



S.I.C.O.B.  
*Bari*

SPRING MEETING

18 - 19 MAGGIO 2023  
THE NICOLAUS HOTEL

CONDIVIDERE PER CRESCERE  
Strategie di integrazione  
in Chirurgia Bariatrica

Presidente del Congresso  
ANTONIO BRAUN

## EMORRAGIA POST-DIMISSIONE

Gregorio Tugnoli  
CHIRURGIA D'URGENZA E DEL TRAUMA  
OSPEDALE MAGGIORE BOLOGNA



ORIGINAL ARTICLE

The Impact of Obesity on Mortality and Other Outcomes in Patients With Nonvariceal Upper Gastrointestinal Hemorrhage in the United States

Marwan S. Abouergji, MD,\* Heather Peluso, DO,† Chebli Mrad, MD,‡  
and John R. Saltzman, MD§

(*J Clin Gastroenterol* 2017;00:000–000)

**Conclusions:** Obesity is not an independent predictor of NVUGIH mortality. However, obesity is associated with a more severe disease course (shock and PMV), higher rates of EGD and endoscopic therapy use, and significant increases in resource utilization (hospital LOS, total hospitalization costs, and charges).



# Sanguinamento post-operatorio



## Management of post-bariatric complications.

Our Center experience and literature review



*Ann Ital Chir*, 2021 92, 6: 636-644  
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free reading: [www.annitalchir.com](http://www.annitalchir.com)

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## BLEEDING

We observed 4 bleedings (4,39%) - 1 intraluminal bleeding after sleeve gastrectomy and 3 intra-abdominal bleedings, 2 after sleeve gastrectomy and 1 after gastric bypass, diagnosed early thanks to the permanence of the nasogastric tube and drainage, treated with medical therapy. Gastrointestinal (GI) bleeding usually presents in the immediate post-operative period secondary to technical complications. Most commonly, this occurs as intraluminal bleeding, but extra-luminal bleeding can occur. Bleeding primarily occurs from the submucosal vessels along the staple line at the gastro-jejunostomy, jejunostomy, or along the staple lines of the gastric pouch. Signs and symptoms of bleeding, including a drop in hemoglobin levels, hematemesis, hematochezia, or melena, should be considered an indication to undergo further evaluation. Endoscopy is often used as a firstline modality for investigation of the source of bleeding<sup>59</sup>. However, when post-operative bleeding is severe and associated with hemodynamic instability, surgical reexploration may be required<sup>60</sup>.



