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LETTERS TO THE EDITOR
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GLYCOSILATED HEMOGLOBIN AN ALLIED FACTOR IN THE PREVENTION OF POSTQUIRURGICAL INFECTION OF THE DIABETIC FOOT

HEMOGLOBINA GLICOSILADA UN FACTOR ALIADO EN LA PREVENCIÓN DE INFECCIÓN POSTQUIRÚRGICA DEL PIE DIABÉTICO

Angela Marcela Villanueva-Del Busto[1,a], Fiorella Rocío Arce-Huaroto[1,a]

LETTERS TO THE EDITOR

Mr. Editor

Type 2 diabetes mellitus is a public health problem in Peru and in the world. According to the International Diabetes Federation, it is estimated that there are 387 million people in the world with DM-2. According to national studies, the prevalence of DM-2 in Peru is between 4.1% and 8.4%. The main chronic complication of DM-2, both because of its frequency and the consequent disability it generates, is the diabetic foot. Thus, 15% of diabetic patients will develop foot injuries. Most of them will suffer a successful epithelialization of their ulcers but between 15% and 20%, will suffer amputations of the lower limb[(1)].

In this regard, it is known that patients with diabetes mellitus have a high risk of postoperative complications, including infections, inadequate wound healing, cardiovascular events, venous thromboembolism , and mortality. Due to the fact that average hyperglycemia has been thought to be risky, it is usually recommended to optimize glycemic control, in cases of elective surgery[(2)].

Poor glycemic control, indicated by elevated levels of glycosylated hemoglobin (HbA1c), could be associated with an increased risk of postoperative complications. There are different studies that have evaluated the effect of HbA1c levels on the development of surgical site infections, proposing a cause and effect relationship between them.

Our objective was to review the evidence regarding the effect of HbA1c on the development of post-surgical infection in patients with diabetic foot.

The electronic search of various scientific articles related to the subject was carried out. The search sources were PubMed, Scielo, BVS, Google Scholar and the Ricardo Palma University Repository. The keywords were: "glycosylated hemoglobin", "Diabetic foot infection", "infectious complication" and "Amputee diabetic foot", "glycosylated hemoglobin", "diabetic foot amputee infection", "markers of diabetic foot infection" .

We found 5 articles that evaluate this association (table 1), all of them retrospective in nature, in 4 of them a significant statistical association was found, with OR that fluctuated between 3.94 and 1.05, while in 1 of them it was not found significant association between both factors.

Although most studies find a statistically significant association between high levels of preoperative glycosylated hemoglobin and the development of postoperative infections, the quality of evidence may be questionable, by retrospective nature. On the other hand, having not found national studies, no solid conclusions can be made for our population, for this reason it is proposed to carry out the same that reflect the national problematic. If the relationship is verified, patients with increased levels of preoperative glycosylated hemoglobin should be properly evaluated and continuously monitor the evolution of the wound by a multidisciplinary team, in order to avoid complications.

[1] Faculty of Human Medicine, Ricardo Palma University, Lima-Peru.
[a] Student of the Faculty of Human Medicine.

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Table 1. General characteristics of the selected articles.

Author year	Sample size	Study design	Results
Domek[2] 2016	21854 patients	Retrospective observational case series study	The value of HbA1c who developed infection averaged 6. 41%, compared than 6.11% for those who did not develop infection (OR 1. 05 95% P = 0. 015)
Cancienne[3] 2017	7736 patients	Baseline analysis of a series of cases	Patients with an HbA1c level of 7.5% or more had a significantly higher risk of infection compared to patients below this threshold (OR, 2. 6; 95% CI, 1.9-3.4; P < 0.0001)
Muñoz[4] 2003	740 patients	Study of historical cohorts	There is no correlation between the degree of glycemic control (HbA1c%) with the frequency of infections in diabetic patients studied (p = 0.33)
Jupiter[5] 2014	322 patients	Retrospective observational study of a database	The infection rate increased steadily as HbA1c increased to 7.3%. and then slowly until HbA1c reached 8% to 8.5%, while it increased dramatically when HbA1c reached levels of 10% (OR 3.94 95% CI: 2.38 to 6.61)
Humphers[6] 2014	322 patients	Retrospective Cohort Study	HbA1c was significantly associated with postoperative infections. With each 1% increase in HbA1c increases the chances of infection by a factor of 1.59 and complications in wound healing (OR = 1. 25, 95% CI = 1.02- 1.53)

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Correspondence: *Angela Marcela Villanueva Del Busto.*

Address: *Jr. Vulcano Mz . D Lot 1. Urb. Santa Modesta, Santiago de Surco, Lima-Peru.*

Telephone: *987758961*

E-mail: *marcelavillanuevadelbusto@gmail.com*

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