Abstract

**Background:** The primary goal of facial aesthetic cosmetic surgery is beautification, achieving balance and harmony. The mental area must be addressed to the complete synthesis of the face. The concept of augmenting, correcting and adjusting the chin position has evolved so significantly that it is now an important procedure in face beautification. Chin enhancement is a procedure to support physical appearance. There are many famous procedures to chin lifting, one of them is serdev suture.

**Patients, material, methods:** A case of chin enhancement with serdev suture was reported. The patient has been informed about advantages and disadvantages of this method and made agreement by signed informed consent. Serdev suture for chin lifting is a simple technique using a suture which is inserted to chin soft tissue and fix it. This method is relatively safe, simple, and effective.

**Results:** A patient underwent procedures for chin enhancement. She was treated for beautification only, using Serdev suture. She has been followed up for about six years with a good clinical success. No complications have been observed. There has been no aesthetic disappointment, no seromas, no haematomas, and no infection.

**Conclusion:** Serdev suture by using a non-absorbable suture, is ideally suited for correction of most chin disproportions such as: profile deficiencies, aging (Witch's) chin, asymmetries, disharmonies and is used for beautification and rejuvenation of the whole face as a single or combined operation with satisfying cosmetic results. It appears to be an attractive alternative to other chin enhancement techniques. It is suitable for different chin condition, without using implants, minimizing the tissue trauma.

**Keywords:** chin enhancement, serdev surgery, good result

**INTRODUCTION**

The primary goal of aesthetic cosmetic surgery is beautification, achieving balance and harmony. The mental area must be addressed to the complete synthesis of the face. The concept of augmenting, correcting and adjusting the chin position has evolved so significantly that it is now an important procedure in face beautification. Various autogenous implants for chin augmentation have been use for over 100 years. The advent of synthetic materials has given rise to various types of alloplastic implants with their advantages, disadvantages, and complications. (1)
The morphology of the chin has a substantial influence on the perceived attractiveness of the face. In profile view, in particular, the chin establishes much of the character of the lower face. In fact, the prominence of the chin is one of the facial characteristics that society tends to associate with individual’s personality.\(^{(2)}\)

The aging process causes the laxity of skin and subcutaneous tissue that can lead to wrong projections and contour of the anterior mandible. The soft tissues are subject to gravity and undergo progressive atrophy. Part of the face (cheeks and chin) has often decreased, thus in some individuals caused disproportionate of facial features.\(^{(1, 3)}\)

The importance of the chin in face beautification is determined by the fact that the chin is a part of the lower third of the face. Aesthetically it has to fit to the line of the straight profile of the lower face- the lower part of the face should be divided into 3 parts - one part for the upper lip and two parts for the lower lip and chin. It is a part of the "beauty triangle" - expressed chin and cheekbones. Loss of the volume or genetically small mandible affect the aesthetics and expression of the mouth, chin and neck. Disharmony between the skeletal support and the soft tissue envelope is a common cause of aesthetic concern.\(^{(1, 4)}\)

Many techniques/methods can be used to correct the facial decline, one of them using scarless Serdev suture lifting. In Brazil known as fioelastico. In this technique, reshaping some part of the face to achieve the correct volume and position of soft tissue by fixation of soft tissue using subcutaneously placed suture and special needle without conventional incision. This method is preferred because it is relatively safe (minimal side effects), is relatively easy and quickly done with satisfactory results. This technique was invented by dr. Nikolay P. Serdev. Besides for chin lifting, this technique can also be used to lift other parts of the body such as face, buttocks, chest and abdomen.\(^{(5-8)}\)

Seven cases of chin enhancement using Serdev suture were reported, and showed satisfactory results without any complications.

**CASE REPORT**

A 45 years old woman came to raise the perceived lack of good chin and sagging.

Before surgery, patients undergo several checks from history to laboratory examination. From anamnesis did not reveal any major illness and the physical examination does not appear
any abnormalities on the chin and so do the results of laboratory. After the informed consent, the surgery was performed.

