



HIV-associated lipodystrophy: epidemiological analysis of a Plastic Surgery Service in Brazil

Lipodistrofia associada ao HIV: análise epidemiológica de um Serviço de Cirurgia Plástica no Brasil

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■ ABSTRACT

Introduction: Lipodystrophy is an important complication of HIV and has different clinical manifestations, such as lipoatrophy of the face, buttocks, and limbs and accumulation of fat in the abdominal and cervical regions. Lipodystrophy has aesthetic and psychosocial consequences, stigmatizing and affecting patients' quality of life. The objective is to evaluate the epidemiology and treatments performed in patients treated at the HIV-related Lipodystrophy Outpatient Clinic at Hospital das Clínicas da Faculdade de Medicina de Botucatu. **Method:** The study was conducted retrospectively, with port analysis of patients treated between June 2012 and December 2019, at Hospital das Clínicas da Faculdade de Medicina de Botucatu, in Botucatu, SP, Brazil. **Results:** The medical records of 153 individuals were analyzed, 79 male and 74 female patients. The mean age was 45.6 years. The referrals came from 48 cities in four states. Caucasian patients accounted for 74.5% of the consultations. The complaint of facial lipodystrophy was reported by 52.9% of the patients. The most common invasive procedure was facial filling with polymethylmethacrylate (PMMA) in 62 patients. Gluteal implants were the most common surgery on six occasions. **Conclusion:** The data found show a higher proportion of female patients with complaints of lipodystrophy when compared to general data of patients with HIV. The white race was predominant, and the main complaint of lipodystrophy was facial atrophy. Facial filling with PMMA was the most common procedure.

Keywords: HIV; HIV Seroprevalence; Epidemiology; HIV-associated lipodystrophy syndrome; Reconstructive surgical procedures; Brazil.

■ RESUMO

Introdução: A lipodistrofia é uma importante complicação do HIV e apresenta diferentes manifestações clínicas, como lipoatrofia de face, glúteos e membros, e acúmulo de gordura em região abdominal e cervical. A lipodistrofia apresenta consequências estéticas e psicossociais, que são estigmatizantes e afetam a qualidade de vida dos pacientes. O objetivo é avaliar a epidemiologia e os tratamentos realizados nos pacientes atendidos no Ambulatório de Lipodistrofia relacionada ao HIV do Hospital das Clínicas da Faculdade de Medicina de Botucatu. **Método:** O estudo foi realizado de maneira retrospectiva, com análise de portuário dos pacientes atendidos entre junho de 2012 e dezembro de 2019, no Hospital das Clínicas da Faculdade de Medicina de Botucatu, em Botucatu, SP, Brasil. **Resultados:** Os prontuários de 153 indivíduos foram analisados, sendo 79 pacientes do sexo masculino e 74 do sexo feminino. A média de idade foi 45,6 anos. Os encaminhamentos tiveram origem de 48 cidades, de quatro estados. Pacientes da raça branca totalizaram 74,5% dos atendimentos. A queixa de lipodistrofia de face foi referida por 52,9%

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dos pacientes. O procedimento invasivo mais realizado foi o preenchimento facial com polimetilmetacrilato (PMMA), em 62 pacientes. A inclusão de implantes glúteos foi a cirurgia mais realizada, em seis ocasiões. **Conclusão:** Os dados encontrados mostram maior proporção de pacientes do sexo feminino com queixa de lipodistrofia, quando comparados a dados gerais de pacientes com HIV. A raça branca foi predominante e a principal queixa de lipodistrofia foi a atrofia facial. O preenchimento facial com PMMA foi o procedimento mais realizado.

Descritores: HIV; Soroprevalência de HIV; Epidemiologia; Síndrome de lipodistrofia associada ao HIV; Procedimentos cirúrgicos reconstrutivos; Brasil.

INTRODUCTION

In 2020 begins the fifth decade of facing the epidemic caused by the Human Immunodeficiency Virus (HIV) in the world; Brazil is one of the best-organized countries, with its policy of access to universal and integral health as a highlight, with a reduction in the lethality and increased survival¹⁻³.

In 1985, the Ministry of Health began structuring the direct fight against the disease by creating the Acquired Immunodeficiency Syndrome Control Program (AIDS)⁴. In 1991, zidovudine (AZT) was incorporated into the medicines of the Unified Health System (SUS), and in 1996, antiretroviral therapy was introduced and distributed universally and free of charge to people with HIV⁵.

