ORIGINAL

COMPLICATIONS IN THE FIRST MONTH AFTER AN ENDOSCOPIC PROCEDURE IN A TERTIARY CARE HOSPITAL

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Introduction and objectives

Endoscopic procedures are a fundamental and invaluable tool in the diagnostic and therapeutic repertoire of every gastroenterologist. This has led to an exponential increase in both the volume and technical difficulty of these tests. However, the prerequisite of quality and safety remains paramount, which has been reflected in the consensus documents of the various societies on quality indicators for gastrointestinal endoscopy[1-3].

The global incidence of complications in endoscopy ranges between 0.25-3%[4], although the real rate is uncertain. Most of the published data correspond to intraprocedural adverse events or to deferred adverse events of a digestive nature[5,6]; the difficulty of patient follow-up limits the knowledge of complications that occur in a deferred manner[7]. Furthermore, it is important to differentiate the rate of complications in specific groups such as anticoagulated/anti-aggregation patients[8,9] or therapeutic procedures.

The aim of the present study is to determine the percentage of admissions secondary to complications within the first 30 days post endoscopic procedure, both diagnostic and therapeutic, in outpatients in a tertiary care hospital.

Material and methods

Retrospective descriptive observational study including all outpatients undergoing endoscopic digestive examinations (upper endoscopy, lower endoscopy, echoendoscopy, video capsule endoscopy and enteroscopy) between 1st October 2019 and 30th September 2022. Demographic, clinical and endoscopic procedure related data were collected from each patient. IBM-SPSSv.27.0 statistical software was used for statistical analysis.

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Results

35,327 digestive examinations were performed on 26,859 patients in the indicated period. 1,216 patients were admitted within 30 days (4.5%). 790 (65%) were admitted on a scheduled basis, 317 (26%) required admission for reasons unrelated to the examination and 112 (9.2%) due to a complication of the procedure (Figure 1).

Of the patients with a complication, 70 (62.5%) were male, with a median age of 69 years (SD 12.6). The most frequent cardiovascular factor (CVRF) was hypertension (80, 71.4%), followed by dyslipidaemia (57, 50.9%). More than half of the patients (67, 60%) were taking anticoagulant or antiplatelet medication. They had a high risk of thrombosis according to the CHADS2-VASc index (3+/-2) and a moderate risk of bleeding according to the HAS-BLED scale (2+/-1.5) (Table 1).

Characteristics of the patients	N= 112
Sex M/F, n (%)	70/42 (62.5%/37.5%)
Age, years (SD)	69 (±12.6)
Cardiovascular risk factors (CVRF)	
Hypertension, n(%)	80 (71.4%),
Diabetes mellitus, n(%)	34 (30.4%)
Dyslipaemia, n(%)	57 (50.9%)
None	15 (13.4%)
Usual treatment:	
Antiplatelet agents, n(%)	25 (22.32%)
Anticoagulants, n(%)	34 (30.35%)
Bleeding/thromboembolic risk	
CHADS2-VASc Score, median (+/-DE)	3 (+/-2)
HAS-BLED Score, median (+/-DE)	2 (+/-1.5)

*Table1. **Baseline characteristics of patients admitted for a procedural complication within 30 days of the procedure.***

