

RESULTS

49% of patients have HbA1c of 8.0% and above, with hospital stay of less than 8 days (64%), had antibiotics for less than 15 days (53%), had wound debridement (67%), and experienced wound healing for 14 days or less. Fisher's Exact Test at 5% level of significance showed that HbA1c is significantly correlated with the mean duration of healing, duration of antibiotics and wound debridement. HbA1c of 8.0% and higher presents a higher risk of longer antibiotic use (odds ratio 3.99), higher risk of wound debridement (hazard ratio 5.60) and longer healing time (hazard ratio 2.0).

CONCLUSION

Patients with HbA1c of more than 8.0% had prolonged healing time, higher risk to undergo wound debridement and longer duration of antibiotics. We highly recommend a strict level of glycemic control specifically to populations who are at risk to develop lower extremity infections such as those with peripheral artery disease and with previous history of lower extremity infection.

KEY WORDS

healing rate, lower extremity infection, hba1c, diabetes

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**TYPES OF INFECTIONS THAT
PREDISPOSE PATIENTS WITH DIABETES
TO DIABETIC KETOACIDOSIS IN A
REGIONAL HOSPITAL IN HONG KONG**

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INTRODUCTION

Diabetic ketoacidosis (DKA) is one of the most severe acute complications of diabetes mellitus (DM), and infection is one of the most common triggers. There are not many studies in Hong Kong to find the types of infections that predispose patients with diabetes to DKA.

METHODOLOGY

This retrospective case control study was conducted in a regional hospital in Hong Kong on 100 hospitalized patients with diabetes. Patients with diabetes were classified as with or without DKA, and each group consisted of 50 patients. Infection was either clinically or microbiologically documented. Infection with potential to trigger DKA was identified. Clinical and biochemical characteristics of patients with or without DKA were also analyzed. Statistical analysis was performed using Statistical Package for the Social Sciences (SPSS) software.

RESULTS

Younger age ($p=0.001$), newly diagnosed DM ($p=0.029$), higher white cell count ($p<0.001$), presence of pancreatitis ($p=0.042$) and isolation of *Streptococcus* from cultures ($p=0.022$) were significantly more frequent in patients with DKA than those without DKA by univariate analysis. Multivariate analysis showed that younger age (odds ratio, 0.95: 95% confidence interval, 0.92-0.98) and higher white cell count (odds ratio, 1.188, 95% confidence interval, 1.071-1.318) were independently associated with DKA.

CONCLUSION

Pancreatitis ($p=0.042$) and *Streptococcus* infection ($p=0.022$) were significantly more frequent in patients with DKA than those without DKA by univariate analysis, though could not reach statistical significance after multivariate analysis. Higher white cell count was independently associated with development of DKA. Aggressive management is needed to improve the survival of patients with DKA. Younger age is also independently associated with DKA. One of the reasons can be due to the association of DKA with newly diagnosed DM in which the usual onset time is relatively younger. Education of DM symptoms to the public with an effective screening program for DM is needed.

KEY WORDS

diabetic ketoacidosis, infection, association