With the advent and incorporation of this therapeutic arsenal, there was an increase in patient survival; however, not free of side effects and complications, such as cardio and cerebrovascular diseases, insulin resistance, and lipodystrophy^{6,7}.

Primarily related to the class of protease inhibitors, lipodystrophy may be associated with different antiretroviral drugs and other factors, such as the inflammatory state of the infection, the phenomenon associated with immune reconstitution, and aspects of the host, such as age and sex^{8,9}.

The prevalence of this complication varies in the literature, between 6 and 80%^{10,11}, and has different manifestations, such as lipoatrophy of the face, buttocks, and limbs, and accumulation of fat in the abdominal and cervical regions^{12,13}.

Lipodystrophy, in addition to presenting aesthetic consequences, also involves psychosocial aspects, as it is stigmatizing and affects patients' quality of life, which may lead to interruption and therapeutic discontinuation in some cases^{12,14}.

In 2004, the Ministry of Health launched an ordinance to offer these patients access to plastic surgery to offer free treatment for HIV-related lipodystrophy. There was the inclusion in the SUS of surgical procedures, such as liposuction, gluteal implants, reduction mammoplasty, and ancillaries, such as the application of polymethylmethacrylate (PMMA)¹⁵.

The inclusion criteria were described in an ordinance of the following year, 2005. Diagnosis of HIV/AIDS and use of antiretroviral drugs for at least 12 months; patients who did not respond to switching or cannot be switched to antiretrovirals; clinically stable; CD4 greater than 200; viral load (VL) less than 10,000 copies were included¹⁵.

In our service, Department of Plastic Surgery of Faculdade de Medicina de Botucatu (FMB) – Universidade Estadual Paulista (UNESP), we are accredited to this type of service, respecting all regulations and ordinances in force.

OBJECTIVE

To evaluate the epidemiology of patients treated at the HIV-related Lipodystrophy Outpatient Clinic at the Hospital das Clínicas (HC) of the FMB and the most common treatments.

METHOD

The study was conducted retrospectively, with port analysis of patients treated at the Lipodystrophy Outpatient Clinic, between June 2012 and December 2019, at HC da UNESP in Botucatu, São Paulo, Brazil.

Data were collected in an Excel table and analyzed descriptively.

All patients undergoing invasive procedures were within the criteria established by the Ministry of Health¹⁵ and the Plastic Surgery team at HC UNESP, with a Body Mass Index (BMI) limit of less than or equal to 25 kg/m².

Patients who did not return 12 months after the last consultation were considered lost to follow-up.

All procedures performed in this study followed the 1964 Declaration of Helsinki and its subsequent amendments. The local Ethics Committee approved this study (protocol number: 38919020.6.0000.5411).

RESULTS

During the analyzed period, 172 patients received care. Of these, 19 patients were excluded from the study

due to the absence of HIV-related lipodystrophy, thus leaving 153 individuals.

The mean age was 45.6 years (between 19 and 68 years). There were 79 male and 74 female patients.

Referrals came from 48 cities in four states (São Paulo, Paraná, Mato Grosso do Sul, and Ceará).

White patients totaled 116 (74.5%) attendances, 18 brown (10.4%), 10 black (5.9%), and nine without information (5.2%).

The complaint of facial lipodystrophy was reported by 81 (52.9%) patients, with a predominance of this condition in males, being the reason for seeking care in 74.3% of individuals of this gender. Despite a lower prevalence than men, 25.8% of women sought care due to facial complaints, thus constituting the most frequent complaint of females in our outpatient clinic (Table 1).

In females, lipodystrophy of the abdomen (24.7%), breasts (17.9%), and buttocks (24.6%) were highly frequent.

The most common invasive procedure was facial filling with PMMA in 62 patients (50 men and 12 women).

Another 20 patients underwent surgical procedures, 27 performed in an inpatient setting and three on an outpatient basis. Including gluteal implants was the most common procedure on six occasions, followed by GIBA liposuction, with four procedures, and lipoabdominoplasty, with three (Table 2). In the queue, awaiting surgery, we counted 26 patients, but 11 had a BMI above 25 kg/m², six needed comorbidity control, such as HCV, SAH, and smoking, and two were awaiting current CD4 and viral load tests. With that, we have seven patients ready for the surgical procedure.

Forty-five patients lost outpatient follow-up. Of these, 11 needed weight loss, four needed better control of underlying pathologies, two were serving time in a closed regime, and they moved to another city when released. The remaining 24 contained no information.

