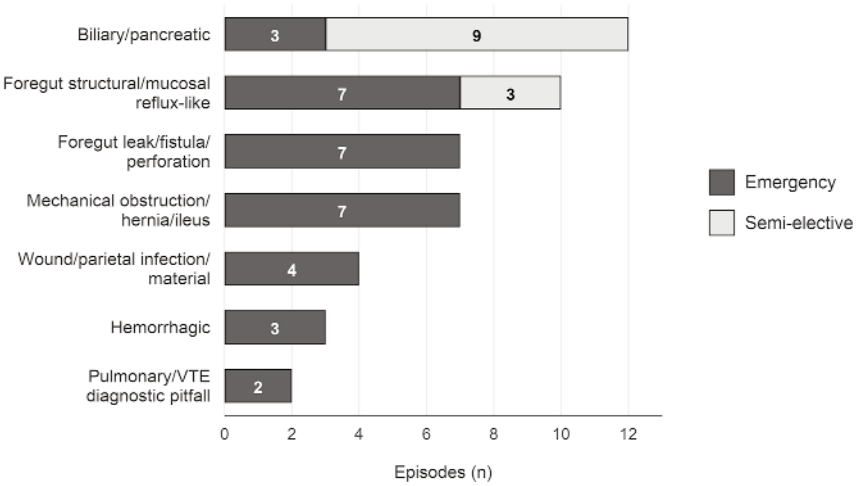

Figure 1. Diagnostic spectrum of the 45 post-bariatric presentations by analysis group and presentation stream (emergency versus semi-elective).

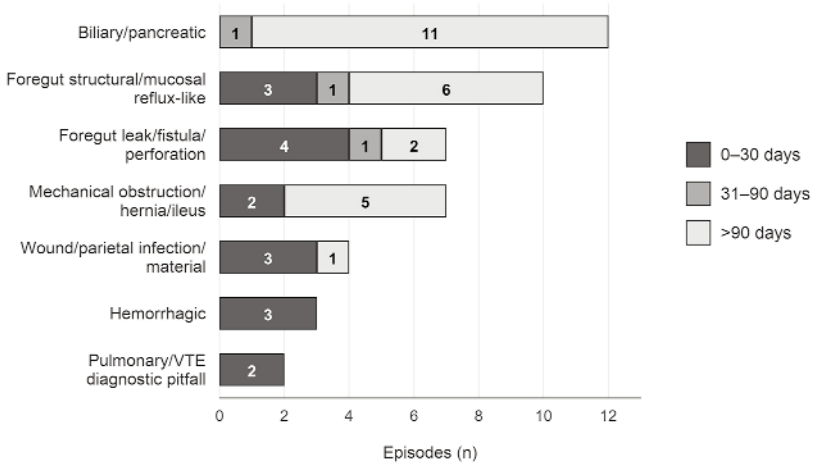

Figure 2. Operation-to-presentation interval (0–30 / 31–90 / >90 days) within each diagnostic group, illustrating the early (leak, hemorrhage) versus late (biliary, foregut) temporal pattern.

intensive care and four (9%) an unplanned reintervention; five received a blood transfusion. Accordingly, recoded Clavien-Dindo grade IVa here denotes ICU admission (a management/resource decision) rather than independently verified single-organ dysfunction, and is therefore not directly comparable to standard Clavien-Dindo grade IVa. The initial (presumptive) and final diagnoses were discordant in 22 episodes (49%; 20 full, 2 partial), most often when a dyspeptic or reflux-like presentation overlay structural or hemorrhagic disease (*Table 4*, *Fig. 3*). CT was performed in 19 episodes and altered management in 11: 58% of CT-evaluated episodes and 24% of the full cohort. Surgical, anesthesia/critical-care (ATI), cardiology and gastroenterology consultations were obtained in 31 (69%), 36 (80%), 38 (84%) and 23 (51%) episodes,

Table 4. Workup and management.

Variable	Value
CT performed, n (%)	19 (42%)
CT changed management, n/CT-evaluated (%; % of cohort)	11/19 (58%; 24%)
Abdominal ultrasound, n	20
Upper endoscopy / ERCP, n	15 / 4
Upper-GI contrast study, n	13
Surgical / anesthesia-critical-care / cardiology / gastroenterology consult, n (%)	31 (69%) / 36 (80%) / 38 (84%) / 23 (51%)
Initial–final diagnostic discordance (full/partial), n (%)	22 (49%)
Invasive management, n (%)	36 (80%)
Management-anchored Clavien–Dindo adaptation, grade II / IIIa / IIIb / IVa / V, n	9 / 6 / 21 / 8 / 1
ICU admission, n (%)	9 (20%)
Unplanned reintervention, n (%)	4 (9%)
Blood transfusion, n	5

