



LekCheck: A prospective study to identify perioperative modifiable risk factors for anastomotic leakage in colorectal surgery

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Introduction

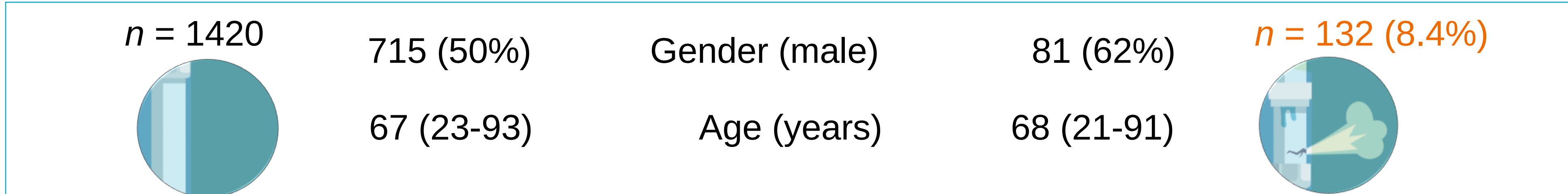
Colorectal anastomotic leakage (CAL) is a major surgical complication in gastrointestinal surgery. Despite many modifications in patient care, the incidence of CAL remains stable (3-19%) worldwide. There are countless risk factors for CAL, mostly non-modifiable risk factors.

The aim of this prospective registration study was to identify **perioperative modifiable risk factors** associated with CAL.

Methods

- **Multicenter international prospective registration study.**
- The population consisted of consecutive adult patients undergoing elective colorectal surgery with primary anastomosis.
- Patients were enrolled from **June 2016 to December 2018** in 14 hospitals (Europa and Australia).
- Prior to the creation of the anastomosis, perioperative factors were collected by the surgical team using a **multifactorial checklist** (the LekCheck).
- Furthermore clinical outcome data within 30 days post-surgery were collected.