Table 1. Main complaints of patients in consultations performed at the Lipodystrophy outpatient clinic.

Complaint	Men	Women	Total
Lipodystrophy of the face	58	23	81
Abdominal lipodystrophy	5	22	27
Breast lipodystrophy	0	16	16
Gluteal atrophy	1	13	14
Hump	4	6	10
Gynecomastia	9	0	9
Anterior cervical lipodystrophy	1	5	6
Arm lipodystrophy	0	2	2
Back lipodystrophy	0	2	2

Table 2. Main surgical procedures performed.

Surgical Procedures Performed Under General Anesthesia	
Gluteoplasty with insertion of implants	6
Hump Liposuction	4
Anterior cervical liposuction	3
Lipoabdominoplasty	3
Abdominal liposuction	3
Gluteal fat grafting	2
Facelifting	1
Mastopexy with implants	1
Augmentation mastoplasty	1
Reduction mastoplasty	1
Arm liposuction	1
Accessory breast exeresis	1

DISCUSSION

The numbers presented in this article are unique in the literature, as we present general data from our series; thus, we included all patients with complaints of lipodystrophy without selecting patients by anatomical areas or procedures performed¹⁶⁻²².

There is a slight predominance of males. The difference found in our sample, the M: F ratio of 1.06, differs from AIDS epidemiology data in Brazil, with a more marked prevalence and incidence in men, where this ratio is currently at 2.623. This can be explained by the fact that women tend to develop more lipodystrophy and complain more about the aesthetic alterations caused by antiretrovirals²².

Caucasian patients had the largest share of consultations in our outpatient clinic, 74.5%. Although, as of 2014, the prevalence of HIV-positive patients in the national territory is of the brown race, with over 40% of those infected, only 10.4% of our casuistry were brown and 5.9% black. Studies in the literature indicate greater difficulty for black and brown people to access HIV treatment, even with the universality and equity of the SUS, which could explain the low demand for these groups. The factors pointed out were socioeconomic reasons, social marginalization, structured racism, and difficulty understanding the disease and therapy²⁴⁻²⁶.

Attending patients from different states indicates the difficulty of access to this specific type of care. Despite the recognized quality of HIV treatment in Brazil, there are still geographic discrepancies regarding the location and access to specialized health services for this disease, with patients requiring long journeys. This accessibility difficulty can hurt these patients' care, leading to low adherence and discontinuity²⁷.

The main reason for seeking our Lipodystrophy Outpatient Clinic was facial atrophy, mostly in men. These data are similar to the literature, in which the male gender was also predominant in this complaint. Treatment was performed in 76.5% of them with facial filling using polymethylmethacrylate, a non-absorbable substance approved by the SUS, which brings satisfactory and safe results for patients²⁸⁻³².

The most frequently performed surgical procedure was augmentation gluteoplasty with implants, and the second in frequency was Giba liposuction. These data contrast the literature, in which Giba liposuction was the most performed procedure^{17,19}.

Another piece of information worth mentioning is the number of patients lost to follow-up, 45 (29.4%). There is no literary reference to this data in a Plastic Surgery outpatient clinic. However, HIV carriers have known unsatisfactory adherence to antiretroviral treatment, which seems to be happening in this case³³. Most of these patients had a BMI above the limit established by the team. This value aims at greater patient safety since the surgical and complication risk is greater in individuals with high BMI³⁴.

This article has limitations, such as the study's retrospective nature, data collection based on the analysis of medical records, and the low number of patients undergoing surgical procedures. However, with these data presented, we can analyze the structure of our care and seek to improve and optimize the resources available in health networks to treat HIV-related lipodystrophy.

CONCLUSION

The data found show a higher proportion of female patients complaining of lipodystrophy compared to general data of patients with HIV. The white race was predominant, and the main complaint of lipodystrophy was facial atrophy. Facial filling with PMMA was the most common procedure.

COLLABORATIONS

MSS Analysis and/or data interpretation, Conception and design study, Data Curation, Investigation, Methodology, Project Administration, Writing - Original Draft Preparation.

BFMN Analysis and/or data interpretation, Data Curation, Investigation, Methodology, Writing - Original Draft Preparation.

LBC Analysis and/or data interpretation, Data Curation, Investigation.

WRM Data Curation, Investigation.

OTD Data Curation, Investigation.

RFRM Data Curation, Investigation.

AAP Supervision, Visualization, Writing - Review & Editing.

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