

Non-Steroidal Anti-Inflammatory Drugs (NSAID) Associated with Gastroduodenal Ulcer Bleeding Observed at the Surgical Intensive Care of the Joseph Ravoahangy Andrianavalona University Hospital, Antananarivo, Madagascar

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Abstract

Introduction: Digestive complications of non-steroidal anti-inflammatory drugs (NSAID) are sources of morbidity and mortality. Our study objective was to determine epidemiological-clinical, endoscopic and evolutionary characteristics of gastrointestinal ulcer bleeding following NSAID in take.

Methods: It is a prospective and cross-sectional study on ulcer gastrointestinal bleeding after NSAID taking observed at Surgical Intensive Care of the Joseph Ravoahangy Andrianavalona University Hospital Antananarivo, Madagascar, during a period of two years, from January 2014 to December 2015.

Results: 76 patients were retained. The average age was 48.78 +/- 15 years with a male predominance (sex ratio: 2.8). Epigastralgia (47.36%) and alcoholism (30%) were the most common history. Dental pain (30.26%) and flu (14.47%) were the main reasons for taking NSAID. Niflumic Acid (30.26%), Acetylsalicylic Acid (26.31%) and Ibuprofen (25%) were the NSAID used. 68% of the cases is self-medication. The hemorrhage is externalized in the form of hematemesis and melena in most cases (36.84%). The main ulcers localization was gastric (86.84%). Endoscopic lesions were dominated by FORREST II (65.78%). Patients evolution was favorable in the majority of cases (98.68%).

Conclusion: Ulcer digestive hemorrhages associated with NSAID are frequent in our department. In most cases, NSAID taking is a medical prescription. Mass awareness of self-medication harmful effects is essential to reduce this incidence.

Keywords: NSAID; Endoscopy; Ulcer Digestive Hemorrhage; Prognosis

Introduction

Nonsteroidal anti-inflammatory drugs (NSAID) are among the most prescribed and used drugs in the world [1]. NSAID Digestive complications are sources of morbidity and mortality, the magnitude and cost of which are considerable in developed countries [2-4]. In United States, the annual mortality linked to gastrointestinal complications of these drugs has been estimated at 16,500 deaths [5]. Our study consists in determining the epidemiological-clinical, endoscopic and evolutionary characteristics of ulcer digestive hemorrhages associated with NSAID taking at the Surgical Intensive Care of the Joseph Ravoahangy Andrianavalona University Hospital.

Methods

It is a prospective and transversal study on ulcer digestive hemorrhages after NSAID taking admitted at Surgical Intensive care of the Joseph Ravoahangy Andrianavalona University Hospital, Antananarivo, Madagascar, during a period of two years, from January 2014 to December 2015. All patients admitted to the department who had ulcer gastrointestinal bleeding of gastroduodenal origin following one or more NSAID intake were included in the study, aged 15 or over, gender regardless. We secondarily excluded, patients who did not benefit from an ulcer digestive endoscopy. Results are expressed in number and percentage.

Results

Seventy-six patients were retained. The average age of the patients was 48.78 +/- 15 years with male predominance (sex ratio: 2.8). Epigastralgia (47.36%) and alcoholism (30%) were the most common history. Table 1 shows the distribution of patients by history.

Characteristics	Effective (n = 76)	Percentage (%)
Average age (years)	48,78 +/- 15	
Gender		
Male	56	73.68
Female	20	6.32
History		
Epigastralgia	36	47.36
Alcoholism	23	30
Smoking	21	27.63
High blood pressure	08	10.52
Gout	08	10.52
Stroke	03	3.94
Myocardial infarction	02	2.63
Lombalgia	02	2.63

Table 1: Distribution of patients by history.

Dental pain (30.26%) and flu (14.47%) were the main reasons for NSAID taking. Niflumic Acid (30.26%), Acetylsalicylic Acid (26.31%) and Ibuprofen (25%) were the most commonly patients NSAID used. 68% of cases is self-medication. Table 2 shows the distribution of patients by type and reason NSAID taking.

Characteristics	Effective (n = 76)	Percentage (%)
Reasons taking		
Dental pain	23	30.26
Flu	11	14.47
Headache	8	10.52
Gout crisis	8	10.52
Long term treatment of cardiovascular and neurological	6	7.89
Angina	3	3.94
Others	17	22.36
NSAID type		
Niflumic acid	23	30.26
Acetylsalicylic acid	20	26.31
Ibuprofen	19	25
Diclofenac	11	14.47
Ketoprofen	3	3.94

Table 2: Distribution of patients by type and reason NSAID taking.

At admission, 8 patients (10.52%) were in shock (PAS < 90 mmHg). For 36.84% of cases, hemorrhage is externalized in the form of hematemesis and melena; melena in 32.89%, hematemesis in 27.63% and rectal bleeding in 2.63% of cases. Thirty-seven patients (48.68%) presented with severe anemia (Hb < 7 g/dl) requiring a blood transfusion. Table 3 represents the distribution of patients according to clinical symptoms of digestive hemorrhage.