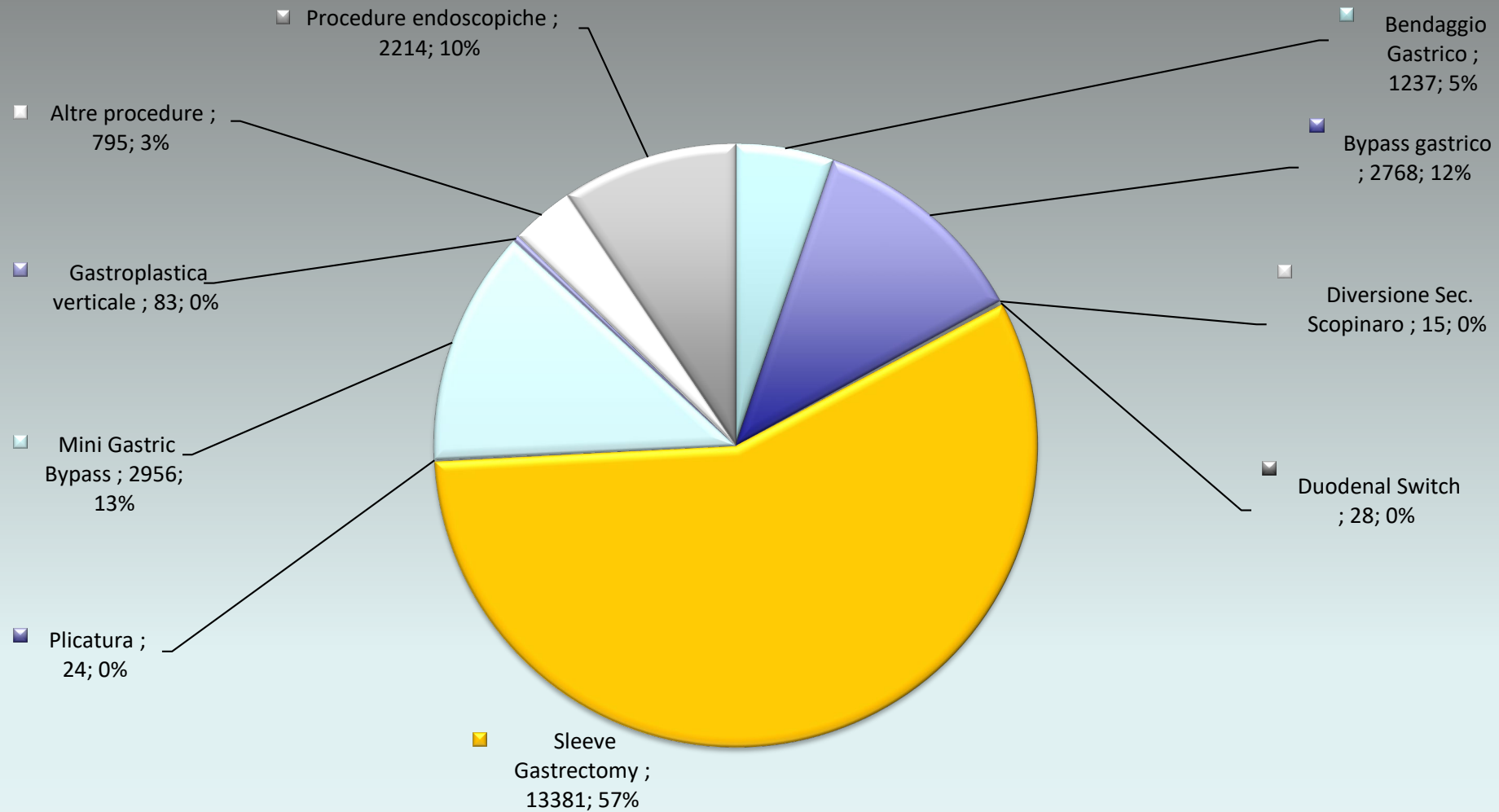
# Complicanze nel paziente obeso



- Chirurgia addominale in urgenza/emergenza: complicanze 17.2-27.7% mortalità 3.8-4.9%
- Trauma: complicanze 9.3%, mortalità 3%
- Chirurgia generale elettiva in paziente obeso: complicanze 10.8-13.8%, mortalità 1.2%
- Chirurgia bariatrica elettiva: 2-5% complicanze, 0.18% mortalità
- Incidenza del sanguinamento post-operatorio: 0.1% dopo LAGB; 1-6% dopo LSG; 0.4-4% dopo LRYGB