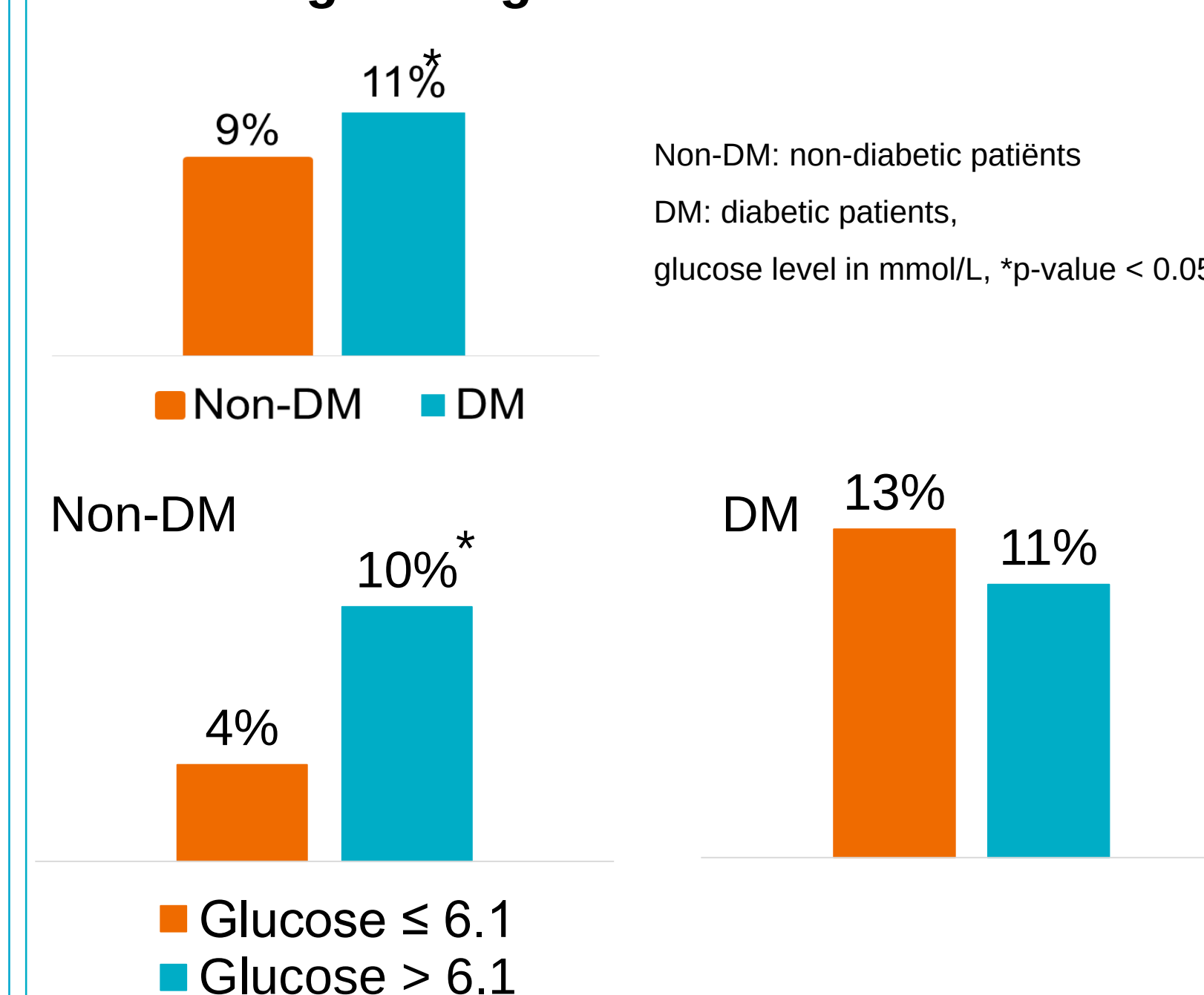
Results



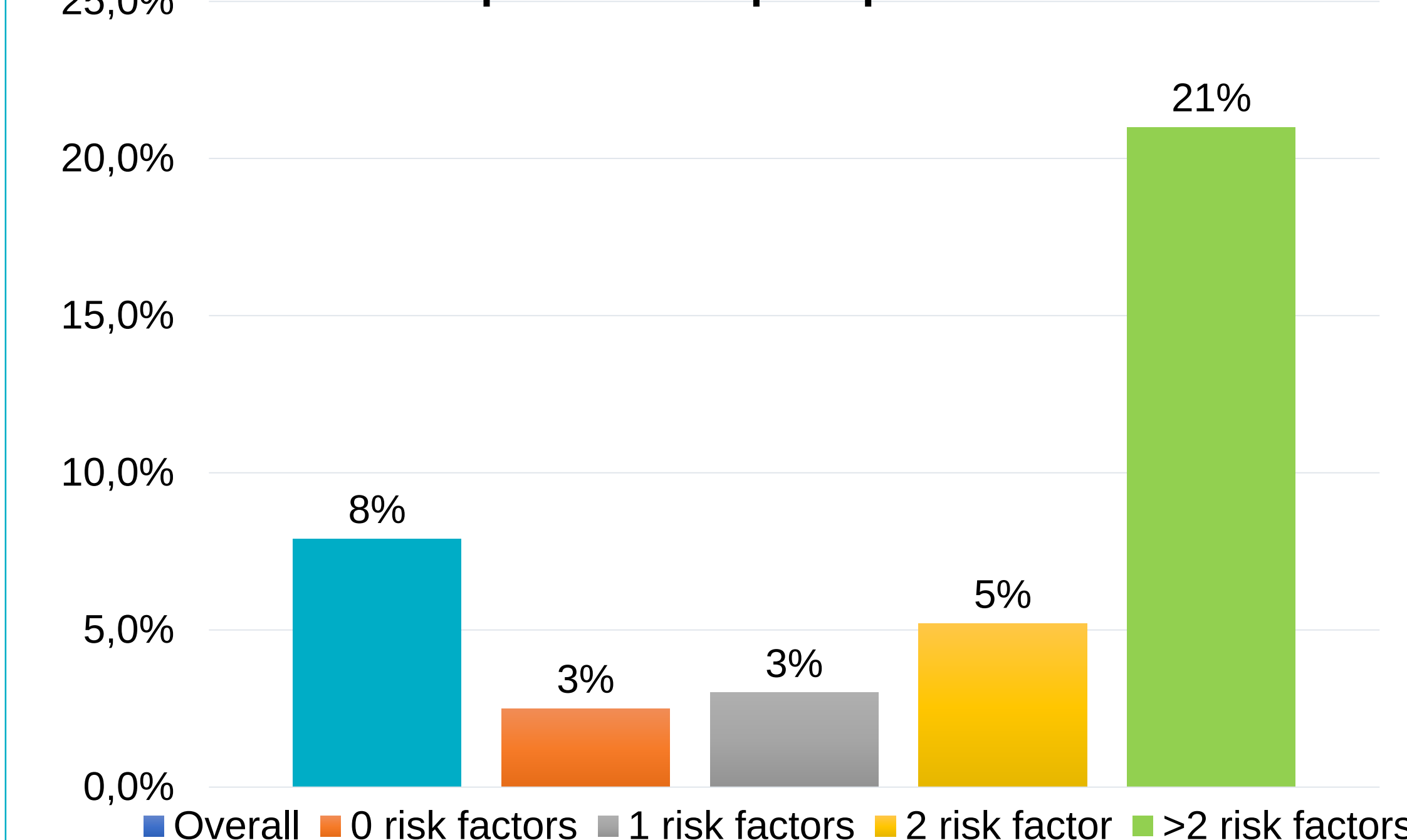
Perioperative risk factors associated with CAL

	Univariate		Multivariate		
	OR	p-value	OR	95% CI	p-value
Low preoperative haemoglobin	6.0	0.000	5.2	2.8 – 9.49	0.000
Fecal contamination	3.6	0.000	3.2	1.67 – 5.91	0.000
High peri-operative glucose	2.7	0.000	3.1	1.51 – 6.15	0.002
Use of vasopressor	1.9	0.000	2.0	1.51 – 2.77	0.001
Duration of surgery	2.2	0.000	1.9	1.18 – 2.95	0.007
Epidural analgesia	1.7	0.007	1.8	1.11 – 2.74	0.014
Inadequate timing of AB prophylaxes	1.6	0.007	1.6	1.06 – 2.47	0.047
Temperature	2	0.008	1.3	0.71 – 1.99	0.530

Zooming in on glucose and risk of CAL



% CAL and presence of perioperative risk factors



Conclusions

- **Identification of 7 potentially modifiable risk factors for CAL; anaemia, faecal contamination, hyperglycaemia, vasopressors, epidural, low haemoglobin and prolonged length of surgery.**
- **The risk of CAL increases in the presence of intraoperative risk factors.**
- **Non-DM patients have high intraoperative glucose levels significantly associated to CAL.**

Future perspectives

- **The DoubleCheck;** how do you optimize the intraoperative patient?
- We believe surgeons and anaesthesiologist should collaborate more closely.
- There should be zero tolerance for anastomotic leakage.

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