EVALUATION OF LOWER GASTROINTESTINAL BLEEDING RISK ASSOCIATED WITH USE OF LOW DOSE ASPIRIN

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Abstract: To evaluate risk of aspirin related lower gastrointestinal bleeding a Prospective study was performed at Department of medicine, Nishtar Hospital, Multan from July 2019 to January 2020. A total of 372 patients using low dose aspirin were selected from out-patient department of Medicine. All patients underwent diagnostic laboratory test for stool examination. A consultant pathologist confirmed the presence or absence of lower gastrointestinal bleeding. Data including age, gender, history of bleeding per rectum, blood on stools, BMI, duration of aspirin use, and reason for aspirin prescription was recorded. The study was conducted on 372 patients, 120 (32.3%) were female while 252 (67.7 %) were male. The mean age of the patients was 40 years. Mean duration of use of low dose aspirin was 22.23 ± 16.59 months. Lower gastrointestinal bleeding was noted in 81 (21.8%). Use of dose aspirin is significantly associated with lower gastrointestinal bleeding. Clinicians must anticipate adverse effects in such patients.

Keywords: Low dose aspirin, extracranial bleeding, gastrointestinal bleeding

Introduction

Low dose aspirin has been effective in preventing primary and secondary cardiovascular events (CV); however, it significantly increases the risk of bleeding events (García Rodríguez et al., 2016). Aspirin is widely used anti inflammatory, analgesic and antipyretic drug (Zhang et al., 2022). Aspirin also irreversibly inhibits eicosanoid production, thus exhibiting anti platelet activity (Knowles and Warner, 2019). Due to this property it can prevent cardiovascular events such as transient ischemic attack, myocardial infarction and stroke (Sugawara et al., 2019). However, its use is associated with various harmful effects most prominent of which is extracranial bleeding risk, particularly gastrointestinal (GI) bleeding (Wang et al., 2020). Aspirin is majorly beneficial for secondary prevention of CV events and has fewer benefits for primary prevention (Joseph et al., 2021). Thus in new clinical guidelines it is recommended that balance between risk and benefits of aspirin must be assessed on individual basis (Joseph et al., 2021). Some studies that report that lose dose of aspirin pose higher risk of GI bleeding (Chen et al., 2017; Lanas et al., 2015). A study conducted by Whitlock et al., showed that use of low dose aspirin is associated with 58% increased risk of major GI bleeding and 27% risk of hemorrhagic stroke (Whitlock et al., 2016). Another study reported prevalence of aspirin associated GI bleeding to be 41% (Hreinsson et al., 2013). There is scarcity of research on risk of lower GI bleeding associated with use of low dose aspirin in local setup. Therefore, the aim of this study is to evaluate the risk of aspirin related lower gastrointestinal bleeding.

Methodology

The prospective study was conducted in the Department of Medicine, Nishtar Hospital from July 2019 to January 2020. The study included patients aged between 18 to 65 years who had cerebrovascular or cardiovascular disease and who used low dose aspirin regularly. Those with history of liver disease, bleeding disorder, malignant tumor of GI tract and those using anti coagulant drugs like warfarin or clopidogrel were excluded. Informed consent of the patients was recorded. The Ethical Board of hospital approved study conduction. A total of 372 patients using low dose aspirin were selected from the outpatient department of Medicine. All patients underwent diagnostic laboratory test for stool examination. A consultant pathologist confirmed the presence or absence of lower gastrointestinal bleeding. Data including age, gender, history of bleeding per rectum, blood on stools, BMI, duration of aspirin use, and reason for aspirin prescription was recorded SPSS version 23.0 was used for data analysis. Numerical variables such as

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The mean age of the patients was 40 years. Mean BMI was 26.14 ± 1.98 kg/m². 59 (15.9 %) patients were obese. 165 (44.4 %) patients were hypertensive, and 94 (25.3%) patients were diabetic. Mean duration of use of low dose aspirin was 22.23 ± 16.59 months and 260 (69.9 %) had duration of illness up to 2 years. Of these 372 study cases, 298 (80.1%) were taking aspirin due to cardiovascular diseases and 74 (19.9%) were taking due to stroke. Lower gastrointestinal bleeding was noted in 81 (21.8%) (Table I). Stratification regarding duration and reason for aspirin use was done. (Table II,III).

Discussion
Lower gastrointestinal bleeding is common and makes up to 30% of total cases of GI bleeding. Its prevalence is higher in elder patients and those taking multiple drugs. 9% LGIB occurs in small intestine while 85% occurs distal to ileocecal valve. Remaining cases occur in upper GI tract. Patients present with bright red blood per rectum, brisk bleeding or melena. In current study, 252 (67.7 %) patients were male and 252 (67.7 %) were female. Similar results were reported by another study which comprised of 34.2% female and 67.5% male patients (Zia et al., 2021).
diabetic. Another study reported 29.5% subjects were diabetic (Zheng and Roddick, 2019), which is closer to results of our study. In our study, 165 (44.4 %) were hypertensive. A study conducted by Chen et al., reported hypertension in 34.1% patients (Chen et al., 2017). Another study reported frequency of hypertension to be 46% (Dasa et al., 2021). Thus, it can be said that hypertension is not associated with increased risk of LGIB in low dose aspirin users. In the current study, LGIB occurred in 81 (21.8%). A study conducted by Whitlock et al., showed that use of low dose aspirin is associated with 58% increased risk of major GI bleeding and 27% risk of hemorrhagic stroke (Whitlock et al., 2016). A study conducted by Garcia et al., reported frequency of LGIB in low dose aspirin users to be 41% (Garcia Rodriguez et al., 2019)

**Conclusion**

Use of dose aspirin is significantly associated with lower gastrointestinal bleeding. Clinicians must anticipate adverse effects in such patients.

**Conflict of interest**

The authors declared absence of conflict of interest.

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