

Mons Pubis Ptosis: Classification and Strategy for Treatment

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Abstract

Background Obesity and massive weight loss cause bulging and ptosis of the mons pubis. The pubic area can cause an embarrassment to patients. In some cases, the deformity can be seen even under clothing. Ptosis of the mons usually is addressed during abdominoplasty. The author presents a new clinical classification of mons deformity based on the amount of adipose tissue deposit and the degree of ptosis. A strategy of treatment to achieve a proper rejuvenation of mons deformities is provided.

Methods Between 2004 and 2009, a total of 132 patients with pendulous bellies and mons pubis deformities underwent abdominoplasty and lifting of the mons. A technique using a dermal-fascial suspension with permanent sutures to hang the weight of the mons skin and subcutaneous tissues on the musculoaponeurotic system of the lower abdomen is described. The age of patients undergoing the operation ranged from 20 to 53 years. During the follow-up period (12–38 months), all the patients by the author, who reviewed their medical charts. A Likert scale and an evaluation questionnaire were used to assess the aesthetic outcome of mons lifting.

Results All the patients who underwent lifting of the mons pubis were free of postoperative contour deformities and had a long-lasting outcome. At this writing, patient satisfaction has remained high.

Conclusion The clinical classification and treatment guidelines reported are designed to provide simple procedures with minimal complications that have tremendously rejuvenated the mons.

Keywords Classification · Dermal-fascial suspension · Mons · Ptosis · Treatment guidelines

Pubic ptosis may be associated with weight gain, weight loss, and aging. It affects both men and women.

Understanding of the anatomy of the superficial fascial system has improved results significantly and decreased complications of trunk and lower body lift. Laxity of the entire lower trunk can be treated in one stage for selected patients.

The mons pubis is the rounded eminence made by fatty tissue lying in front of the pubic symphysis. A few fine hairs may be present in childhood. Later, at puberty, they become coarser and more numerous. The upper limit of the hairy region is horizontal across the lower abdomen.

Mons bulging and ptosis are increasingly evident with obesity and after massive weight loss. After bariatric surgery, patients may present with both vertical and horizontal laxity. Alterations in volume, dimensions, and projection of soft tissue in the pubic area can bring psychosocial discomfort and embarrassment to patients. In some cases, the deformity can be seen even under clothing. The mons bulge becomes more visible after abdominoplasty removes the fatty apron that concealed the pubic area totally or partially.

In the current study, the author proposed a new classification for the contour deformity of the mons. It is based on the amount of lipodystrophy and degree of ptosis. Our clinical experience with 132 patients enabled us to describe

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four categories of mons deformities (Table 1). The evaluation of the degree of deformity is based on the degree of coverage of the external genitalia.

With grade 1 deformity, the mons is mildly bulging, with minimal or no covering of external genitalia (Fig. 6). With grade 2 deformity, the mons is moderately bulging and covers the external genitalia partially (Fig. 8). With grade 3 deformity, the mons is markedly bulging and ptotic and covers the external genitalia totally (Fig. 10). Patients who undergo rapid and massive weight loss sustain grade 4 deformity, with the mons not bulging but ptotic and covering the external genitalia either partially or totally (Fig. 12).

For grade 1 deformity, liposuction alone is sufficient for treatment. For grade 2 deformity, liposuction-assisted panniculectomy is performed. For grade 3 deformity, liposuction-assisted panniculectomy, dermal-fascial suture suspension, and possible vertical wedge excision are performed. For grade 4 deformity, panniculectomy-assisted dermal-fascial suspension sutures and vertical wedge excision to address the horizontal laxity are the best option.

Mons liposuction or dermolipectomy-assisted liposuction is not sufficient to treat ptosis of the mons. In fact, the presence of a thick subcutaneous adipose layer, as in the case of a bulging mons, decreases the possibility of skin retraction. Many patients who have undergone abdominoplasty concomitant with only skin adjustment of the mons experience ptosis of the mons after surgery.

Suspension of the superficial fascial system has significantly improved results and decreased complications of thigh and trunk lift. Lockwood [1, 2] used the superficial fascial system and dermal suspension throughout repair for laxity of the entire lower trunk and thigh regions. In fact,

the presence of a thick subdermal adipose layer decreases the possibility of skin retraction.

