Dear Editor,

We have made revisions in the text according to the suggestions. We have provided a point by point response to the reviewers' reports. We resubmitt the revision and look forward to hearing from you.

Best regards.

Y. Kenan Coban MD.
Ayhan Coskun MD.

4 June 2007

Here, our answers to reviewers' reports according to the journal's format.

Reviewer 1:

4 June 2007

Ayhan Coskun MD.

We have made revisions in the text according to the suggestions. We have provided a point by point response to the reviewers' reports. We resubmitt the revision and look forward to hearing from you.

Best regards.

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Reviewer 2:

General

Major compulsory revision

- none

Minor essential revisions

- none

Discretionary revisions

There are a few concerns that should be addressed.

1. The technique should be described in more detail.

-Following paragraphs were added to the text under separate heads entitled "Stent preparation" and "Surgical technique".

Stent preparation:

The stent has three components which are formed by inner acrylic (akrileks, Turkey), outer silicone (monopren transver liquid silicone, GERMANY) and a perpendicularly attached plastic plate with holes for fixation. The main body is consisted of acrylic solid material which is 12.5 cm long, and cylindric construction resembles a 20 cc syringe. The plastic plate attached to the main body is consisted of a material which is used for dental mold applications in dentistry (meraport, germany). These two components are prepared separately and then, they are combined to form an compact unit under 80-90 °C for 5 minutes. Its body is covered by liquid silicone to obtain a diameter of 3 cm using a special casting-mold. The liquid silicone applied to the outer surface of acrylic stent is converted to a solid silicone when it is contacted with air after 30 minutes. The holes of plastic component are designed for fixation of the stent to the body of patient. The edges of plastic plate is rasped in order to have comfortable usage. Then, the stent is ready to be sterilized by etilen oxide for surgical usage.

Surgical Technique:

The vaginal agenesia is opened through an L incision at the proposed introitus and then, two sides of the central fibrotic band are dissected. After having hemostasis, the central band is incised. The newly created vaginal pouch is rechecked for hemostasis and the stent is inserted to the pouch for checking of stent compliance with the neovagina. At this time, the harvested skin graft (full-thickness or split-thickness) is wrapped around the silicone-coated stent with an antibiotic ointment (furaderm, toprak ilac, Turkey). The edges of skin graft is sutured to each other with a resorbable suture material. The settlement of the skin graft to the wound necessitates a great care. During the graft insertion, an or two assistants make a wide exposure to vaginal pouch with ecartors and the stent with the skin graft is inserted gently. From this time of operation, every movement must be done carefully for avoiding the graft distorsion or tear. The distal edges of skin graft can be sutured to the edges of opening incision at this time. The stent is fixated to a belt around the patient's body with inserting sterile serum set through the holes and suspension it to the belt. The most important point in the stent fixation is to hold a parallel fixation to normal vagen axis, otherwise urethral necrosis may occur due to undue pressure that resulted from improper stent fixation. This suspension prevents the stent from prolapsing at the early postoperative period.
2. Why do you coat the outer surface of acrylic stent with silicone? What are the advantages in doing so?

- "The incorporation of silicone has the advantage of a superior skin graft take with relieving a possible pressure necrosis around the stent." This phrase was added to surgical technique section. Moreover silicone is a detachable material which allows good wound care and prevents graft detachment during the early healing phase in neovagina.

3. There are already inflatable soft silicone stents in the market. What is the advantages of your newly designed stent? Is it cheap?

- Theoretically, soft materials may be inadequate for establishing an effective stenting. We think that a solid stent with an soft outer surface can have a homogeneous compression to every point of vaginal wall. Wound contraction which is seen at remodeling phase is a progressive event, and soft stents may be uneffective. This is also cheaper than other stents.

4. Tercan et al suggested the use of fibrin glue in the McIndoe technique in 2002. More and more fibrin glue has been used in Mc Indoe vaginoplasty. This situation should be emphasized in text.

- We added this reference and the statement of "Tercan, et. al. suggested the use fibrin glue in McIndoe technique and fibrin glue has been using for this technique" to the text.

Reviewer 3:

General:

...............I would also suggest considering the diameter 3 cm may originally adequate but with the potential for contracture over time, I would consider increasing it to 4-5 cm.

-We will consider it, but in our limited experience we did not see any complication due to stent diameter.

Minor:

1. Please describe the technique you use to secure the graft to the stent.

- DONE. This was described in the surgical technique section.

2. Do you always use a groin site for skin graft harvest? Do you perforate (mesh) the graft or place it over the stent unmeshed?

- "We use generally groin as a recipient site for full-thickness skin graft as this site is camouflaged in bikini. We do not perforate the graft. This would cause granulation tissue formation within the neovagina during the early wound healing phase. We place it over the stent unmeshed." This phrase was added to the text.

3. Why use one full thickness and one split-thickness. Your case series is too small to compare differences. I understand both are options, which do you suggest?

- We want to observe clinical course of two different options and although the serie is small, it suggested us that both skin graft techniques could be safely used with stent. Each one has its own advantages and these were discussed in the conclusion section.

4. Please, use consistent gramer throughout the manuscript, i.e., RK in case one, MRKH in case two.
5. Hypothesize, why do you think the incorporation of silicone improves the graft take. It may help contracture, but graft take?

- Hypothetically, application of silicone over a skin graft improves graft take by at least two ways. The first is elimination of dead space between the graft and wound bed. The second is optimization of the wound environment for graft take at the very early wound healing period, i.e. 1-4 days postsurgery.

6. How do you manage patients after the stent removed at 7 months? Do they dilate there after?

- After 7th postoperative months, we suggest the patients have 2-3 intercourses in every week and use stent 1-2 times in every week. This interval period is continued for 1 month.

After that time, no stent usage or dilation is needed.

7. Is hair growth a problem on the graft? Should one consider depilatory in the graft site prior to harvest?

- Yes, hair growth is a problem in full-thickness skin grafts. We suggest to have depilatory treatment prior to harvest in the graft site.

Reviewer 4:

The vaginal stent covered is not a novel idea: it has already been used in the past. Hayer-Schultz Pelotte which is made by polytechsilimed Europe Althermerstrasse 32-D-64807 Dieburg Germany, info@polytechsilimed.com, www.polytechsilimed.com.

I would advise the authors to incorporate these in the article and do a small review literature concerning silicone stents.

- Done. Following paragraph for review of stent usage in neovaginal construction was added to comments section.

"The first use of silicone in surgical treatment for congenital absence of the vagina was firstly described by Serra et al. in 1993 (1). They used a cylindric tissue expander wrapped in a mesh split-thickness skin graft instead of rigid silicone mold for 2-3 months. They reported five good result in six patients. Later, Alessandrescu et al reported a large case series with using a semirigid silicone mold which remained in place at least 6 months after the operation or until the patient became sexually active (2). They reported two rectal perforations, eight graft infections, 11 donor-site infections. In literature, there are reports concerning non-silicone stent usage in McIndoe vaginoplasty (3). Ozek et al used pyrex rigid mold and they experienced total or partial skin graft loss, stress urinary incontinence and vaginal stricture. Yu et al. emphasized the importance of using a detachable mold which allows for easy wound care and prevents graft detachment in neovaginal construction (4). So one can easily see that several types of stents are present for molding in neovaginal construction. But one of the most acceptable stents is semi-rigid and silicone-based ones. Seccia et al used a optosil which is a silicon-based condensation curing impression material used by dentist (5). They also experienced skin graft loss and neovaginal stricture.