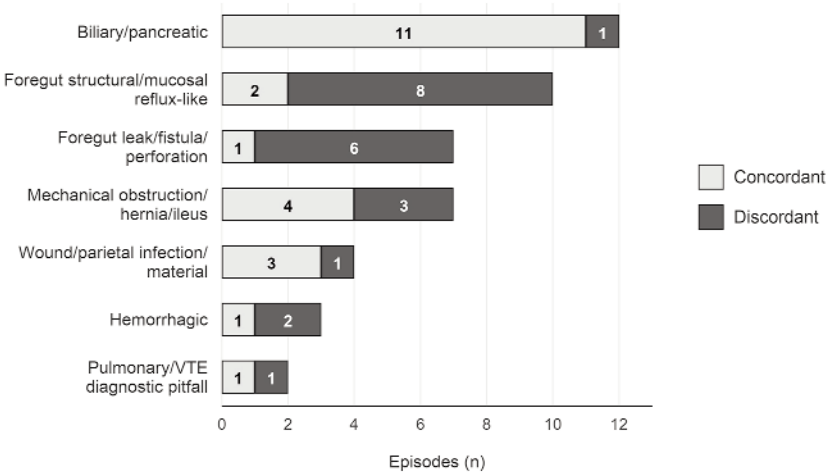

Figure 3. Concordance between the initial (presumptive) and final diagnosis within each group; discordant episodes (initial differed from final) accounted for 22/45 (49%).

respectively; the ATI consultation denotes the routine pre- and peri-operative assessment by the combined anesthesia-and-intensive-care service and is distinct from ICU admission (9 episodes, 20%), and the surgical consultation a sub-specialty surgical opinion additional to the receiving emergency surgical team. The revised cardiac risk index was class I–II in 22, III–IV in 14 and not applicable in 9, reflecting the substantial cardiovascular comorbidity of the cohort. A causative organism was isolated in nine episodes – most often methicillin-sensitive Staphylococcus aureus, Escherichia coli, Proteus mirabilis or Enterococcus, with polymicrobial growth including Acinetobacter baumannii in the most severe septic cases; a tenth episode had negative cultures under empirical antibiotics.

Outcomes

Eleven episodes (24%) met the author-defined severe-episode composite (severe clinical course) and seven (16%) the narrower high-acuity definition (*Table 5*); these are reported separately because they capture different constructs. Sepsis was adjudicated in seven episodes. Two patients were transferred for ongoing complex care and one in-hospital death occurred before discharge or transfer from the reporting center (2.2%; Wilson 95% CI 0.4–11.6%), in a patient with gastric perforation and septic shock. The subsequent course of the two transferred patients was not captured. Accordingly, 1/45 describes mortality observed before discharge or transfer from the reporting center, not complete episode mortality. A documented, related readmission to the reporting center within 90 days occurred after nine included episodes; readmissions to other hospitals were not systematically captured. Median length of stay was 5 days (IQR 3–8; range 0–39). Median in-hospital cost was 6,609 RON (IQR 3,801–9,187; range 1,202–45,000), approximately €1,335 at ~4.95 RON/EUR, right-skewed by a small number of severe, intensive-care episodes; this is an intra-hospital diagnosis-related group (DRG) cost, not deflated and not comparable across health systems.

Table 5. Short-term outcomes.

Outcome	Value
Severe-episode composite (author-defined), n (%)	11 (24%)
High-acuity (narrower definition), n (%)	7 (16%)
Clinician-adjudicated sepsis, n (%)	7 (16%)
Transfer for ongoing care, n (%)	2 (4%)
In-hospital death, n (%)	1 (2.2%)
Documented readmission to reporting center within 30 / 90 days, n	1 / 9
Length of stay, days – median (IQR)	5 (3–8)
In-hospital cost, RON – median (IQR; range) (3801–9187; 1202–45000) ≈ €1335	6609

Upper-GI / Reflux-Like Subgroup

The clinically adjudicated reflux-like subgroup comprised nine episodes, of which six had explicitly recorded pyrosis or regurgitation; the broader upper-GI subgroup comprised fifteen (*Table 6*). These ranged from purely mucosal/functional dyspepsia to structural disease mimicking reflux – hiatal hernia with gastric volvulus, mid-gastric stenosis at the incisura, and intra-gastric band migration. None of the reflux-like episodes met the author-defined severe-episode composite, but several required definitive surgical or endoscopic treatment, illustrating the overlap between reflux-like symptoms and structural post-bariatric pathology. These three counts are distinct: ten episodes formed the foregut structural/mucosal/reflux-like diagnostic category (*Table 3*), nine comprised the clinically adjudicated reflux-like subgroup, including six with explicitly documented pyrosis or regurgitation (*Table 6*), and fifteen the broader upper-GI subgroup (any foregut symptom or structural foregut diagnosis).