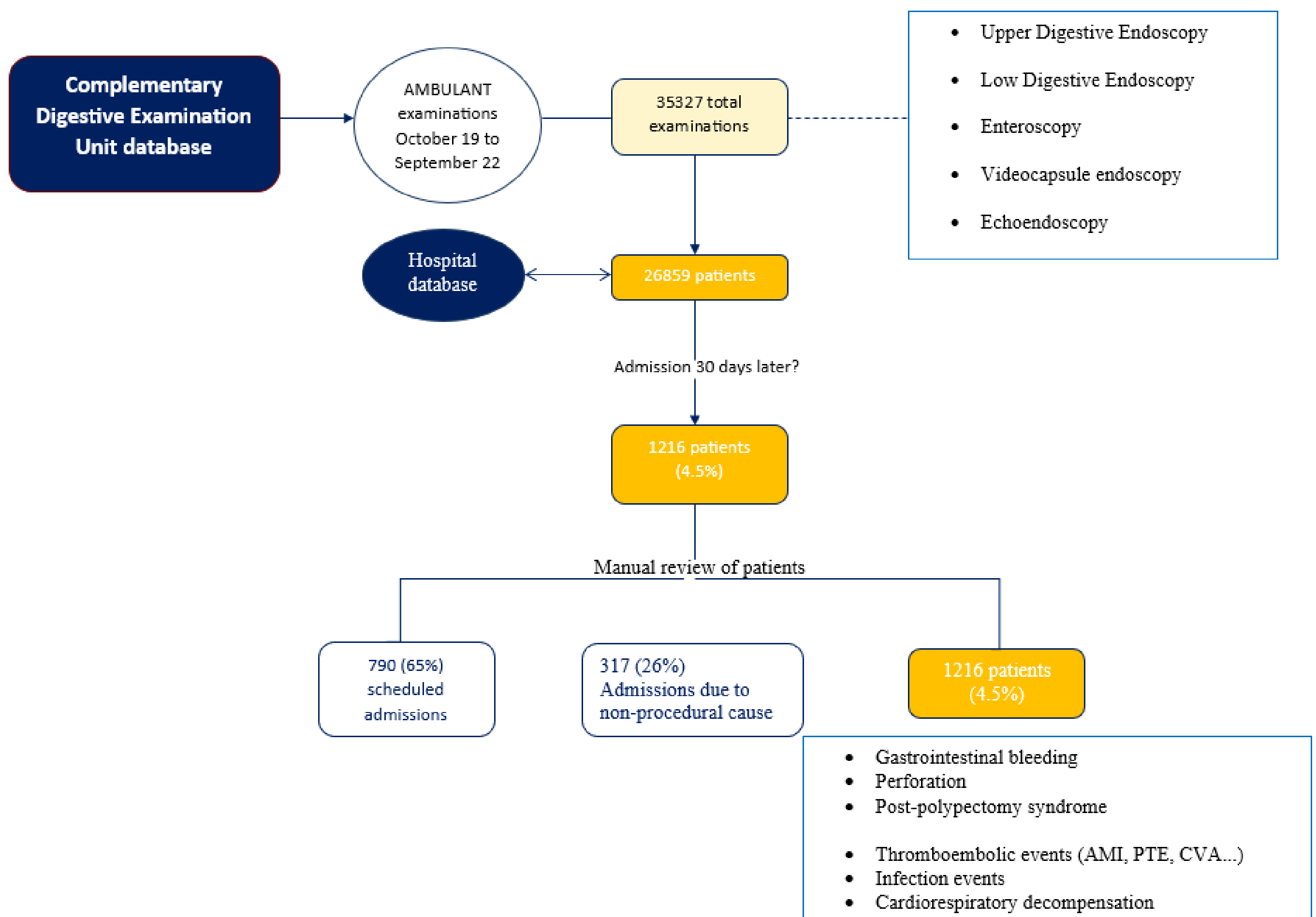

*Figure 1. **Flow chart for the selection of patients included in the study.***

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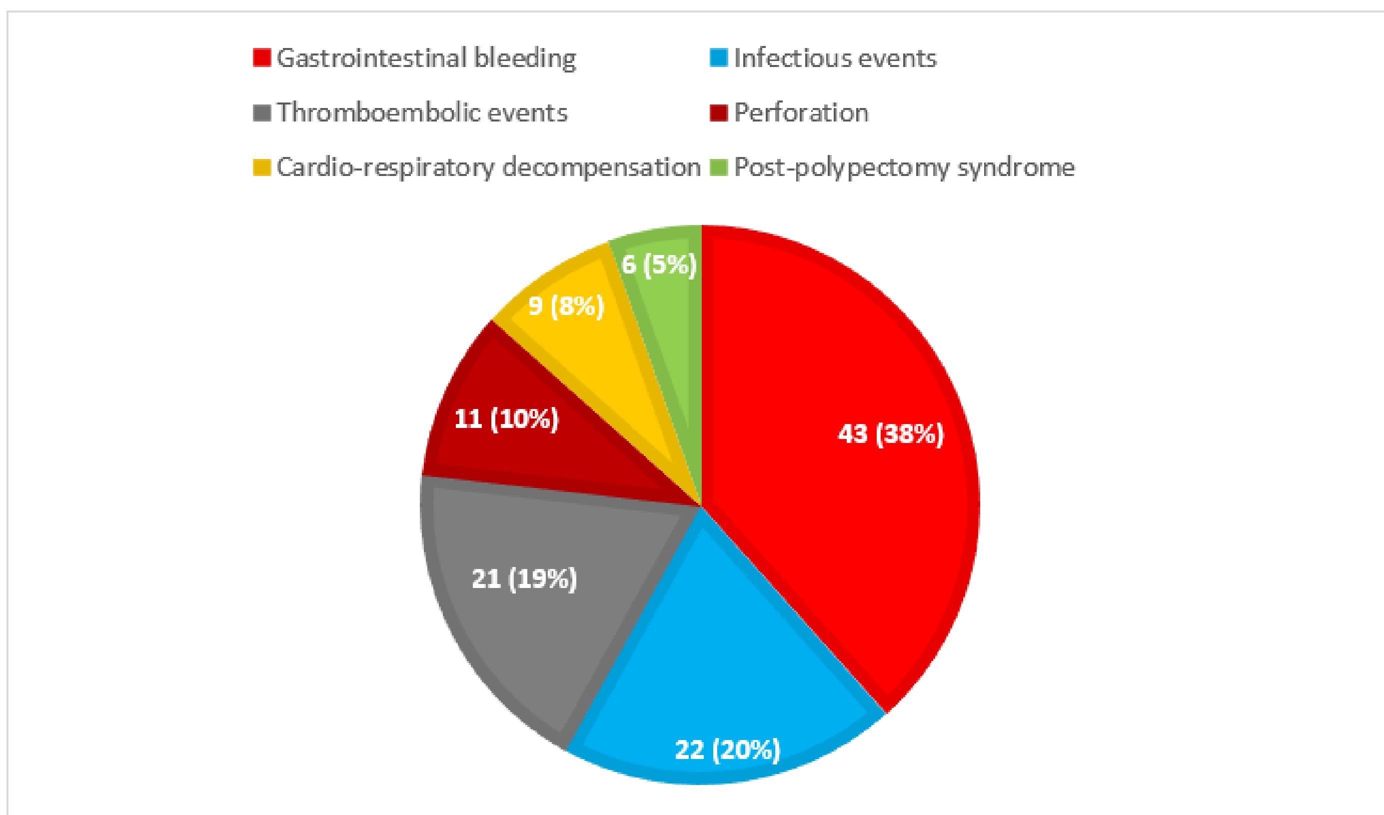

***Figure 2.* Complications requiring admission within 30 days post-procedure.**

Colonoscopy was the most frequently performed digestive examination (83, 74%), followed by upper gastrointestinal endoscopy (22, 20%). Furthermore, most of the procedures were diagnostic (77, 69%), i.e. no or only low-complexity treatment was performed.

The most frequent complication was gastrointestinal bleeding (43, 38%) followed by infectious events (22, 20%), thromboembolic events (21, 19%), perforation (11, 10%), cardio-respiratory decompensation (9, 8%) and post-polypectomy syndrome (6, 5%) **(Figure 2)**.

13 patients (0.036%) died during admission, with the development of a thromboembolic event being the most frequent cause of mortality.

Conclusions

Gastrointestinal endoscopy is a safe technique, with a low number of complications, most of them mild[10]. However, identifying which risk factors are associated with adverse events would allow the establishment of prevention protocols for their complete reduction[11]. In our cohort, at least half of the admissions secondary to adverse events were for extra-digestive complications. Thromboembolic events were the most frequent cause of death, which makes it necessary to be strict in the assessment of thromboembolic risk in all patients, as well as in the management of antiplatelet/anticoagulant medication.

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