

Original Research Article

Epidemiological Profile of Diabetic Ketoacidosis

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Abstract: Diabetic ketoacidosis is a real public health problem in our context with an incidence of 12.67%. Diabetic ketoacidosis is a therapeutic emergency that requires rigorous management, especially in the acute phase, while respecting the therapeutic particularities of each patient and taking care to detect the etiologies. The etiological research of ketoacidotic decompensation has enabled us to determine, as the main triggering factors, therapeutic non-compliance and then infections, predominated by urinary infections and pneumonia. Initial treatment is based on rehydration, insulin therapy and correction of electrolyte and acid-base disorders, of course, with rigorous and essential monitoring combating possible complications, particularly iatrogenic, represented in our context mainly by the hypokalemia, hypoglycemia, cerebral edema and acute renal failure. The analytical statistical study allowed us to conclude that death was essentially linked to complications occurring during the hospital stay, notably septic shock, cerebral involvement, renal failure and the use of mechanical ventilation.

Keywords: Epidemiology, Prognosis, Ketoacidosis.

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INTRODUCTION

- Diabetes is a chronic metabolic condition on the rise worldwide.
- It constitutes a major public health problem in many countries.
- Ketoacidosis remains associated with a relatively high mortality which varies between 1 % and 20 % despite significant progress made in diagnostic and therapeutic management.
- The aim of our work is to take stock of the management and clinical and progressive epidemiological characteristics of patients admitted for diabetic ketoacidosis.

MATERIALS AND METHODS

- It's a Retrospective descriptive and analytical study: epidemiological, clinical and evolutionary characteristics in Intensive care unit of surgical of the IBN ROCHD CASABLANCA University Hospital of 50 patients
- The aim of our retrospective work is to study the epidemiological, clinical and evolutionary characteristics as well as the prognostic factors.

RESULTS AND DISCUSSION

- Diabetic Ketoacidosis remain a frequent reason for admission in intensive care (12.67%).
- It mainly include the young patient with an average age of 36.7 years (14-96 years) with a peak of frequency between 21 and 30 years (24%).
- The female patients is most predominant with a sex-ratio of 3/2. Type 1 diabetes is representing 50% of the cases.
- Ketoacidosis was inaugural in 20% of cases.
- The mean duration of diabetes was 9.32 years for type 1 and 8.95 years for type 2.
- Associated comorbidities, consist mainly in hypertension (18%) and neoplasia (6%), which represent 34% of the patients.
- The majority of patients has been admitted via emergencies in 90% of the cases. The time before hospital care was greater than 48 hours in 50% of the cases.
- Hyperglycemia was constant with an average admission capillary blood glucose of 4.24 +/- 1.20 g/l and with an average ketone body of 3 +/- 1 cross on the urine band.
- The main decompensating factor is irregular treatment in 42%, followed by infection (30%) and organic causes (10%).

- Specific treatment for ketoacidosis was initiated by 0,9% saline rehydration combined with insulin therapy, then relayed by 5% glucose serum as soon as the blood glucose level was 2 to 2.5 g/ and with Electrolytic substitution as a function of the ionogram.
- Bicarbonate is not part of the specific treatment for ketoacidosis and has been administered in only one case of severe acidosis.
- The use of artificial ventilation was necessary in 30% of the cases with an average duration of intubation-ventilation of 7 + 4 days (3-16 days).
- Antibiotic therapy was administered in 62% of the cases with the most commonly used third-generation cephalosporins with a frequency of 71%, aminoglycosides (29%), glycopeptides (19%), imipenem (16%) and quinolones (16%).
- The prevention of the thromboembolic disease and of stress ulcers has been part of the parallel treatment of ketoacidosis.
- Predictive factors of mortality from the univariate analytical study are represented by:
 - The presence of neurological admission disorders with Glasgow score ≤ 13
 - Respiratory rate > 24 cycles/min.
 - High severity scores (APACHE II, SAPS II and SOFA)
 - The presence of organic lesions confirmed by CT-scans
 - use of mechanical ventilation