Alter [3] presented a technique for correcting the protuberant mons and pubic descent by performing a pubic lift, fat excision, and liposuction and then tacking the superficial fibrofatty tissue to the rectus fascia. Gasperoni and Salgarello [4] presented subdermal superficial liposuction that treats the superficial fat layer and yields better skin retraction. They used the technique for body areas with a very thick fat layer and stretched the skin because of its volume and weight as in the abdomen. Moreover, Gasperoni and Salgarello [4] stated that they apply the technique to every lipoplasty whenever better skin retraction is needed. Dissections on 8 fresh and 10 embalmed cadavers were used.

Patients and Methods

Between 2004 and 2009, a total of 132 patients (127 women and 5 men) with pendulous bellies and mons pubis deformities underwent abdominoplasty and lifting of the mons. The ages of the patients ranged from 20 to 53 years. Of the 132 patients, 117 (88.6%) were overweight (body mass index [BMI], 26–30 kg/m²) and 15 (11.4%) were obese (BMI, 31–35 kg/m²). The postoperative monitoring continued for 12 to 38 months.

An evaluation questionnaire based on a 5-point Likert scale was used to assess the aesthetic outcome. The criteria used in the questionnaire were improvement of sexual intercourse, improvement of physical exercise, elimination of fungal infection, improvement in appearance and shape of the mons and abdomen, ability of patients to wear a fitted size, and improvement in sense of well-being.

All the patients were rated on a 5-point Likert scale with options of 1 (very dissatisfied), 2 (dissatisfied), 3 (moderately satisfied), 4 (satisfied), and 5 (highly or very satisfied). In addition, pre- and postoperative photo evaluation based on the extent of external genitalia exposure was assessed by an independent plastic surgeon.

Surgical Technique

Patients with grades 3 and 4 deformity, needing dermal-fascial suspension, are submitted to the drawing of landmarks, which should be designed while the patient is standing (Fig. 2). The surgeon's left hand is used to lift the saggy mons upward for exposure of the bony landmarks. The first landmark is placed 2 to 3 cm below the pectineal line of the pubic symphysis, where the median suture is placed during surgery (Fig. 1). The lateral two landmarks are placed 2 to 3 cm below the pectineal line of the pubic tubercle, where lateral sutures are placed during surgery.

Table 1 Classification of mons pubis deformity and strategy of treatment

Classification	Treatment
Grade 1: Mild bulging with minimal or no covering of external genitalia	Liposuction
Grade 2: Moderate bulging with partial covering of external genitalia	Liposuction-assisted panniculectomy
Grade 3: Marked bulging with complete covering of external genitalia	Liposuction-assisted panniculectomy and fascial-dermal suspension suture $\pm$ vertical wedge excision to address the horizontal laxity
Grade 4: No bulging with partial or complete covering of external genitalia	Panniculectomy-assisted dermal-fascial suspension sutures and vertical wedge excision to address the horizontal laxity

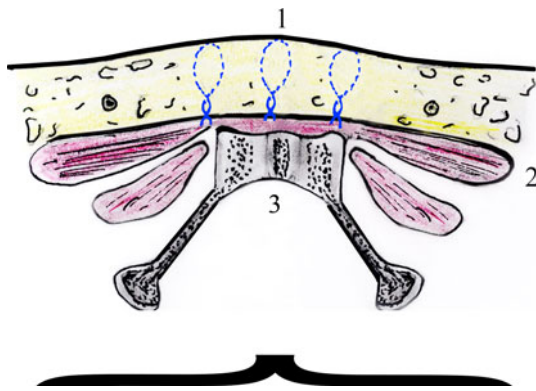


Fig. 1 Medical illustration demonstrating the reported technique. Note that the anchoring suture (blue color) penetrates the fascial system and the dermis and then is fixed in the rectus sheath. (1) Equal “skin.” (2) Equal “rectus muscle.” (3) Equal “symphysis pubis”



Fig. 2 Preoperative marking demonstrating the location of the anchoring fascial-dermal sutures

The incision line is marked 7 to 8 cm above the commissure of the vulva and extended laterally as needed for the routine abdominoplasty.

All the patients in the current series underwent general endotracheal intubation, and all procedures were started with infusion of 0.1% lidocaine in an epinephrine/saline 1:100,000 concentration to create a tumescence of 2:1.

Liposuction was started by means of small, multiple stab wounds (0.5 cm long). The vacuum pump method (Wells Johnson, Tucson, Ariz.) with 4- and 6-mm (15- to 25-cm) cannulas was used. Suction was limited in depth to the superficial fascia and addressed the entire mons. The liposuction procedure ended with superficial subdermal liposuction to eliminate irregularities and enhance skin contraction. The incision of a primary pubic lift in conjunction with an abdominoplasty crossed the mons and was located 7 to 8 cm above the valvar commissure.

