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Profile and Pathway of Patients Hospitalized for Acute Pancreatitis in the Hepatogastroenterology Department of the CHU of Libreville

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Abstract

Introduction: Acute pancreatitis is a diagnostic and therapeutic emergency with well-defined management guidelines. The objective was to define the care pathway for patients presenting with acute pancreatitis. **Patients and methods:** Through a retrospective and descriptive study, we collected all cases of acute pancreatitis hospitalized in the hepatogastroenterology department of the Libreville University Hospital between January 1, 2019, and December 31, 2023, based on the Atlanta criteria. Sociodemographic data, patient care pathway, severity of the flare-up, etiology, and outcome were recorded. **Results:** We collected 95 cases of acute pancreatitis with a mean age of 41.9 years (±15.6) and a male-to-female ratio of 1.15. It was moderately severe in 78.94% of cases. The etiology was gallstones (43.16%), alcohol (30.53%), and mixed (12.63%). The mean time to emergency department visit was 4.79 days (±1.41 days). The prehospital pathway revealed that 16.84% went directly to the emergency department, 36.84% self-medicated, 35.79% consulted a traditional healer, and 10.53% visited places of worship. The hospital pathway revealed that 11.43% were admitted to the intensive care unit. Mortality was 12.63% with associated factors including CRP above 150 mg/L (OR = 2.11 [1.18 - 3.74]; p = 0.043) and CTSI above 7 (OR = 1.6 [1.31 - 2.89]; p = 0.038). **Conclusion:** Sociocultural constraints are responsible for the delay in access to care, which seems to be aggravated by the absence of an intensive digestive care unit.

Keywords

Acute Pancreatitis, Treatment Pathway, Intensive Care, Gabon

1. Introduction

Acute pancreatitis is a sudden inflammation of the pancreas [1] [2]. It is a medical emergency requiring rapid, multidisciplinary management to determine the prognosis [1]-[4]. Its incidence is steadily increasing worldwide [1]-[6]. In Africa, data are sparse but indicate its emergence with significant morbidity and mortality [7]-[9]. In Gabon, its incidence is high and associated with high mortality [10]. The dramatic nature of its onset and its postprandial context, in an environment where local myths and beliefs still hold considerable sway, can delay its management and lead to significant morbidity and mortality [10]. It is in this context that we undertook this study, the aim of which was to establish the care pathway for patients hospitalized for acute pancreatitis in our department.

2. Patients and Method

This was a cross-sectional retrospective study that included all cases of acute pancreatitis hospitalized in the hepatogastroenterology department of the Libreville University Hospital between January 1, 2019, and December 31, 2023, based on the Atlanta criteria. Sociodemographic data, patient care pathway, severity of the flare-up, etiology, and outcome were collected. We excluded patients with an acute pancreatitis flare-up in the context of chronic pancreatitis, as well as acute pancreatitis flare-ups revealing pancreatic cancer. Institutional and academic authorisations were obtained from the various ethics committees. Statistical analysis was performed using Epi-Info 7.2.6.0 software. All explanatory variables with a p-value ≤ 0.05 in the univariate analysis were included in the multivariate logistic regression model. A p-value ≤ 0.05 in the multivariate analysis was considered statistically significant. The odds ratio with a 95% confidence interval was used to measure the strength of the association.

3. Results

3.1. Epidemiological Data

Of 1832 hospitalizations, we collected 95 cases of acute pancreatitis, representing a frequency of 5.19% of hospitalizations. During the 60 months of the study, 1832 patients were admitted to the hepatology and gastroenterology department. Pancreatic disorders accounted for 8.4% of hospitalisations; acute pancreatitis accounted for 5.18% of hospitalisations and 61.69% of pancreatic disorders.

The mean age was 41.9 years (±15.6 years). There were 51 men and 44 women, for a male-to-female ratio of 1.16. The mean age of the men was 56.56 years (±15.8 years), while the mean age of the women was 43.44 years (±14.6 years). This difference was statistically significant (p = 0.032). The educational level was primary for 18.95%, secondary for 46.32%, and higher education for 34.73%. The professional profile revealed that 30.53% were unemployed, 18.95% were retirees, 18.95% were students, 16.84% were administrative managers, 10.53% were entrepreneurs, and 4.20% were healthcare workers.

3.2. Care Pathway and Diagnostic Data

The average duration of acute pancreatitis before hospitalization was 4.79 days (±1.41 days), ranging from 4 hours to 8 days. Indeed, 16.84% of patients went directly to the hospital upon the onset of symptoms. Self-medication at home was reported by 36.84% of patients (n = 35), with an average time to hospitalization of 3 days (±2 days). Consultation with a traditional healer was reported by 35.79% of patients (n = 34), with an average length of stay of 7 days (±2 days). Staying in a church was reported by 10.53% of patients (n = 10), with an average length of stay of 7.2 days (±3 days). Transfert from the emergency department to the intensive care unit was indicated for 35 patients (68.62%). These patients have a SIRS greater than 2 and scan index greater than 6, justifying transfert to intensive care unit. Of these patients, only 4 (11.43%) were admitted to the intensive care unit.