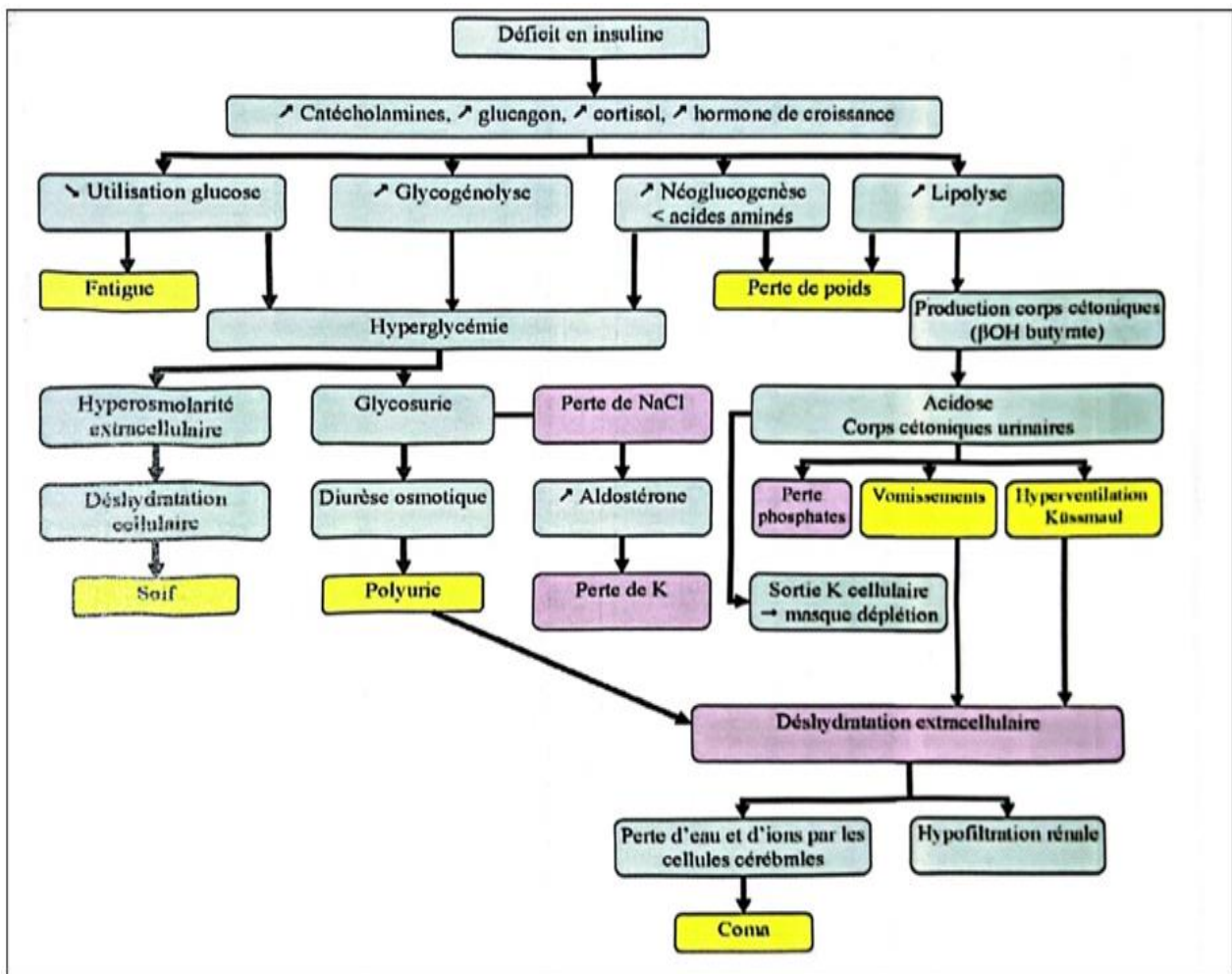


Fig. 1

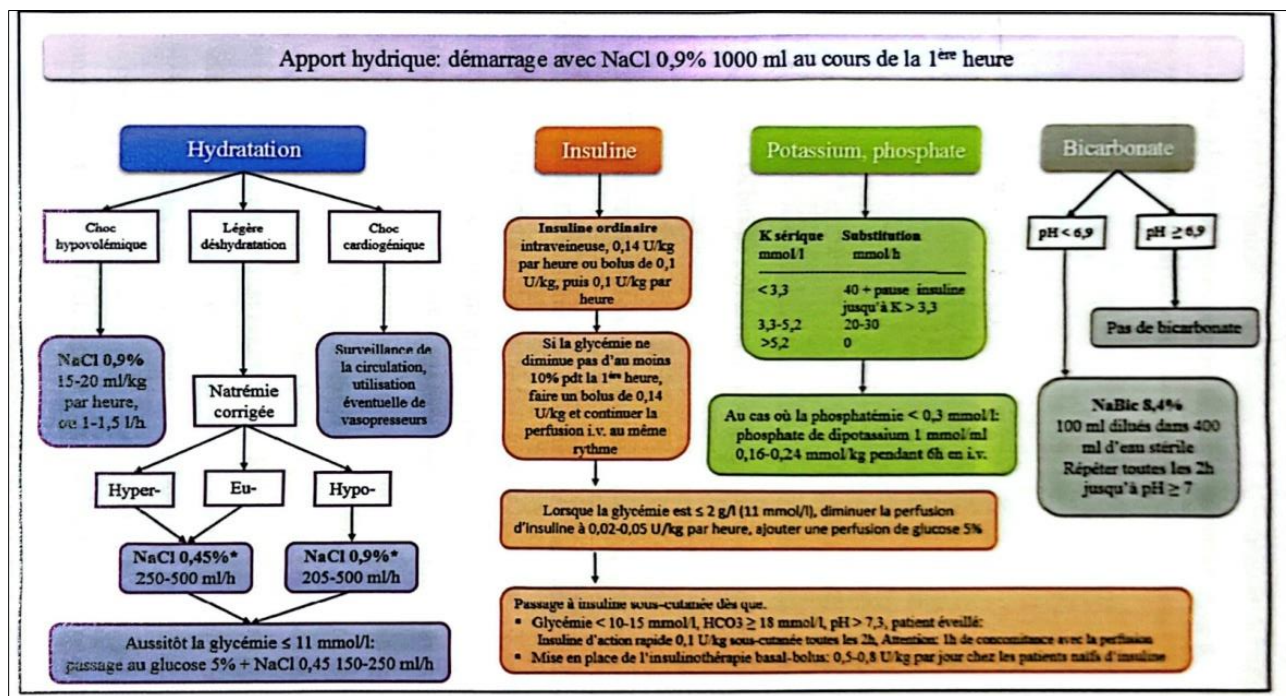


Fig. 2

CONCLUSION

- The mortality rate is 28% and Death was directly caused by septic shock in 50% of cases, cerebral engagement in 21% of cases, and cardiogenic shock in 14% of cases.
- This profile remains serious and important in our context, requiring the use of preventive measures, including the education of diabetics to good quality of self-treatment, early diagnosis and regular monitoring of diabetes in order to reduce the incidence of Diabetic decompensation.

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