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Idiopathic Granulomatous Mastitis: Experience at a Cancer Referral Center.

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ABSTRACT

Background

Idiopathic granulomatous mastitis (IGM) is challenging as it is a rare disease with unknown etiology, risk factors difficult to establish, and controversies regarding its treatment. Here we describe demographic and clinical characteristics of patients with IGM diagnosed at a cancer referral center, as well as the microbial isolates and treatment.

Methods

We reviewed the clinical charts of patients with IGM, diagnosed from 2004 to 2019. Males were excluded. Demographic data, past medical history, signs and symptoms, clinical exam findings, radiological and microbiological results, and treatments were retrieved. Frequencies were calculated for qualitative variables and measures of central tendency and dispersion for quantitative variables. Association between categorical variables was explored with a logistic regression to identify risk factors associated with treatment response.

Results

Two hundred cases of IGM, with a median age of 38 years, were reviewed. Concerning past medical history data, 66 patients (33.8%) were obese; 45 (30.4%) had used hormonal therapy; 6 (3.4%) had an autoimmune disease; 158 (89.8%) had been pregnant and 100 (77.5%) had breastfed. The most common signs were skin induration (65%), a delimited mass (64.5%), and suppuration (52%). On imaging findings, 53.8% was suspicious for malignancy. Culture was performed on 88 patients (44%), 32 had a microorganism isolated, most commonly *Staphylococcus spp*. (n=16; 51.6%) and *Corynebacterium spp*. (n=7; 22.6%). The most common treatment was an antibiotic regimen (n=84, 42%). Improvement was noted with the initial therapy in 92 patients (46%). Fourteen patients (7%) had persistent symptoms and 46 (23%), relapsed. The presence of fever (OR 11.94; CI95% 1.33-106.80; p=0.027) or induration (OR 2.78; CI95% 1.25-6.19; p=0.012) were associated with a poor response.

Conclusion

We describe one of the largest IGM series in Latin America, on a population comparable to those from other resource-limited countries. Fever and induration were associated to a greater risk of failure to initial treatment. The isolation of *Corynebacterium* spp. has also been described in other series. The variation of initial therapeutic strategies is an opportunity to standardize treatment by the means of prospective studies.

INTRODUCTION

Idiopathic granulomatous mastitis (IGM) is an entity that, ever since it was first described, is said to simulate breast carcinoma. Both diseases can share mammographic characteristics, leading to frequent patient referral to surgeons and oncologists for further study and treatment.

OBJETIVE

To analyze the demographic and clinical characteristics of patients with IGM diagnosed at a cancer referral hospital in Mexico (Instituto Nacional de Cancerología - INCan) between 2004 and 2019, the microbiological isolates obtained, and the treatments administered as well as the risk factors associated with poor clinical response.

METHODS

-Retrospective cohort of women diagnosed with IGM from December 2004 to December 2019.

-Retrieval of demographic, clinical, therapeutics and follow-up data.

-Descriptive statistics were conducted using frequencies and proportions for qualitative variables and mean and standard deviation or median and interquartile range (IQR) as appropriate.

-Logistic regression analysis was conducted to identify risk factors associated with treatment response.

RESULTS

200 patients with a median age of 38 years (range: 19-89)

Suspicion of malignancy from mammogram report (n=111): 87 (78.4%)

Table 1. Clinical characteristics and comorbidities (N available in clinical records)

Obesity (N=195)	43 (22)
Hormonal contraceptives or replacement therapy (N=148)	45 (30.4)
Current smoking (N=165)	18 (10.9)
Diabetes mellitus (N=176)	24 (13.6)
Cancer (N=183)	11 (5.9)
Autoimmune disease (N=174)	6 (3.4)
Thyroid disease (N=176)	6 (3.4)
Pregnancy history (N=176)	158 (89.8)
Breastfeeding history (N=129)	100 (77.5)

Results are shown as: frequency (%)

Figure 1. Clinical characteristics upon first medical appointment at INCan (N=200)

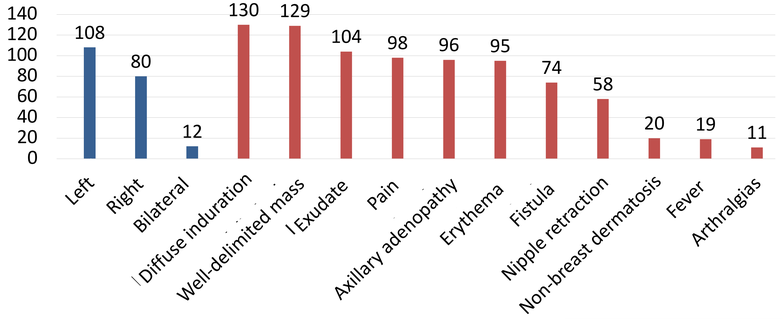
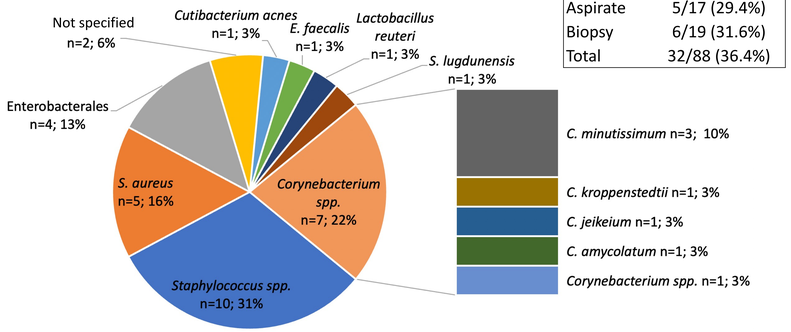