Descriptive Comparison

Emergency and semi-elective presentations are com-

Table 6. Clinically adjudicated reflux-like subgroup (n = 9; six episodes with explicitly recorded pyrosis or regurgitation); the broader upper-GI subgroup comprised 15 episodes.

Episode	Final diagnostic category	Management-anchored Clavien–Dindo adaptation	Severe-episode composite
E-016	Band/prosthetic complication	IIIb	No
E-017	Band/prosthetic complication	IIIa	No
E-023	Foregut mucosal/reflux-like	II	No
E-024	Foregut stenosis/torsion	IIIb	No
E-028	Hiatal hernia/gastric volvulus	IIIb	No
E-029	Foregut stenosis/torsion	II	No
E-030	Foregut mucosal/reflux-like	II	No
E-032	Foregut stenosis/torsion	IIIb	No
E-041	Foregut stenosis/torsion	IIIa	No

pared descriptively in *Table 7*, without formal hypothesis testing. All 11 severe-course episodes, all 7 high-acuity episodes and all 9 intensive-care admissions occurred in the emergency stream, whereas 9 of the 12 biliary/pancreatic episodes presented semi-electively. These contrasts describe how the presentation stream shapes the observed case mix and are not independent risk factors.

Table 7. Descriptive comparison of emergency (n = 33) versus semi-elective (n = 12) presentations (no formal hypothesis testing).

Variable	Emergency (n=33)	Semi-elective (n=12)
Female	22 (67%)	11 (92%)
Early presentation (0–30 d)	17 (52%)	0 (0%)
Biliary/pancreatic diagnosis	3 (9%)	9 (75%)
Foregut leak/fistula group	7 (21%)	0 (0%)
Initial–final diagnostic discordance (full or partial)	19 (58%)	3 (25%)
Invasive management	24 (73%)	12 (100%)
Severe-episode composite	11 (33%)	0 (0%)
High-acuity (narrower definition)	7 (21%)	0 (0%)
ICU admission	9 (27%)	0 (0%)
In-hospital death	1 (3%)	0 (0%)

Discussion

In a regional emergency center that performs no bariatric surgery, post-bariatric presentations formed a broad, anatomy-dependent spectrum dominated by biliary and foregut disease. Eleven episodes met the severe-course composite and seven the narrower high-acuity definition; one in-hospital death occurred and outcomes after two transfers were unavailable. The value of the observation lies less in any single rate than in the shape of the spectrum seen from a non-index receiving center.

The non-index emergency center inherits anatomy it did not create. Contival et al. and others have emphasized that the general or emergency surgeon increasingly meets bariatric anatomy acutely, often without the operative report, and must manage it on first principles (3,7,8). Our cohort is the practical expression of this: every patient was operated elsewhere, and more than half presented beyond 90 days, when the index team is no longer in immediate contact. Series published by bariatric centers themselves may under-represent exactly these dispersed, late and heterogeneous presentations – a reporting-bias hypothesis that a non-index receiving center is well placed to raise, though not, with these data, to prove.

In this series, biliary/pancreatic disease was the most frequently identified category (12 episodes), but none of these episodes met the severe-episode composite and nine of the twelve presented semi-electively. Rapid weight loss after bariatric surgery is a recognized driver of cholelithiasis, with female sex and the magnitude of weight loss as principal risk factors (17-19). Complex biliary access after a bypass-type reconstruction, requiring laparoscopy-assisted or EUS-directed transgastric ERCP, is well described in the literature (12,13) and is the basis of the low-incidence, high-stakes pattern reported for bariatric emergencies (14); it was not demonstrated in the present, predominantly sleeve-type cohort (only three bypass-type reconstructions), in which the papilla remained anatomically accessible to a standard duodenoscope.

Foregut leak and fistula were the most resource-intensive diagnoses. Although staple-line leak is rare at the population level (well under 1% in a nationwide survey), it concentrates in referral and emergency series and carries disproportionate morbidity (4). In our cohort, several leaks presented early and near the angle of His, the recognized site and timing of post-SG staple-line leaks (4), although the group was heterogeneous and also included later, chronic fistulae and non-staple-line collections; collectively the leak/fistula episodes accounted for the most prolonged stays, intensive-care use and the single death; refractory post-sleeve fistula may require complex salvage surgery (20). Mechanical obstruction, internal and incisional hernia, and early functional ileus formed a second coherent group; post-SG obstruction - typically at the incisura angularis and often managed by endoscopic dilation or conversion – was represented as well (5).

