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PURPOSE

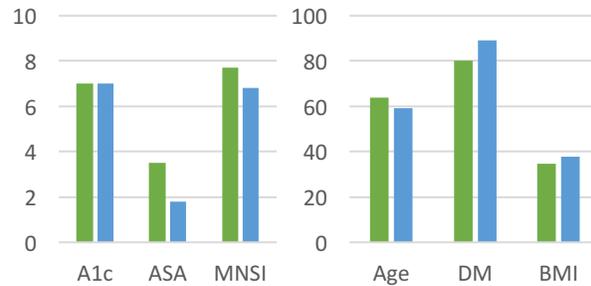
Charcot neuroarthropathy (CN) is a rare yet challenging destructive process typically affecting the foot and ankle. There is a lack of research detailing bilateral CN (BLCN). The following case series documents patients with BLCN changes to their feet who underwent surgical treatments for their deformities. Furthermore, the study looks at parameters which may contribute to a BLCN presentation.

LITERATURE REVIEW

The prevalence of CN is rare. Reports of CN vary between 0.04% to 1.4% in diabetic patients.^{1,2} The prevalence is arguably higher, however medical professionals not familiar with lower extremity pathology lack awareness of this uncommon assessment.³ While CN has been widely studied, minimal research has focused on the prevalence of patients with BLCN. Furthermore, specific parameters leading to BLCN have not been evaluated.

CASE SERIES

23 patients with CN identified by imaging modalities were included in this series from a podiatry practice between 2016-2018. Of these patients, 5 had BLCN. The following tables outline the variables examined for this study and the results for the BLCN patients compared to the control group to determine any significant findings. Descriptive analysis was used to interpret the results.



Pt	A1c	BMI	ASA	Age	MNSI	DM	F/M
1	7.7	44	3	57	8	Yes	M
2	6.3	28.7	3	63	8	Yes	M
3	n/a	35.6	4	64	8	No	M
4	7.5	30.8	3	66	6.5	Yes	F
5	6.6	34.4	3	69	8	Yes	M

Pt	A1c	BMI	ASA	Age	MNSI	DM	F/M
6	n/a	39.1	3	73	n/a	No	M
7	7.7	30.2	4	53	9	Yes	M
8	6.4	38	3	61	1	Yes	M
9	5.8	24.6	3	63	6	Yes	F
10	8.6	52.5	3	57	8	Yes	M

Pt	A1c	BMI	ASA	Age	MNSI	DM	F/M
11	5.9	40.4	4	65	8	Yes	F
12	10	38	3	50	10	Yes	F
13	9.2	35.1	3	53	8	Yes	F
14	8.1	31.7	3	70	8	Yes	F
15	4.6	52.5	4	53	8	Yes	F
16	6.8	33.3	3	61	2	Yes	F
17	6.4	28.5	3	53	8	Yes	M
18	7.1	45.4	3	50	8	Yes	M
19	5.7	50.2	3	50	8	Yes	M
20	6.4	31.5	3	61	8	Yes	M
21	8.4	36.6	3	56	9	Yes	F
22	5.7	34.1	2	70	5	No	M
23	6.7	40.7	4	69	4	Yes	M

We hypothesized that BLCN patients would have a higher A1c, ASA, MNSI and BMI. Additionally, the BLCN population would be older and have a greater than or equal to rate of DM compared to the control group.

Averages of the variables were taken for the

BLCN and control group. Higher ASA, MNSI and age were seen in the BLCN group. The average A1c for both groups were identical at 7%. Lower percentage of DM and BMI scores were seen in the BLCN group compared to the control group. Male prevalence was higher than female in both groups.

ANALYSIS AND DISCUSSION

22% of the surgical CN population in our study had BLCN. Current literature for BLCN ranges from 10-30%,^{4,5} verifying our study is consistent with other research. Patients in the BLCN had a lower BMI than that of the control group. This observation was different than originally hypothesized and could be a result of a more active population who could increase the chances of CN breakdown. Further research should look at the patient's activity level and length of neuropathy.

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