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LYMPHSPIRATION

GENITAL LYMPHEDEMA: A NEW TECHNIQUE OF CORRECTION SURGERY

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ABSTRACT

Genital lymphedema is a common problem seen by lymphology surgeons in India due to filarial infections. We have developed an innovative operative technique to correct this issue using native skin and have found the results in the first fifteen patients to be encouraging. Gross debulking procedures reduced the size and using native skin allowed a better cosmetic appearance. The patients also reported almost normal sensation and good sexual function. This technique deserves further testing with more patients and at additional centers.

Keywords: filariasis, genital lymphedema, operative treatment

Genital lymphedema caused by filarial worm infection is common in India. The treatment is usually delayed and therefore presents late with gross enlargement of genitalia (*Fig. 1A,B*) and disability in sexual activity. We have developed a new surgical technique for genital lymphedema treatment which utilizes native skin in an effort to retain more sensation and result in a cosmetically better outcome. Urine flow is generally not affected in these patients, even in severe cases, with maintenance of a good streamline flow and therefore no corrective measures are needed.

PATIENTS

We developed our technique using native skin and utilized this in 15 consecutive patients over 5 years. Ten patients were followed regularly (every 3 months for the first year and then yearly), 4 were followed less than 2 years, and one was lost to follow-up after a month. Patients were primarily from south and northeastern India. All presented with genital filariasis, edema, and a crooked penis. Nine also had associated lower limb lymphedema. All 15 patients had difficulty in penetration during sexual intercourse and 6 had a problem in passing urine in a proper streamline causing splattering of urine. All patients had severe enlargement of the penile skin and visualizing the tip of penis was very difficult. Three of the patients with scrotal edema also had associated pain and 3 had lymphorrhoea from the scrotum.

PROCEDURE

The procedure we developed included the following steps for the penis. First, we clean the skin and drape the patients followed by insertion of a Foley catheter. The first incision is made at the tip of preputial skin where it joins the thickened penile skin. The thickened penile skin is dissected out circumferentially superficial to the dartos

Fig. 1. Large swelling of the penis and scrotum typically seen in patients before operation.

Fig. 2. Inter-operative pictures of penis and scrotum reduction.

Fig. 3. Post-operative bandaging with separate dressings for the penis and scrotum.

fascia and then by making a ventral longitudinal incision, the skin up to root of penis is degloved leaving the inner layer of preputial skin intact. This preputial thin skin is pulled over the entire shaft of the penis and sutured to the native skin at the root of the penis in a zig-zag manner, as shown in *Fig. 2A*. For the scrotum, a transverse elliptical incision is made over the scrotum and the scrotal wall excised. The tunica vaginalis is opened and the sac everted. After adequate excision of scrotal skin, the scrotum is closed in layers with two corrugated drains at the two ends *(Fig. 2B)*. The central septum is not disturbed. Separate dressings for the penis

and the scrotum are applied *(Fig. 3)*. We use 4-0 monocryl for all procedures since we have found it holds for an adequate length of time for the wounds to heal, and it does not require suture removal for these patients.

Post-operatively, patients are administered antibiotics, analgesics, and anti-inflammatory drugs as well as stilbesterol + diazepam at night for 4-5 days, to avoid erection at nights during the initial post-op period. The drains and Foley catheter are usually removed on the third post-operative day.

RESULTS

All 15 patients were highly satisfied with the results. They all had good reduction in genital size and reported almost normal sensate skin post-operatively as assessed by questioner. Sexual satisfaction was also reported to be very good after operation by all and represented a big improvement since before operation most reported that penetration was not possible.

Patients have not exhibited any problems in the post-op period, and the technique of performing reduction on both the penis and scrotum in a single stage was successful. The long-term results of this new technique have been good and on follow-up have been long lasting.

The overall period of stay in the hospital was 4 days. All wounds healed well by one week with no wound infection, dehiscence, or skin necrosis. In one patient, a transient reaction occurred related to the monocryl, which subsided with neosporin ointment (local antibiotic) application. There was a good streamlined, distant flow of urine in all the cases. Erectile function was good and undisturbed by minimal preputial skin, which expanded over time.

DISCUSSION

Various surgical techniques have been tried by multiple surgeons in the past for the treatment of genital filariasis (1-6). Many believe that total excision with skin grafting is a simple and good technique with acceptable functional and aesthetic results and low incidence of recurrence (7). For the penis, skin and subcutaneous debulking or total excisions with skin grafting (either full thickness or split thickness grafts) have been tried. The full thickness skin grafts are associated with poor graft take and also the availability of donor site. The best way to get a large enough donor site is by carefully harvesting the skin from the excised specimen. Although studies have shown a reduction in frequency of erysipelas and reduction in dose of antibiotics required (8), the results were not aesthetically pleasing and the penile sensations were not preserved. There was also recurrent breakdown of the grafted skin with oozing seen. Although skin grafting may have the advantages of reducing the recurrence of lymphedema and cellulitis, it changes the thermal regulation of the testes, which is apt to interfere with testicular function. To address this issue, local flaps were harvested from a normal thigh or a remnant of scrotal skin (9). For the scrotum, aspiration of the hydrocele fluid and ablation with tetracycline has been tried. Also, excision of redundant skin of the scrotum after aspiration has been attempted. This method can lead to infertility. Therefore, it is not recommended for all cases but can be reserved for cases such as very old infirm individuals or those not fit for major surgical procedures.

We believe that our simple, single staged technique with no SSG or flap cover gives the best result in long term follow-up (both functional and aesthetic) as long as good skin care is undertaken in the post-operative period. The major advantages are: both penile and scrotal swellings are handled in a single stage, the sensation of the penis is maintained, sexual function is more than satisfactory, the result is aesthetically pleasing, skin grafting is avoided, the patients are able to get back to work and sexual life earlier, and urine outflow is not affected. Our preliminary results indicate that further studies are warranted.

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