Diabetes mellitus and obesity : risk factor of urinary tract infection in ureteral obstruction ?

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Introduction

Diabetes and obesity are among the most mortal diseases among the world. A lot of studies demonstrate that patients with diabetes mellitus, in particular type 2, are at increased risk of infections. The link between obesity and a higher risk of infection is not clearly demonstrated. At the same time, it appears to us that the number of double J stent placement in emergency for infected calculi has increased. The goal of this retrospective study is to assess if diabetic or obese patients are more likely to develop urinary tract infection (UTI) within the context of ureteral obstruction.

Methods

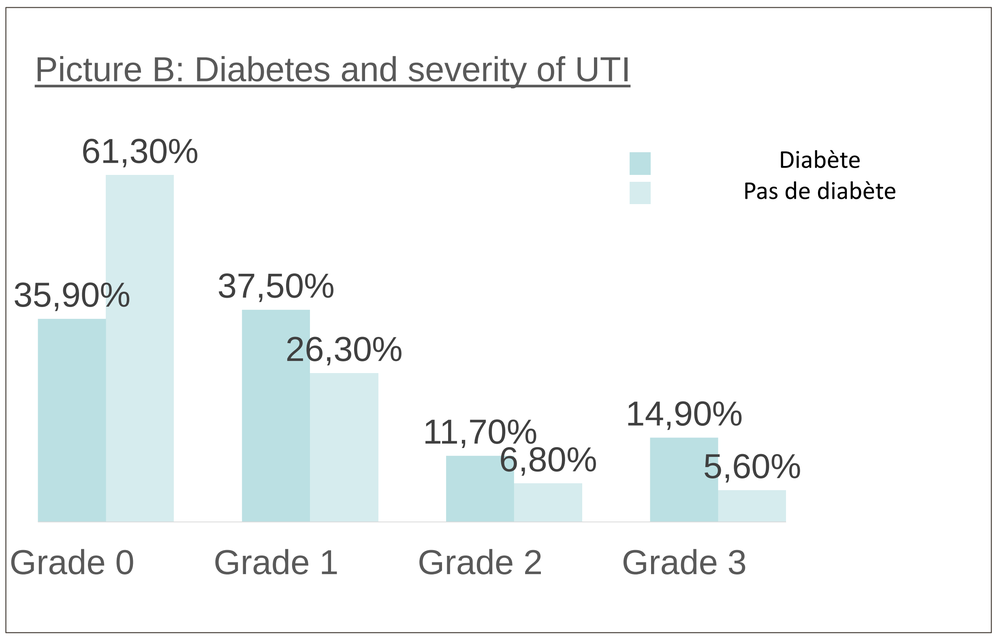
804 patients that had received an emergency treatment by double J placement for ureteral stone were selected between January the 1st of 2004 and December the 31st of 2014 at the Clinique Saint Pierre d'Ottignies, Ottignies-Louvain-La-Neuve,Belgium. They were divided in 2 groups : patients with UTI associated and the control group with the non infected ones.

Results

In the group of infected patients, 92 were obese et 82 diabetic. In the control group, 100 patients were obese et 46 diabetic. Regarding diabetes, there was a significant difference between the group of patients with UTI and the control group ($p<0.001$). That difference was not significant for obesity ($p=0.100$).

Picture A : Distribution of infected and non infected groups

	Patients infectés	Patients non infectés	Puissance p
Diabète	82 (23,8%)	46 (10,0%)	P< 0,001
Obésité	92 (26,7%)	100 (21,7%)	P = 0,100
Autres	170 (49,5%)	314 (68,3%)	
TOTAL	344	460	



Grade 0: no infection
Grade 1: positive urine analysis
Grade 2: UTI with fever
Grade 3: UTI and septic shock

Conclusions

That study demonstrates that diabetic patients are at higher risk of urinary tract infection in case of ureteral obstruction, thus an invasive treatment could be considered faster. As shown in previous studies, the same link is not demontrated for obese patients.

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