The average lengths of hospital stays were, respectively, 3 days (±2 days) in the emergency department, 6.33 days (±1.15 days) in intensive care, and 10.82 days (±2.64 days) in the hepatogastroenterology department.

Table 1 shows that acute pancreatitis was moderately severe in 78.95% of cases according to the Atlanta criteria, while it was severe according to the Systemic Inflammatory Response Syndrome (SIRS) in 84.21% and moderate according to the Computed Tomography Severity Index (CTSI) in 76.84%. Bacterial superinfection was observed in 36.84% of cases (n = 35).

Table 1. Severity indicators of acute pancreatitis at Libreville University Hospital.

Signs of severity	Number (n = 95)	Percentage
Signs of Cullen and/or Grey Turner	6	6.32
Arterial hypotension	15	15.79
Respiratory distress	8	8.42
Acute renal failure	6	6.32
Ascite	3	3.18
SIRS ≥ 2	80	84.21
CRP ≥ 150 g/L	35	36.84
Atlanta Classification		
Benign PA	8	8.42
moderately severe PA	75	78.95
severe PA	12	12.63
Computed Tomography Severity Index (CTSI)		
≤3 points	12	12.63
4 - 6 points	73	76.84
7 - 10 points	10	10.53

The etiology of acute pancreatitis, in order of frequency, was gallstones (43.16%), alcohol (30.53%), the combination of alcohol and gallstones (12.63%),

a metabolic cause (7.37%), a drug-induced cause (5.26%), and an unknown cause (1.05%). Comorbidities included hypertension (23.16%), obesity (13.68%), diabetes (5.26%), HIV (4.21%), hepatitis B (2.11%), and hepatitis C (2.11%). Regarding treatment, 4 out of 13 patients (30.77%) who had a formal indication for cholangiopancreatography (CPAP) underwent surgery. Emergency endoscopic retrograde cholangiopancreatography (ERCP) was performed. Patients had access to this procedure. In terms of patient outcomes, we recorded 12 deaths, representing 12.63%. CRP > 150 mg/L and CTSI > 7 were the only variables retained for statistical significance. After logistic regression, the factors associated with death were a CRP level above 150 mg/L (OR = 2.11 [1.18 - 3.74]; p = 0.043) and a CTSI score greater than 7 (OR = 1.6 [1.31 - 2.89]; p = 0.038).

4. Discussion

Acute pancreatitis accounted for 5.19% of hospitalizations. This frequency was close to that found in the Congo (3.7%) but appeared higher than that of West African countries such as Senegal (0.5%) and Burkina Faso (0.46%) [7] [8] [11]. It remained well below that of the Maghreb, notably 10% in Algeria [12] [13]. These differences could reflect an epidemiological reality but could also be explained by methodological biases, as some studies were conducted in hepatogastroenterology departments and others in digestive surgery [7] [8] [11]-[13]. The mean age of 41.9 years was similar to data from sub-Saharan Africa, where it ranges from 37 years in South Africa to 44 years in Côte d'Ivoire [7] [8] [10] [11] [14]-[17]. The male predominance, already noted by Maganga *et al.* in Gabon, is observed in several African countries [7] [8] [10] [11] [14]-[17]. As in the literature as a whole, alcoholic and lithiasic etiologies accounted for more than 80% of the causes of acute pancreatitis [1]-[22].

We observed a high mortality rate of 12.63%, confirming the data from Maganga *et al.* in Gabon [10]. This high mortality rate appeared similar in African countries with a high prevalence of acute pancreatitis [12] [13] [15]-[17], while it was significantly lower in Europe and the United States [1]-[3] [18]-[22]. This high mortality rate could be explained by the delay in treatment, with an average of nearly 5 days between visits. Indeed, James *et al.* demonstrated the importance of the first 72 days of care in the management of acute pancreatitis [3]. This delay in treatment was marked, in the patient's care pathway, by recourse to traditional healers in 35.79% of cases and to places of worship in 10.53%, reflecting the influence of cultural beliefs in our context. Furthermore, this care pathway was complicated by difficulty accessing an intensive care unit for severe cases (11.43%), which could worsen the loss of opportunity as indicated by international guidelines [1] [3] [18] [23] [24].

Moreover, statistical analysis found a statistical link between the occurrence of death and a CRP value greater than 150 mg/L, as well as a CTSI greater than 7. This confirms the results of Xiaoli *et al.*, for whom a high CRP value was a criterion for the severity of acute pancreatitis [25]. In addition, Liu *et al.* showed that

bacterial translocation during acute pancreatitis was a poor prognostic complication associated with a high CRP value [26]. The CTSI is included in all international guidelines for the prognostic assessment of acute pancreatitis and appears to be an independent factor of poor prognosis [1] [3] [18] [23] [24].

5. Conclusion

Acute pancreatitis is an emergency affecting young adult males of all socioeconomic backgrounds, with alcohol and gallstones being the main causes. Its management is delayed and limited by a care pathway influenced by sociocultural factors and the scarcity of intensive care unit beds. Public education about this condition and the establishment of a hepatogastroenterology intensive care unit could reduce its mortality rate.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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