



## The Use of Gluteal Subfascial Implant for Gluteal Atrophy due to Injection: A Case Report

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### Abstract

*A 20 years old female patient with muscle and subcutaneous tissue atrophy in the left gluteal region was admitted to our clinic. She had gluteal injection in this area when she was 5 years old. After the injection, gluteal atrophy occurred at the injection site. The patient underwent subfascial gluteal implant placement operation. In one-year follow-up, no postoperative complication was observed. After 1 year the patient underwent an operation of liposuction from non-augmented side and lipofilling to the augmented side to obtain more gluteal symmetry..*

**Key Words:** Gluteal atrophy; subfascial implant; gluteal injection

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## Introduction

Male and female hips show structural differences. Female body is more rounded and has more folded lines while male body is straighter and has more square lines. Significant projected volumes are concentrated in the breasts and hips in women. And curved lines of this hourglass-shaped appearance had even described by hand since ancient times. The importance of the shape of woman hips can not be denied for feeling more attractive and beautiful. For this reason, forming the hip areas is one of the most important operations for aesthetic surgery. In recent years the demand for hip enlargement and shaping operations has increased, and for that reason clinical studies about this issue have increased significantly.

## Case

A 20 years old female patient was admitted with loss of fullness in the left hip and significant differences between the right side in July 2009. The patient's main complaint was dissatisfaction with the aesthetic appearance and the restrictions and difficulties of the dress usage. The patient had undergone gluteal injection at age 5 to the left gluteal area, and after this procedure, the left gluteal atrophy had begun to develop. Localized skin, subcutaneous fat and muscle atrophy were observed at the examination. Intergluteal crisis was hypoplastic and deviated to the left side. The atrophy of the gluteus maximus muscle was observed by palpation, also the left hip was seen non-projected and the infragluteal crisis was seen insignificant and hypoplastic. This deformity which is described above was progressed after an intragluteal injection at age 5 and did not show any difference to this day. The patient did not have any functional defect or neurological sequelae. Also there were no pathological findings in other laboratory tests. EMG was normal, but left gluteus maximus muscle, and subcutaneous fat tissue were found atrophic in MRI scan. There was no evidence of bone or metabolic abnormality. Gluteal height to sacral height ratio was found 0,6 at the right hip which showed normal development. The gluteus maximus muscle with surpassed 2 cm from the center line and hip structure was observed as square type (Fig. 1). Because of extensive atrophy in the left gluteal area, we proposed flap and implant operation to the patient. The patient accepted only implant procedure.

**Figure 1.** Left gluteal atrophy, pre-operative.



### **Patients and methods**

Firstly, patient was examined for the selection of the anatomical level and position for the implant placement. Gluteal region cannot be considered separately from the posterior contour. For that reason, the gluteal region and the posterior contour was evaluated as a whole unit. We decided to insert 325 cc anatomical gluteal implant to the left gluteal region. Subfascial implant placement was planned due to apparent muscular atrophy. Preoperatively the markings were made to allow the most appropriate placement of the implant. The lower limit of the implant was planned to be 2 cm above the infragluteal crisis. Standard intergluteal incision was planned.

The patient was operated under the general anesthesia in prone position. After passing the skin with intergluteal incision, 45 degree incision was continued with, and then reached to the sacral fascia near the sacral bone. The sacral cutaneous ligament was protected. After

reaching to sacral fascia, an eight cm incision parallel to the sacral bone was performed. The dissection was begun after entering between the fascia and the muscle. Dissection was continued with preserving the gluteal fascia up to 2 cm to crisis. Anatomic-shaped, textured-surface, 325cc gluteal implant was placed after testing. Suction drainage was inserted. The incision was sutured in two layers as subcutaneous and skin. The patient executed the next day and dressed corset. The drains were taken after 48 hours. The patient was allowed to go to work and begun to daily activities after 3 weeks (Fig 2). Post -operative follow -up was one year.

**Figure 2.** Post-operative 3rd week view of the patient.



Patient underwent a new operation to obtain more symmetry after 1year following the augmentation operation. In this operation liposuction performed to the non-augmented gluteal region and upper lateral thigh and lipofilling to the depressed areas adjacent to the augmented region (Fig 3).