Undermining was limited to the extent needed to anchor the dermal-fascial tissue. The skin and subcutaneous tissue of the lower mons was pulled upward and tacked to the rectus sheath with 2-0 nylon suspension sutures (Fig. 3). Care was taken so that the mons was not pulled too high, which could change the position of the urethral opening. The amount of excess skin caused by lifting the mons upwards was excised. Multiple-layered closure was performed with absorbable sutures. The suction drains were secured in place and left for 2 days.

With type 4 deformities (Fig. 12), after massive weight loss, ptosis of the mons usually is associated with an expanded region of the hair-bearing skin that needs to be reduced. A vertical wedge of skin and subcutaneous fat is



Fig. 3 Intraoperative view. Note the effect of the anchoring suture that causes a skin dimple



Fig. 4 Excision of vertical wedge of the mons

excised before the fascial-dermal suspension sutures. The dimension of that wedge is variable, and the hairy pubic area should be sufficient between the inguinal folds after resection of this triangle (Figs. 4, 5).

An abdominal pressure garment was applied immediately after skin closure and worn for 6 weeks. Moreover, all the patients were nursed in a semi-sitting position for 2 days and discharged home on postoperative day 3.

Results

The classification and guidelines used to manage the deformities of the mons pubis were very helpful and achieved highly satisfactory outcomes. The patients who underwent liposuction alone for grade 1 (Figs. 6, 7) and grade 2 (Figs. 8, 9) deformity showed very satisfactory outcomes. The grade 3 and 4 patients, whose dermal-fascial suspension suture assisted with suction dermolipectomy (Figs. 10, 11, 12, 13), showed fair reduction of the mons and fair skin contraction.

Two patients experienced skin laxity postoperatively because of further weight loss and poor skin tone. All the patients were free of incorrectly placed incisions and postoperative contour deformities. None of the patients experienced fat necrosis. Postoperative edema of the mons was encountered in two patients (Table 2), requiring the use of an abdominal pressure garment applied to the entire abdomen, which resolved the edema.

No postoperative wound-healing complications occurred secondary to the reported technique. One patient experienced a 2-cm wound dehiscence due to superficial infection, which was managed conservatively with dressing change.



Fig. 5 Wound closure



Fig. 6 Preoperative view of grade 1 mons deformity



Fig. 7 Postoperative view of grade 1 mons deformity

The aesthetic outcomes were highly satisfactory, as judged by both the author and the patients based on the Likert scale and the evaluation questionnaire provided during the follow up period. All the patients claimed improvement of daily activities including sexual intercourse

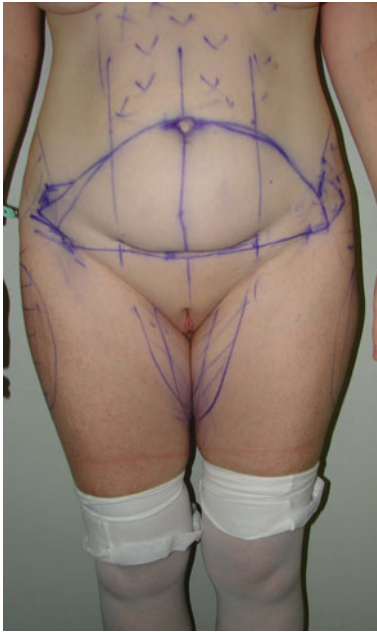


Fig. 8 Preoperative view of grade 2 mons deformity



Fig. 9 Postoperative view of grade 2 mons deformity

and physical exercise. Patient hygiene became more handy, and the patients stated that they did not apply antifungal or local steroids. Women were able to wear bathing suits without embarrassment. The evaluation of the preoperative photos compared with the postoperative photos illustrating the degree of lifting (judged by an independent surgeon), the exposure of external genitalia, and the reduced size of the mons showed high satisfaction.