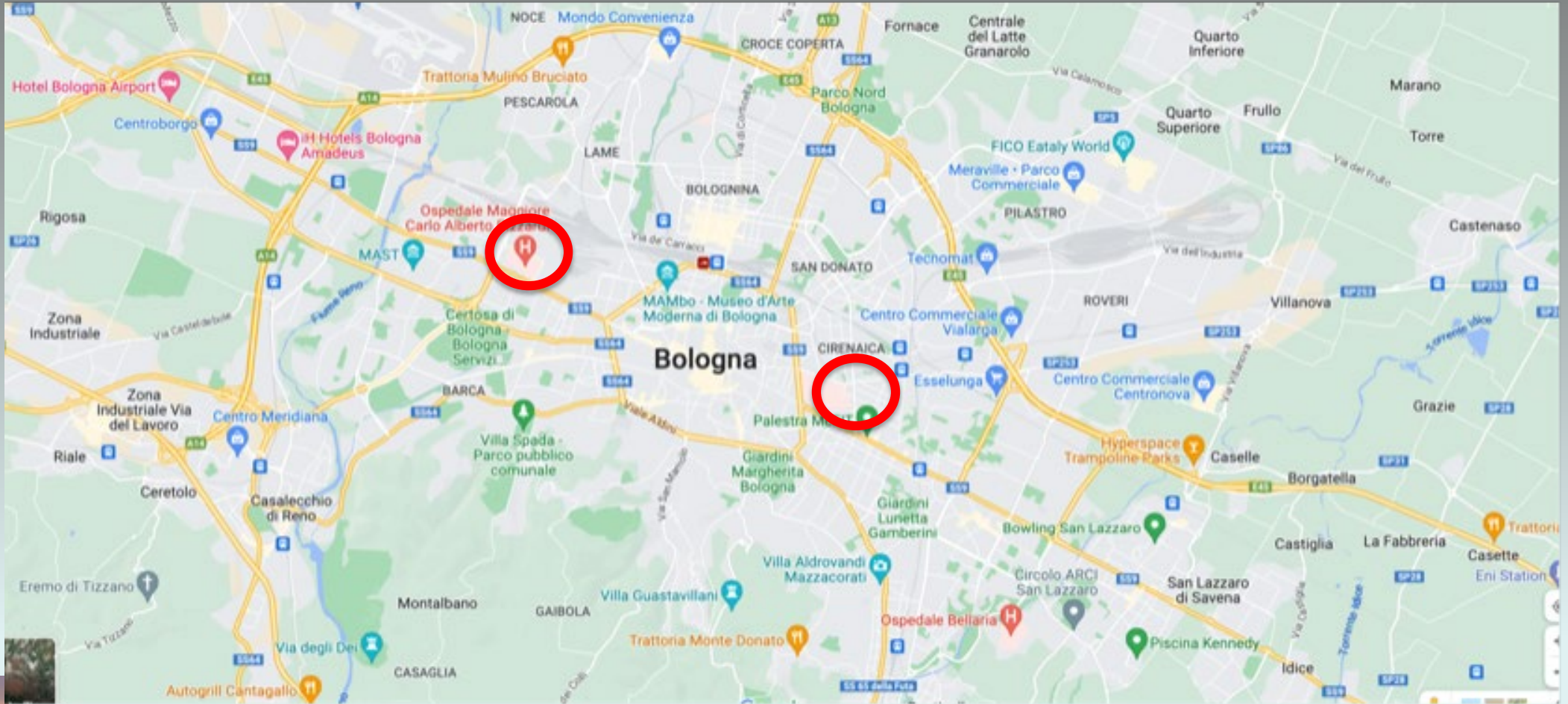
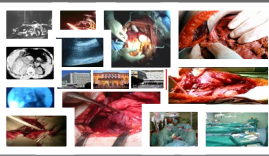


# Il «paradosso» di Fermi



Tipologia delle procedure eseguite nel 2022: Totale **23.501** interventi







after bariatric surgery. Bleeding and leak were the complications with the largest overall effect on end-organ dysfunction, reoperation, and intensive care unit admission after bariatric surgery. Furthermore, our findings suggest that an initiative targeting reduction of post-bariatric surgery VTE has the greatest potential to reduce mortality and readmission rates. (Surg Obes Relat Dis 2018;16:00–00.) © 2018 American Society for Metabolic and Bariatric Surgery. All rights reserved.

Table 2  
Risk-adjusted association between for each complication-outcome pair after bariatric surgery

	End organ dysfunction		ICU Admission		Reoperation		Readmission		Mortality	
	RR	95% CI	RR	95% CI	RR	95% CI	RR	95% CI	RR	95% CI
MI	27.2	(14.5–51.1)	29.8	(20.6–43.1)	14.4	(9.4–22.1)	8.4	(6.1–11.5)	17.7	(6.0–51.9)
Incisional SSI	4.1	(2.5–6.8)	2.8	(1.9–4.1)	5.2	(4.1–6.6)	3.7	(3.2–4.3)	.7	(.1–5.0)
Leak	52.2	(38.8–70.4)	35.4	(29.2–42.8)	40.3	(35.7–45.5)	14.5	(13.1–16.0)	19.7	(10.8–36.2)
Pneumonia	13.5	(9.9–18.4)	23.7	(20.2–27.8)	17.1	(15.0–19.5)	3.0	(2.5–3.5)	9.4	(5.4–16.5)
Bleeding	13.5	(9.9–18.4)	23.7	(20.2–27.8)	17.1	(15.0–19.5)	3.0	(2.5–3.5)	9.4	(5.4–16.5)
VTE	21.0	(14.7–30.1)	19.1	(15.0–24.4)	8.9	(6.9–11.3)	14.5	(13.0–15.9)	74.7	(49.8–111.8)
UTI	5.8	(3.1–11.0)	5.6	(3.8–8.2)	4.5	(3.2–6.3)	5.7	(4.9–6.7)	3.2	(.9–11.7)
Stroke	9.8	(1.7–55.1)	26.4	(13.3–52.2)	9.8	(3.3–29.5)	13.6	(9.5–19.5)	64.7	(22.3–188.2)

ICU = intensive care unit; RR = relative risk; CI = confidence interval; MI = myocardial infarction; SSI = surgical site infection; VTE: venous thromboembolism; UTI = urinary tract infection.



