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Bullous pemphigoid and neurological disorders among a Jewish population

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Abstract

A retrospective case control study included data regarding 65 Jewish bullous pemphigoid (BP) patients diagnosed in a tertiary medical center and a control group consisting of 182 matched Jewish patients. The study indicates that Jewish patients with BP suffer from a higher prevalence of neurological diseases compared to patients with no BP, similarly to previous reports showing high prevalence of neurological diseases among BP patients from different ethnic groups.

Keywords: bullous pemphigoid; pemphigoid; neurological diseases

Introduction

Bullous pemphigoid (BP) is an autoimmune disease characterized by subepidermal blisters mainly in the elderly population. Several studies described an association between BP and neurological diseases among different populations [1-4]. However, to the best of our knowledge no investigation has been done so far in order to describe an association with Jewish ethnicity.

Describing the association in the Jewish population could be of importance since the Jewish population is known to have a higher prevalence of BP in Israel compared to other ethnic groups. This also holds true for some other autoimmune disorders such as pemphigus vulgaris worldwide [5, 6]. This study

demonstrates whether there is an association between BP and neurological diseases among a Jewish population.

Methods and Results

After approval of the local Institutional review board, we collected data and conducted a retrospective case control study that included demographic data of 65 Jewish BP patients diagnosed in "Emek" medical center and 182 Jewish patients as a control group that did not suffer from BP. Patients and controls were matched by age, sex, and visit year at our clinic. The patients' medical records were examined for the presence of neurological diseases at any time prior to the diagnosis of BP among the study group and prior to the visit in our clinic for the control group. Specific data were collected regarding stroke, Alzheimer, Parkinson, dementia, epilepsy, multiple sclerosis (MS), and transient ischemic attack (TIA). The neurological diagnosis was confirmed by a careful examination of the medical files including discharge papers from the hospital and neurologist notes and was confirmed by 2 doctors.

Statistical analyses were performed using SPSS version 21. All tests were 2-sided, and P values less than 0.05 were considered statistically significant.

The study group consisted of 36 men and 29 women, whereas the control group consisted of 97 men and 85 women matched by age, sex, and visit year. The

study included all the Jewish BP patients who were diagnosed in our clinic through 2009-2016.

The results showed that 32 patients within the study group suffered from neurological diseases (49%), compared to 50 patients among the control group (27%) (P=0.03, Odds ratio (OR)=2.16 (1.07-4.35)). An association with no statistical significance was found between previous stroke and BP (P=0.07).

Table 1 details the OR and P value of stroke, Alzheimer disease, Parkinson disease, dementia, epilepsy, multiple sclerosis (MS), and transient ischemic attack (TIA).

Discussion

The results strengthen previous studies that reported a general association between BP and neurological diseases and emphasize that it exists among Jewish patients as well.

The hypothesis regarding the pathogenesis of this association is based on the fact that BP230 has similar isoforms in neuronal tissue as had been demonstrated by several studies [7, 8].

Our study has limitations. We investigated a single referral center in a small geographic area. Moreover, although achieving statistical significance for the neurological diseases as a group, the sample size was too small in order to determine which neurological diseases have the greatest association. In addition, there was no division between Ashkenazi Jews and Sephardi Jews, which are different by origin but share some genetic features.

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Table 1. Summary of neurological diseases among control and patient groups.

Neurological disorder	Controls (n=182)	Cases (n=65)	OR (95% CI)	P value
All neurological	50 (27.5%)	32 (49.2%)	OR=2.16 (CI 1.07-4.35)	0.03
Stroke	15 (8.2)	11 (16.9)	2.31 (0.93-5.77)	0.07
Alzheimer	24 (13.2)	16 (24.6)	1.67 (0.74-3.76)	0.22
Epilepsy	1 (0.5)	1 (1.5)	3.00 (0.19-47.96)	0.44
Parkinson	5 (2.7)	4 (6.2)	1.00 (0.20-4.96)	>0.99
MS	0 (0.0)	0 (0.0)	-----	—
Dementia	26 (14.3)	19 (29.2)	1.79 (0.83-3.87)	0.14
TIA	7 (3.8)	0 (0.0)	0.03 (0.00-68.33)	0.38

Bold indicates result reach statistical significance.

OR, Odds ratio; CI, confidence interval. MS, Multiple sclerosis; TIA, transient ischemic attack.

Conclusion

Various studies demonstrated a connection between BP and neurological diseases in the general population. Our study indicates that Jewish patients with BP suffer from a higher prevalence of neurological diseases compared to patients without BP, similarly to previous reports regarding other ethnical groups.

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