Fig. 10 Preoperative view of grade 3 mons deformity



Fig. 11 Postoperative view of grade 3 mons deformity

Discussion

The author proposed four categories of mons deformities. Grade 1 patients present with mild fullness of the mons but no ptosis. Grade 2 patients present with moderate fullness of the mons with ptosis that partially covers the external genitalia. Grade 3 patients present with marked fullness of the mons that covers the whole genitalia. Grade 4 patients, after undergoing massive weight loss, present with no



Fig. 12 Preoperative view (after massive weight loss) of grade 4 mons deformities with partial covering of the genitalia. Note the abdominal scars of laparoscopic gastric banding



Fig. 13 Postoperative view of grade 4 mons deformities with partial covering of the genitalia. Note the abdominal scars of laparoscopic gastric banding

fullness of the mons and severe ptosis that covers the external genitalia partially or totally (Table 1).

The combination of dermal-fascial suspension, liposuction, and mons dermolipectomy can solve mons deformities. The technique is a simple procedure performed at the end of abdominoplasty and via the same incision.

Horizontal laxity is addressed by removing a vertical wedge of skin and subcutaneous tissue defined by a

Table 2 Patient information

Type of mons deformity	No. of patients (%)	Complications
Grade 1	12 (9.0)	Wound dehiscence, 1 patient
Grade 2	25 (18.9)	Edema of the mons, 1 patient
Grade 3	65 (49.2)	Edema of the mons, 1 patient
Grade 4	30 (22.7)	Skin laxity, 1 patient

superior base and a vertex that points to the anterior commissure of the vulva. Its dimension is variable, and the hairy pubic area should be sufficient between the inguinal folds after resection of this triangle.

Dissections on 8 fresh and 10 embalmed cadavers were performed by Markman and Barton [5] to determine the anatomy of the subcutaneous adipose tissue in the trunk and extremities. The anatomic dissections, together with CT scans, showed that the superficial adipose layer is contained within the organized, compact fascial septa. The deep adipose layer demonstrated regional variations with respect to its fascial framework but was contained within a relatively loose, less organized, and more widely spaced fascial septa.

The subcutaneous fascia above and the muscle fascia below form what is termed the deep adipose compartments and thus contain the deep layer. The lymphatic vessels of the pubic area are concentrated mainly in the lamellar layer of subcutaneous fat and drain to the inguinal nodes. A thick lamellar layer means that a great number of perforating vessels (arteries, veins, and lymphatics) are present. Excising only the areolar layer of the pubic area preserves these vessels, avoiding eventual seroma and edema [6].

The concept of suspending the superficial fascia system is reported in the literature. In 1977, Agris [7] described a technique for the correction of trochanteric bulges. A buried dermal fat flap was used as a suspensory mechanism to hang the weight of the thigh skin and subcutaneous tissues on the deep fascia rather than on the upper skin flap. This technique was particularly applicable for patients with ptosis of the buttocks.

In 2009, Alter [3] presented a technique to correct the protuberant mons and pubic descent by performing a pubic lift, fat excision, and liposuction, followed by tacking of the superficial fibrofatty tissue to the rectus fascia. We report suspension of the fascial-dermal component to the rectus sheath, with the dermis included in the anchoring sutures and not only the fibrofatty tissue as recommended by Alter [3]. The anchoring of the fascial-dermal suspension to the rectus sheath provides a long-lasting lift due to the tough nature of the dermis.

Filho et al. [8] described a technique to reduce the size of the mons. A triangle defined by a superior base and a

vertex on the anterior commissure of the vulva is marked. Its dimension depends on each particular case.

Dellon [9] demonstrated the fleur-de-lis abdominoplasty. His procedure consists of a horizontal and vertical incision combination that extends from the xyphoid process to the pubic symphysis in all cases, with skin and subcutaneous tissue removal. Dellon did not mention any ideal measurements for the removal of excess skin from the pubic area but simply evaluated the amount of resection by pinching the tissue with the fingers.

Recent advances in the surgical design of the superficial fascial system have significantly improved the surgical results and decreased the complications of body contour deformities. Abdominoplasty combined with a mons lift and deep dermal-fascial anchoring in one operation results in a surprising degree of mons pubis tightening due to the thick nature of the subcutaneous fat of the mons.

Conclusion

This study has provided a new clinical classification and treatment guidelines for simple procedures with minimal complications that tremendously rejuvenate the mons. The combination of dermal-fascial suspension, liposuction, and mons dermolipectomy can solve mons deformities. The superior tension created by the dermal-fascial suspension of the mons does not alter the direction of the stream of

urine and does not alter the location of the clitoris or the meatus of the urethra. The clitoris becomes more exposed, allowing for improved sexual stimulation. It provides a long-lasting lifting with no contour deformity.

Conflict of interest I have no conflict of interest to disclose.

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