Figure 2. Microbiological isolates (n=32)



Positive cultures/total	
Swab	21/52 (40.4%)
Aspirate	5/17 (29.4%)
Biopsy	6/19 (31.6%)
Total	32/88 (36.4%)

Table 2. Initial treatment and clinical response (n=200)

Initial treatment	Complete	Partial	Absent	Lost follow-up
AB (n=82; 41%)	23 (27%)	4 (5%)	55 (65%)	0
NSAID (n=16; 8%)	8 (50%)	0	8 (50%)	0
D (n=8; 4%)	1 (13%)	0	7 (88%)	0
S (n=20; 10%)	14 (70%)	0	5 (25%)	1 (5%)
AntiTB (n=4; 2%)	4 (100%)	0	0	0
O (n=30; 15%)	24 (80%)	0	3 (10%)	3 (10%)
AB+NSAID (n=32; 16%)	13 (41%)	0	19 (59%)	0
AB+S (n=4; 2%)	2 (50%)	0	2 (50%)	0
AB+D (n=2; 1%)	1 (50%)	0	1 (50%)	0
Surgery (n=2; 1%)	2 (100%)	0	0	0
Total	**92 (46%)**	4 (2%)	100 (50%)	4 (2%)

AB: antibiotic, NSAID: non-steroidal anti-inflammatory; D: drainage; S: steroids; O: observation

Figure 3. Clinical status upon last follow-up

Complete response	Persistence	Relapse	Breast cancer	Lost to follow-up
161 (80.5%)	14 (7%)	8 (4%)	4 (2%)	13 (6.5%)

≥ 1 relapse: 46 (23%)

Table 3. Risk factors associated to poor clinical response (initial treatment)

	OR	p	Adjusted OR	p
Pregnancy history	0.77 (0.28-2.12)	0.62	-	-
Breastfeeding history	0.96 (0.41-2.22)	0.92	-	-
Hormonal therapy	1.72 (0.84.3.54)	0.14	1.46 (0.64-3.33)	0.37
Current smoking	1.71 (0.60-4.87)	0.32	-	-
Obesity	1.48 (0.80-2.71)	0.21	-	-
Diffuse induration	2.29 (1.26-4.18)	0.007	2.78 (1.25-6.19)	0.012
Exudate upon diagnosis	2.18 (1.23-3.87)	0.007	1.36 (0.63-2.93)	0.43
Axillary lymphadenopathy	0.70 (0.38-1.18)	0.16	0.47 (0.22-0.99)	0.049
Erythema	2.66 (1.49-4.75)	0.001	1.88 (0.87-4.04)	0.11
Fever	17.78 (2.32-136.49)	0.006	11.94 (1.33-106.80)	0.027
Arthralgias	1.10 (0.32-3.73)	0.88	-	-
Positive culture	2.98 (1.26-7.05)	0.013	2.84 (0.97-9.27)	0.084

Nagelkerke's results for the adjusted model is: 0.29.

No variable was significantly associated with a risk of relapse.

DISCUSSION

We report one of the largest IGM cohorts in America in a highly selected population from a national oncologic referral hospital. The presence of fever or diffuse induration upon diagnosis were associated with a higher risk of initial treatment failure. The isolation of *Staphylococcus* spp. and *Corynebacterium* spp. is consistent with previous reports. Newer diagnostic technologies have probably resulted in a better identification of *Corynebacterium* spp. as an etiologic agent. The diversity of initial treatment is an opportunity to further study and standardize the workup and management of these patients on prospective trials.

REFERENCES: 1. Uysal E, et al. Granulomatous Mastitis Study Group. Factors related to recurrence of idiopathic granulomatous mastitis: what do we learn from a multicentre study? ANZ J Surg. 2018;88(6):635–9. / 2. Lei X, et al. Treatments for Idiopathic Granulomatous Mastitis: Systematic Review and Meta-Analysis. Breastfeed Med. 2017;12(7):415–21. / 3. Wang J, et al. Pathogens in patients with granulomatous lobular mastitis. Int J Infect Dis. 2019;81:123–7.