**Figure 3.** The view after the revision operation.



## Discussion

Basically, morphological differences between male and female body structures are caused by differences in skeletal structure. In addition, differences in muscle fat and skin tissues contribute to the morphological appearance. Soft tissues of the hips are wide and rich from the fat in women. It looks like to guitar or violin. The intertrochanteric distances are longer than acromial distances in women and this is the main reason for this width. The case is not same in the men. In this region, men do not have plenty of fat tissue, also improved muscle structure is observed in men. The average thickness of gluteus maximus muscle is 7 cm[1]. These structural differences determine the inter-sexual relations and aesthetically important. For this reason, patients who have this kind of disturbances are admitted to the aesthetic surgeon. Our patient admitted to our clinic feeling herself sexually inadequate and unhappy. The patient wanted to be operated mainly because of aesthetic concerns. Also she had problems with wearing tight clothes. There are many factors and disorders which are known to cause subcutaneous tissue atrophy. The lipodystrophies are the best known types of these disorders. These disorders are seen very rare and consist of heterogeneous group of diseases. Especially, generalized or local loss of the subcutaneous fat tissue can be seen in insulin resistance or hyperlipidemia and the clinical variations are accompanied by metabolic disorders in varying degrees. A lot of sub-types are defined in this group of disease [2,3]. Development of the hip was normal in our patient until the age of 5 years. But after a gluteal injection at this time, atrophy had started at the injection site. Parallel to the growth of the patient, this deformity became prominent and disclosed a dismal situation in adolescence. Our case also had muscle involvement. However, muscle involvement is not

seen frequently in the types of lipodystrophy [3]. As reported in literature, some lipodystrophy types associated with severe metabolic disorders may be accompanied by generalized myopathies. Also lipodystrophy cases associated with localized myositis, dermatomyositis have been reported [4,5]. There were no abnormal findings at the blood tests in our patient, neither had any metabolic disease. Localized lipoatrophies, developing after injection, are one of the reasons for subcutaneous lipodystrophies and dysfunctions. In this situation; skin, subcutaneous and muscle atrophy and tissue fibrosis may develop, depending on the localized nature of the substance injected into the skin. Varying degrees of atrophies are discussed after injection of steroids, penicillin, amikacin, insulin, insulin analogues and influenza vaccine in

the literature [6-12]. Even though the enjected material is not known in our case, it is probable that it may be one of those mentioned.

One of the most important issue for us was selection of the operation type for the patient. Firstly, flap and implant surgery was recommended to the patient because the skin, subcutaneous tissue and the muscle are not adequate to create a normal appearance of hip. But the patient did not want additional scar, tissue loss, and more morbidity. It was well described to the patient that without a flap procedure, only gluteal implant, even to use the maximum volume, will be insufficient in providing the symmetry. The patient said that the result of this situation could be acceptable for her.

The anatomical level for the implant placement was another important decision. Gluteal implants can be placed as subcutaneous, subfascial, submuscular and intramuscular [13]. La pena has made many studies on the gluteal aesthetics and the gluteal contour anatomy. He reported that there is an aponeurotic structure overlies skin from the muscle and that structure firmly is adherent to the muscle surface. Placement of the implant under this fascia brings more beautiful aesthetic outcomes whereas implant may be visible at superior pole when placed under the subcutaneous tissue[14,15]. Robles reported that because of the sciatic nerve location in the lower third of the medial area, the implant can not be placed properly under the submuscular space and an unpleasant view may appear at the upper pole. Moreover inferior gluteal pole may remain empty and often submuscular implant placement results double infragluteal sulcus[16]. In our case, the implant was placed in subfascial region due to skin, subcutaneous tissue and muscle atrophy in the gluteal region.

No complications were observed in a one-year follow-up. Gluteal asymmetry could not be corrected completely. Then a new operation planned to increase the symmetry. In this operation liposuction performed to the non-augmented gluteal region and upper lateral thigh and lipofilling was done to the depressed areas adjacent to the augmented region. To ensure the symmetry, appropriate flaps may also be required to cover the skin with implant augmentation. A similar operative procedure was planned but unfortunately could not be applied in our case due to defense of the patient.

In a similar case implant and flap surgery together can create more symmetrical and aesthetically better looking hip. We can obtain more symmetry with additional operations. Of the flap choice abandoned by the patient, a procedure of liposuction and lipofilling may be satisfactory for obtaining more symmetry.

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