# Early complications



Journal of Visceral Surgery (2018) 155, 27–40

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ELSEVIER

REVIEW

**Guiding the non-bariatric surgeon through complications of bariatric surgery**

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**Table 1** Surgical complications after SG [6] (Figs. 4 and 5).

Early complications		
Leak/fistula	2.3%	Fistula is the principal complication after SG; management is difficult and prolonged. Typically arises at the upper edge of the staple line. It has been widely reported in the literature
Stricture	0.7 to 4%	According to its location, treatment can be endoscopic or surgical
Hemorrhage	1.5%	Bleeding is most commonly intraperitoneal rather than intra-luminal. Management is primarily surgical rather than endoscopic
Late complications		
Gastro-esophageal reflux	Up to 25% [81,82]	Only severe pre-existing esophagitis and Barrett's esophagus are contra-indications to the performance of SG-S Postoperative gastro-esophageal reflux is often controllable with PPI medication

**Table 2** Early surgical complications after GBP.

Early complications		
Leak/fistula	1.9% [6]	The principal complication after GBP. The most common site of leakage is at the gastro-jejunostomy (Fig. 1)
Early postoperative obstruction/anastomotic stricture	< 1% to > 20% [7,48]	Reported prevalence varies from 1% to more than 20% Symptomatology and management differ according to the site of obstruction, just as for fistula/leak (see below)
Hemorrhage	1.7% [54,57]	Most bleeding occurs in the immediate postoperative period and, in most cases, is due to intra-luminal or intraperitoneal bleeding from a staple line





# Early complications



## All operations

### Gastrointestinal bleeding

Immediate postoperative bleeding is usually from staple lines or from poor haemostasis at the time of surgery. Re-operation is often indicated and will be carried out by the bariatric in-patient team. From 72 h onwards, patients with severe bleeding may present to the acute take. Erosions and

**Table 1** Summary of management protocols

Symptom	Possible diagnosis	Emergency on-call management options	Specialist bariatric management options
Bleeding	Erosions, ulcers	Transfusion; correct coagulopathy; high-dose PPI; endoscopy, laparotomy	Specialist endoscopy; consideration of laparotomy



 The Royal College of Surgeons of England

**REVIEW**  
*Ann R Coll Surg Engl* 2009; **91**: 280-286  
doi 10.1308/003588409X392072

**Complications of bariatric surgery: presentation and emergency management – a review**

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# Trattamento multidisciplinare



## Management of post-bariatric complications.

Our Center experience and literature review

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*Despite improvement in the performance of bariatric surgical procedures, complications are not uncommon. Flexible endoscopy has become an essential tool in managing bariatric surgery patients and offers the benefit of providing both diagnostic and therapeutic applications.*

TABLE I - Complication data and treatment.

Type of complication	Age	BMI	Bariatric procedure	Center	Treatment of complication	Mortality
Gastric leak	37 y	47 kg/m <sup>2</sup>	Sleeve gastrectomy	Our center	Endoscopic pig tail and abdominal drainage	No
	42 y	43 kg/m <sup>2</sup>	Sleeve gastrectomy	Other center	Abdominal drainage	No
	40 y	44 kg/m <sup>2</sup>	Sleeve gastrectomy	Other center	Abdominal drainage – splenectomy – endoscopic prosthesis	No
	43 y	40 kg/m <sup>2</sup>	Sleeve gastrectomy	Other center	Abdominal drainage – thoraci drainage – exclusion of leak with stapler – esophagostomy	Yes
Endoluminal bleeding	50 y	50 kg/m <sup>2</sup>	Sleeve gastrectomy	Our center	medical therapy	No
	32 y	41 kg/m <sup>2</sup>	Sleeve gastrectomy	Our center	medical therapy	No
Intrabdominal bleeding	45 y	49 kg/m <sup>2</sup>	Sleeve gastrectomy	Our center	medical therapy	No
	37 y	44 kg/m <sup>2</sup>	Roux en-Y gastric bypass	Our center	medical therapy	No
Port-sites	47 y	46 kg/m <sup>2</sup>	Sleeve gastrectomy	Our center	advanced dressings	No
Infection	48 y	52 kg/m <sup>2</sup>	Sleeve gastrectomy	Our center	advanced dressings	No
Hemoperitoneum	45 y	50 kg/m <sup>2</sup>	Sleeve gastrectomy	Our center	splenectomy	No