Figure 21. (A) Before procedure  (B) After procedure

Figure 21. (A) Immediate after procedure  (B) Six years after procedure

Discussion

Chinenhancement is a surgical procedure to improve the shape or increase the size of the chin. In chin enhancement, chin soft tissue is fixed in a circular suture to mental periosteum and pushed forward by the mental protuberance or sutured laterally to obtain symmetry.
During the past 20 years, a variety of alloplastic materials have been introduced for chin augmentation. Alloplastic implants have become popular because of their ready availability, lack of donor sitemorbidity, and improved host tolerances. Materials such as acrylic, solid silicone, polyesterfiber mesh(mersilene mesh), porouspolyethylene, and expandedpolytetrafluoroethylene (ePTFE) have been used. However, each implant has its own short comings. Acrylic is brittle and palpable and causes bone resorption. Solid silicone can remain mobile, easily palpable, and causes bone resorption.\(^9,10\)

These materials are foreign substances in the body that cause many complications. Complications that can arise include infection, the location incompatible or change position, paresthesias, absorption, rejection, migration, implant, soft tissue erosion, asymmetry and curvature.

The presence of suture material in a surgical wound is known to cause an adverse effect on the local tissue condition, and increases the susceptibility to infection. Surgical sutures potentiate infection when necrotic or devascularized tissue, hematoma or dead space caused by tissue damage or poor surgical technique. The ability of the suture tissue to resist infection varies depending on the kind of material implanted. The degree of infection elicited by different suture depends on their physical and chemical configuration.\(^11\)

Anatomically the chin is the area below the mentolabial fold, although separating the chin from the lower lip in patients with a poorly defined mentolabial fold can be difficult, particularly in frontal view. The anatomy, morphology and aesthetics of the lower lip, mentolabial fold and chin are intimately related. The chin consists of the bony anterior projection of the mandible, called the mandibular or mental symphisis, and its overlying soft tissue soft tissue chin pad. The soft tissue chin pad is a highly variable area. The thickness of this area is variable, with an average value of 10 ± 2 mm.\(^2\)

Therefore, the chin must be evaluated as an independent facial aesthetic unit. When evaluating the chin, the following patient positioning guidelines should be observed are natural head position (NHP), mandibular rest position, and soft tissue in repose. The patient must be examined in NHP which it is not uncommon for patients to develop a compensatory head posture in order to minimize the aesthetic impact of their facial appearance, e.g. patients may tilt their heads up to increase their chin or tilt their heads down to reduce their chin. Mandibular rest
position is important that the mandible is not posture or overclosed. The facial soft tissue must be at rest, in particular avoiding any lip strain to achieve a lip seal.\(^{(2)}\)

A useful technique for getting the mentolabial soft tissues in repose as follows. We ask the patient to relax their lips and to keep their teeth lightly together. Systematic evaluation of the chin is critical for correct diagnosis and the effective treatment plan.

An important part of the clinical evaluation is palpation of the chin area, in order to assess the thickness of the soft tissue chin. The soft tissue chin pad thickness should be palpated just lateral to the midline as the chin pad tends to be thinnest in the centre. Further measurement is possible on the lateral cephalometric radiograph.\(^{(2)}\) The other method, described by the orthodontist Richard Riedl, \(^{(12)}\), indicates that the point of maximum chin projection is on a line tangent to the upper and lower lips. This is a simple and useful method of analysis.

![Image](image.jpg)

**Figure 22.** The Riedel analysis indicates that the point of maximum chin projection is on a line tangent to the upper and lower lips.

Nothing is perfect for the face, therefore, conducted research to determine which method is more simple and effective. Surgery without implants introduced by dr. Nikolay P. Serdev, an aesthetic of Sofia, Bulgaria, known as method Serdev. This method is an operation without implants who only use the thread to draw / tie in the soft tissue enhancement. This technique is done by changing the angle remains parallel to the enhancement and jaw line so as to provide a better view.

