Abstract citation ID: qdaf077.231

AN ELEVATED GLYCOSYLATED HAEMOGLOBIN LEVEL IS ASSOCIATED WITH A HIGHER RISK OF PENILE PROSTHESIS INFECTION: SYSTEMATIC REVIEW AND META-ANALYSIS

W.G. Lee[1], *P. Capogrosso*[2], *D. Osmonov*[3], *K. van Renterghem*[4], *J.R. Otero*[5], *S. Ward*[6], *A. Salonia*[7], *C. Reisman*[8], *C. Bettocchi*[9], *M. Maggi*[10], *M. Fode*[11], *G. Corona*[12]

[1]*University College Hospital, London, United Kingdom*
[2]*Ospedale di Circolo and Macchi Foundation, Varese, Italy*
[3]*University Medical Center Schleswig Holstein Campus Lübeck, Lubeck, Germany*
[4]*Jessa Hospital, Hasselt, Belgium*
[5]*Hospital Universitario HM Sanchinarro, HM Hospitales and ROC Clinic, Madrid, Spain*
[6]*Clinique Saint-Jean, Brussels, Belgium*
[7]*IRCCS Ospedale San Raffaele, Milan, Italy*
[8]*Amstelland Hospital, Amstelveen, The Netherlands*
[9]*University of Foggia, Foggia, Italy*
[10]*University of Florence, Florence, Italy*
[11]*Copenhagen University Hospital, Herlev, Denmark*
[12]*Ospedale Maggiore, Bologna, Italy*

Objectives: The impact of preoperative glycometabolic profile of diabetic patients on the risk of penile prosthesis (PP) infection remains uncertain. Current data are conflicting but the studies to date have been limited by retrospective design and by including heterogenous cohorts of patients (both diabetic and non-diabetic). Hence, the available evidence on the impact of diabetes mellitus (DM) and glycemic control on infection rate after PP implantation was systematically reviewed.
Methods: A comprehensive Medline, Embase, and Cochrane search was performed including the keywords penile prosthesis and diabetes mellitus. English-language articles between January 1st, 1969, up to May 31st, 2024 were included. Primary outcome was the PP infection rate in patients with DM. Secondary endpoints included the contribution of glycometabolic control on PP infection rate. Random-effect model was uniformly applied. Robust meta-analytical techniques were employed to control for heterogeneity and undetected bias including sensitivity analyses and regression linear adjusted models where appropriate. The protocol of this study (CRD42024557982) was published on PROSPERO.
Results: Out of 182 retrieved articles, 9 were included in the study (3 prospective and 6 retrospective) accounting for 5493 subjects with a mean age of 59.7 years, and a mean follow-up of 29.4 months. Overall, a PP infection rate of up to 7% was observed. The PP infection rate increased according to baseline HbA1c levels and was confirmed in multivariate analysis adjusting for age and trial duration ($B = 7.8 \pm 0.2\%$; $p < 0.0001$). PP infection rate was almost 3-times higher when trials with a mean HbA1c greater than 8% were compared to the rest of the sample (9.1 (7.5;11.0) vs. 3.8(3.2;13.5)%; $Q = 43.18$; $p < 0.0001$).
Conclusions: The present study suggests a significantly increased risk of PP infection for patients with DM and pre-operative HbA1c greater than 8%. A multidisciplinary approach to optimise preoperative glycometabolic control in patients with DM may be the key element for successful PP implant outcomes. However, better quality studies are needed to better guide clinical practice and preoperative optimisation.
Conflicts of Interest: nil.