Characteristics	Effective (n = 76)	Percentage (%)
Hematemesis/Melena	28	36.84
Melena	25	32.89
Hematemesis	21	27.63
Rectal bleeding	2	2.63

Table 3: The distribution of patients according to clinical digestive hemorrhage.

For digestive hemorrhage care, all patients benefited two large peripheral venous for vascular filling, 80 mg intravenous bolus followed 8 mg per hour proton pump inhibitor (PPI) by a continuous infusion, and an antibiotic against Helicobacter pillory. One patient (1.31%) required hemostasis surgery.

The main localization of ulcers was gastric (86.84%). According FORREST classification, 50 patients (65.78%) belonged to class II and 16 patients (34.22%) belonged to class III. Table 4 shows the distribution of patients according ulcers localization and FORREST classification.

Characteristics	Effective (n = 76)	Percentage (%)
Ulcer localization		
Gastric ulcer	66	86.84
Duodenal ulcer	07	9.21
Peptic ulcer	03	3.94
FORREST Classification		
FORREST II	50	65.78
FORREST III	16	34.22

Table 4: Distribution of patients according ulcers localization and FORREST classification.

The average of patient stay in our department was 3 days. One patient either 1.31%, died following a hemorrhagic shock. Seventy-two patients (94.73%) were transferred to the visceral surgery department for further treatment and 3 patients (3.94%) were discharged under medical advice.

Discussion

In two years, we have had 76 cases of ulcer gastrointestinal bleeding associated with NSAID. According studies, the annual incidence of gastroduodenal complications on NSAID can be evaluated between 1 to 2% [5-7].

For our series, dental rabies and flu were the main reasons for NSAID taking and the most cases is self-medication. According to Ouazani, *et al.* [8], NSAID were used in headache in 40.4% of cases, in cardiovascular disease, all causes combined in 10% of cases and in rheumatologic pathologies 10.7% of cases. Gassaye, *et al.* also found the majority of cases NSAID were taken without medical prescription [9].

Niflumic Acid and Acetylsalicylic Acid were the most NSAID implicated in our study. Lanas, *et al.* study has shown that Ibuprofen is the most widely NSAID used with (12.3%) [10]. According to Salah and al. the most commonly NSAID used are Diclofenac (31.85%), Celecoxib (28.31%) and Ibuprofen (25.66%) [11].

In our study, ulcers majority were localized to the gastric (86.84%). This result differs from Lanas, *et al.* who found a duodenal localization in 52% of the cases [12].

According to the literature, erosive lesions occur more often in the stomach than in the duodenum. They are constant after an acute dose of aspirin [13]. Endoscopic lesions were FORREST II in approximately 66% of our cases. Lanas study showed a predominance of lesions classified FORREST III [12].

In our series, 37 patients (48.68%) presented severe anemia (Hb < 7 g/dl) requiring a blood transfusion. The study by Zhang, *et al.* had shown that patients who had had bleeding under NSAID had lower hemoglobinemia [14]. Gustavo found severe anemia (hemoglobinemia less than 5 g/dl) in 7 patients (8.4% of patients) with ulcer gastrointestinal hemorrhage after NSAID taking, strict anemia (hemoglobinemia between 5 and 8.9 g/dl) in 35 patients (42.16% of cases), moderate anemia (hemoglobinemia between 9 and 11.9 g/dl) in 28 patients (33.73% of cases) and normal hemogram (hemoglobin greater than 12 g/dl) in 13 patients either 15.66% [15].

One patient, 1.31% of the cases, died following a hemorrhagic shock. The prognosis of ulcer gastrointestinal bleeding associated with NSAID in our study is good compared to the literature data. In United States, ARAMIS database analysis has made to estimate hospitalizations annual number for gastrointestinal complications in patients treated with NSAID at 103,000 and the number of annual deaths linked to these complications [5]. In United Kingdom, the deaths annual number attributable to NSAID has been estimated at 2,560 [16].

Conclusion

Ulcer gastrointestinal bleeding associated with NSAID is frequent at the Surgical Intensive Care of the Joseph Ravoahangy Andrianavalona University Hospital. Dental pain and flu are the main reasons for NSAID taking. Niflumic Acid, Acetylsalicylic Acid and Ibuprofen are the most molecules implicated and self-medication is the most of the cases. Ulcers localization is mainly gastric. The evolution is favorable in the majority of cases. Mass awareness of the harmful effects of self-medication is necessary to reduce ulcer gastrointestinal bleeding associated with NSAID incidence. Prevention remains the best way to fight against this disease.

Conflicts of Interest

The authors declare no conflict of interest.

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