# Conclusioni



- L'emorragia nel paziente di Chirurgia bariatrica non è un «falso problema» ma l'insorgenza precoce riduce la possibilità che debba essere trattata al di fuori del centro di riferimento
- Sanguinamenti tardivi dovrebbero essere riferiti a centri specialistici visto l'ampia possibilità di trattamento



# Conclusioni: cosa ci preoccupa davvero



**PLOS ONE**

RESEARCH ARTICLE

### Relationship between Obesity and Massive Transfusion Needs in Trauma Patients, and Validation of TASH Score in Obese Population: A Retrospective Study on 910 Trauma Patients

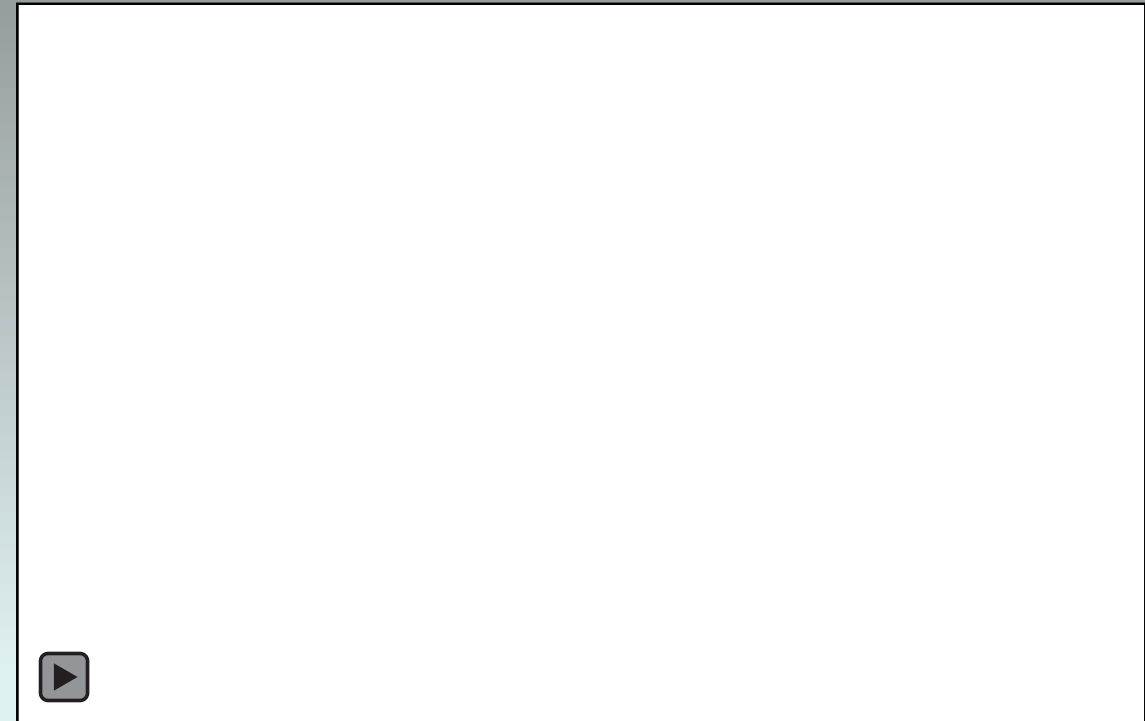
Audrey De Jong<sup>1,2\*</sup>, Pauline Dersse<sup>1</sup>, Orianne Martinez<sup>1</sup>, Pascal Latry<sup>1</sup>, Samir Jabbar<sup>1,2</sup>, Xavier Capdevila<sup>1</sup>, Jonathan Chartier<sup>1</sup>

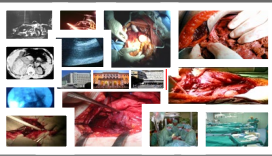
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## Conclusions

Obesity was associated with a higher rate of MT in trauma patients. The predictive performance of the TASH score and the grey zones were robust and comparable between obese and non-obese patients.





**GRAZIE PER LA VOSTRA ATTENZIONE!**