The upper-GI/reflux-like subgroup connects this emergency spectrum to post-bariatric foregut physiology, particularly after SG. SG increases distal-esophageal acid exposure and the prevalence of de novo or worsening reflux, esophagitis and Barrett's esophagus on long-term follow-up (6,21,22), while careful preoperative endoscopic selection has been associated with a lower risk of new symptoms (23). In an emergency setting, however, reflux-like symptoms may also mask structural complications across bariatric anatomies – hiatal hernia with volvulus, sleeve angulation/stenosis or migrated prosthetic material – each represented in our cohort under a reflux/dyspepsia label. This supports considering structural imaging and/or endoscopy in post-bariatric patients when clinically indicated, rather than empirical acid suppression alone.

A second, orthogonal theme was the unreliability of the presenting signal. The initial presumptive and final diagnoses were discordant in nearly half the episodes (22/45, 49%), and this diagnostic uncertainty was not confined to severe episodes: a dyspeptic or reflux-like complaint overlay an early hemo-

peritoneum, a pancreatobiliary emergency or a low-output staple-line fistula, while an upper-abdominal presentation masked a segmental pulmonary embolism. Whereas the anatomy-dependent cascade describes how a given diagnosis escalates, this discordance describes how unreliable the initial diagnostic label can be at first assessment. The practical corollary is to consider cross-sectional imaging and/or endoscopy when clinically indicated, rather than anchor treatment to the presenting label. In this cohort, CT changed management in 11 of 19 CT-evaluated episodes (58%; 24% overall), supporting targeted cross-sectional imaging without implying universal imaging. This discordance is investigator-adjudicated (presumptive vs final) and is reported descriptively; it should be read as a feature of the cohort, not as a validated mimicry rate.

Our descriptive rates are broadly consistent with the external (face) plausibility of the cohort: the female predominance, the post-operative age range, the sleeve-predominant case mix and abdominal pain as the leading complaint all align with previously reported emergency post-bariatric populations (7,11). A substantial proportion of presentations were managed without the index team, reproducing prior emergency-department experience (8). Seven episodes met the clinician-adjudicated sepsis definition. Procalcitonin has been investigated as an adjunct for monitoring antimicrobial therapy in septic surgical patients, although biomarker-guided treatment was not evaluated in this cohort (24).

Limitations

This is a single-center, retrospective cohort of 45 episodes and is descriptive by design. It has no denominator and therefore reports a spectrum, not incidence or risk factors; the case mix reflects referral patterns to one regional center. Because cases were captured by a targeted keyword search rather than by manual review of every attendance, ascertainment may have missed episodes in which previous bariatric surgery, or its possible relevance, was not explicitly documented - particularly nonspecific, mildly symptomatic or miscoded presentations. Conversely, clearly coded procedure-related or referred cases may have been preferentially retrieved. The reported diagnostic proportions therefore describe the captured case mix and must not be read as incidence or population prevalence. The prominence of biliary/pancreatic disease was also influenced by the inclusion of semi-elective presentations: 9 of the 12 biliary/pancreatic episodes were semi-elective, compared with 3 presenting as emergencies. Index-center type and country were descriptive variables; possible economic or logistical barriers to returning to an index center were not measured and no causal inference was made. The index operation date was frequently known only by year, so the operation-to-presentation interval is reported categorically rather than as exact days, and for seven episodes the index year was approximate, so time intervals were analyzed categorically.

Readmission was captured only when a related return to the reporting center was documented; returns to other hospitals were not systematically captured. Cost is intra-hospital DRG cost, not deflated and not a full episode-of-care cost. Given the sample size, the emergency-versus-semi-elective comparison is descriptive only and no formal hypothesis testing was performed. The reflux-like subgroup (n = 9) was adjudicated clinically as documented reflux-type symptomatology; applying the strictest literal definition (explicitly recorded pyrosis or regurgitation) identifies six episodes.

Conclusions

This captured series describes two clinically different presentation streams at a non-index receiving center: a predominantly biliary, semi-elective stream that required invasive management but showed no severe clinical course, and an acute stream that carried all observed severe-course and high-acuity events and most initial-to-final diagnostic discordance. Reflux-like symptoms after bariatric surgery may mask structural disease and warrant consideration of structural evaluation when clinically indicated. These findings describe referral case mix rather than incidence and require confirmation in larger, systematically ascertained cohorts. Emergency surgical centers that do not perform bariatric surgery should nonetheless be prepared to recognize and manage an anatomy they did not create.

Authors' Contributions

R.D.B. – conceptualization, methodology, data curation, formal analysis, writing (original draft). A.C.G. and C.M.O. – investigation and data curation. M.P. – investigation and writing (review and editing). R.C.P. and E.D. – supervision, validation and writing (review and editing). All authors contributed to data acquisition, validation and/or clinical interpretation as applicable, critically revised the manuscript, approved the final version, and agree to be accountable for all aspects of the work.

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