Serdev suture is reshaping some part of the face to achieve the correct volume and position of soft tissue by fixation of soft tissue using subcutaneously placed suture with special needle. A suture method with needle skin perforations between the eyebrow hairs only was introduced by the author since 1994. Like in all other authors suture methods, serdev suture idea is to catch
movable but stable tissue and to attach it to hard non-movable tissue (bone periosteum) using special polyamide threads No 2 that are elastic, absorbable, antimicrobial, braided; and special curved, elastic needles.\(^{(13)}\)

The procedure of this method by special needle to the soft tissue under the skin and insert a special thread on the suit the desired objectives. This can be done in the outpatient unit because of the procedure is relatively safe and mild complications, such as edema, hematoma, infection and scars (rare). Patient selection should be done, patients excluded whom with heart disease, hypertension, uncontrolled diabetes mellitus, blood clotting disorders and not taking anti-coagulant drugs, and not done at the age below 20 years due to the growth of the mandible bone is not yet complete.\(^{(4)}\)

The patient analysis begins with an examination of the profile and full face. The patient’s head is placed in the Frankfort position and the pogonion, or the most forward projecting portion of the chin, is visually compared with an imaginary vertical line dropped from the lower lip (nasal profile, projection, and lip position are considered simultaneously). Lower lip position is assessed at rest and during smiling to assess the depth of the labiamental sulcus and its relationship to the lower lip.\(^{(9)}\)

Serdev suture methods use another idea to lift and fix stable fascial tissue in any possible place of the face and the body using semi-elastic Bulgarian long-term (3-5 years) absorbable antimicrobial polycaproamide threads and special needles. The advantages of the Serdev technique compared with other techniques are the expected results immediately visible after the action, which caused very minimal complications, providing a natural result, can last a long time, and can be used in multiple areas of the face or body.

An important instrument that facilitates performing this technique is the curved, semi-elastic, semiblunt mini needle of 50 or 60 mm length with a hole at the tip that can be turned down and up in order to enter through the skin, to catch periosteum and exit through another skin perforation point.\(^{(14)}\)
Figure 24. Curved, elastic Serdev needle and Semielastic, absorbable, braided, antimicrobial, polyamide-silk threads. (14)

Thread is woven polycapromide which is semisynthetic, antimicrobial, and absorbable. Chin looks more natural with this method because it does not include implants and only use thread tied around the patient's own soft tissue. This technique can be used to correct chin without causing scars.

Serdevtechniqueis generally performed in a short time and only requires a local anesthesia. The duration of the operation depends on treated area, the degree of laxity, and the expertise of the doctor that did. The results can be immediately visible after the action, but still accompanied mild edema. Complications will disappear by itself, and the patient is advised not to excessively manipulate the chin. Some benefit of scarsless serdev suture are immediate result, minimal to no swelling or bruising, natural, and long lasting. After serdev suture surgery, the clinical appearance will last for 10-20 years.

Patients in this report consists of seven women aged 20 to 40 years that complained of his chin down and sagging or for beautification only. Patients want the chin look more beautiful, but still natural. From the history and examination found no presence of systemic disease or other contraindications, thus lifting the chin with this serdev method may be an option in these patients.

Chin enhancement in these patients achieved satisfactory results and no complications arising after the action. After the action, patients can return to activity as usual. Patients are given antibiotics to prevent secondary infection, and analgesics if there were complaints of pain.
Conclusion

Serdev suture by using a non absorbable suture is used for beautification and rejuvenation of the whole face as a single or combined operation with satisfying cosmetic results. It appears to be an attractive alternative to other chin enhancement techniques. It is suitable for different chin condition, without using implants, minimizing the tissue trauma.

Seven patients underwent procedures for chin enhancement using serdevsuture after the patients understood all procedure clearly, agreed and signed the informed consent. All of them were treated for beautification only. One patient has been followed up for about four years with a good clinical success. No complications have been observed.

References