



Becker's Nevus Syndrome - gluteal muscle asymmetry treatment with polymethylmethacrylate implant - a case report

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Abstract

Becker's nevus syndrome presents with a hyperchromic spot often trunk located, associated with hypertrichosis and maxillofacial or skeletal and muscle alterations. This study reports the case of a male patient who had Becker's nevus syndrome in the left gluteal region, who underwent intramuscular PMMA microspheres implantation for muscle volume symmetrization.

Keywords: PMMA. Microspheres. Becker's Nevus Syndrome. Polymethylmethacrylate. Muscle asymmetry. Gluteal muscles.

Introduction

Becker's nevus syndrome is a phenotype characterized by the hyperpigmented epidermal nevus, often trunk located, associated with hypertrichosis and ipsilateral maxillofacial, skeletal and/or muscular disorders. The lesion is usually single and, in most cases, it appears at birth, becomes more evident in adolescence and is more frequent in men [1-5].

There are effective medical treatments for hypertrichosis and hyperchromia, but there are not many publications focusing on the treatment of muscle asymmetry [1,3]. PMMA is a permanent, biocompatible, nontoxic filler used in medical aesthetic body and facial treatments. Its intramuscular application promotes muscle volume increase by correcting atrophic regions and muscle asymmetries [6,7].

This report presents the treatment of muscle atrophy with microspheres of Polymethylmethacrylate - PMMA in a male patient diagnosed with becker's nevus syndrome who presented with muscle atrophy in the gluteal region.

Methods

Study Design

The present case report study followed the CARE rules – Case Report. Available at: <https://www.care-statement.org/>. Accessed on: 05/30/2023.

Ethical Approval

The study was approved by the Human Research Ethics Committee, under number 5.687.819, of the University Center Uniavan, Balneário Camboriú, Santa Catarina, Brazil.

Case Report

This is a case report of a male patient, 33 year old, diagnosed with Becker's nevus syndrome in childhood. He underwent laser sessions to treat hyperchromia and hypertrichosis, and had also undergone subcutaneous fat grafting in the gluteal region years before without achieving symmetrization (**Figure 1**). To correct the smaller muscle volume of the left gluteus maximus and medius, the patient received local anesthesia (2% lidocaine with epinephrine) and implantation of a blunt intramuscular microcannula with 30% PMMA gel (Biossimetric – MTC industry, Brazil), in intramuscular fan technique, 105mL in the left muscles and 45mL in the right muscles in a single session (**Figure 2**).

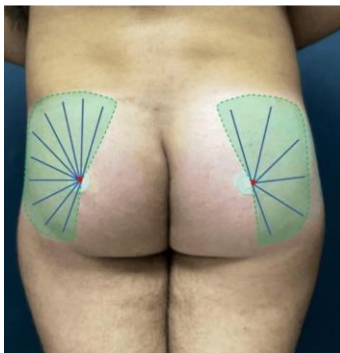
Evolution photographs were taken before and right after, at 45 days (**Figure 3**) and at 9 months after the procedure (**Figure 4**).

Figure 1. Gluteal muscle asymmetry before the procedure.



Source: Own authorship.

Figure 2. Treated areas inside gluteus maximus and medium muscles, post-procedure. Red points: microcannula entry points. Blue lines: intramuscular injection lines.



Source: Own authorship.

Figure 3. 45 days after procedure.



Source: Own authorship.

Figure 4. 9 months after procedure.



Source: Own authorship.

Discussion

There aren't many scientific studies about Becker's Nevus Syndrome treatments. The publications are case reports presenting the clinical findings of the syndrome. Today, the treatments for Becker's Nevus Syndrome are technologies based that reduce hypertrichosis and skin hyperpigmentation, such as LASER. The skeletal and muscle and/or lipodystrophic alterations presented in syndrome, such muscular hypotrophy and asymmetry are a treatment challenge (**Figure 1**).

PMMA microspheres are a neocollagenesis and neoangiogenesis biostimulator, non-absorbable and biocompatible in human tissue [7,8]. The product is composed of 30% microspheres with 40micra in diameter, suspended in a rapidly absorbing carboxymethyl-cellulose-hydrogel [9].

The PMMA can be used as a minimally invasive treatment of regional muscular asymmetry. The prevalence of complications related to the use of intramuscular PMMA in the buttocks is less than 2% [10].

The procedure was performed under local anesthesia. It does not require hospitalization as in localized volume augmentation surgery such as fat grafting or gluteal silicone prostheses implantation. It was chosen to treat the gluteal muscles bilaterally, despite different volumes (**Figure 2**), so that the muscle texture would not be different to the touch after the procedure (**Figure 3**). After 9 months, the improvement in symmetry in the gluteal region remained preserved (**Figure 4**). The patient was satisfied with the volume and symmetry of the gluteal region.

Final Considerations

This clinical case report presented the case of a male patient who had Becker's nevus syndrome in the left gluteal region, who underwent intramuscular PMMA microspheres implantation for muscle volume symmetrization. The prevalence of complications related to the use of intramuscular PMMA in the buttocks is less than 2%. After 9 months, the improvement in symmetry in the gluteal region remained preserved. The patient was satisfied with the volume and symmetry of the gluteal region.

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Ethical Approval

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Informed consent

The consent form was applied.

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Data sharing statement

No additional data are available.

Conflict of interest

The authors declare no conflict of interest.

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