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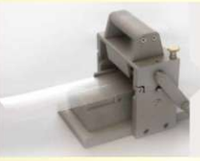

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CONTENTS

ORIGINAL ARTICLE

Treatment of Scapho-Trapezio-Trapezoid (STT) arthritis - A review

Mr. Parkash Lohana, Mr. Rajive Jose

ABSTRACT

Scapho-trapezio-trapezoid (STT) arthritis is a common arthritis of the wrist joint, however the incidence can vary and the presentation can be isolated or in combination with basal thumb arthritis. There are various treatment options available for STT arthritis. This review will discuss the anatomy of the STT joint, pathological changes, treatment options, review current literature and propose algorithmic approach in the management of STT arthritis.

Key words: *Scapho-trapezio-trapezoid arthritis, STT arthritis, Trischaphe arthritis.*

Introduction

Arthritis of the scapho-trapezio-trapezoid (STT) joint can occur in isolation or as part of thumb basilar arthritis. It is the second commonest joint involved in osteoarthritis of the wrist and the clinical incidence has been reported to be between 2-16% (Wollstein and Watson, 2005; Armstrong et al., 1994; Viegas et al., 1993; Watson and Ryu et al., 1984). When occurring in isolation it is commoner in older women. In a study of one hundred consecutive radiographs, an incidence of 59% was noted for changes suggestive of STT arthritis (Wollstein et al., 2012). In a cadaver study STT joint changes were noted in 83% of hands (Bhatia et al., 1996). Most radiographic changes are likely to be asymptomatic and therefore will not present clinically, explaining the low clinical incidence.

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Patients with STT arthritis present with pain over the base of the thumb. A clinical distinction between thumb basilar joint arthritis and STT joint arthritis is not always possible and radiographs are needed for assessment. STT arthritis often co-exists with thumb basilar arthritis. Most patients are managed conservatively with activity modification, NSAIDs, splints and steroid injections. A small proportion of patients proceed to have surgical treatment. Similar to thumb basilar joint arthritis, several treatment options exist for STT arthritis. These range between distal pole of scaphoid excision, STT fusion, trapeziectomy, interposition arthroplasty and denervation.

Though there are several published clinical series on individual treatments but there are no randomised controlled trials comparing various treatments. The aim of this article is to review the anatomy of the STT joint, the pathological changes with osteoarthritis, treatment options including non-surgical and surgical treatments and the literature.

Surgical anatomy

The STT joint is formed between the distal pole of scaphoid and the proximal parts of trapezium and trapezoid bones. The joint is stabilised on the volar aspect by the STT

ligaments which is 'v' shaped with the apex of the 'v' distally (Diagram 1).

Diagram 1. STT joint and ligament

The ligament complex consists of the STT ligament, the scapho-capitate ligament and the FCR tendon. These structures are stabilisers of scaphoid and where there is a scapholunate ligament acts as secondary stabilizers preventing flexion of the scaphoid. The joint can be approached through a dorsal incision as shown in Photograph 1.

Photograph 1. Incision for accessing STT joint. Lister's tubercle is marked.

Following the skin incision, the superficial radial nerve branches are retracted. Extensor retinaculum is incised and access to the joint capsule made between ECRL and ECRB (Photograph 2).

Photograph 2: Fat pad between ECRL and ECRB

A fat pad is seen in this location with a small artery in it which has to be cauterised. Volar approach to the joint is possible and is used when there is synovitis of the FCR tendon.

Clinical assessment

Patients with STT arthritis usually present with thumb basal pain and weakness. Isolated STT arthritis is common in elderly women. History taking includes the patient's handedness, occupation, symptoms, disabilities with work or activities or daily living, past medical history and hobbies.

On examination there is tenderness over the base of the thumb and more characteristically over the volar aspect of the wrist over the tubercle of the scaphoid. The 'grind test' or 'torque test' used to assess the pain coming from the carpometacarpal joint. Clinical differentiation between pain over the carpometacarpal joint of the thumb and STT joint is often difficult and radiological assessment is necessary (Smith 2002).

Plain radiograms of the hand are sufficient to make a diagnosis. Standard AP and lateral views of the hand and wrist are taken. On the X-Rays, narrowing of the joint, sclerosis and osteophytes are seen. Involvement of the other joints are noted. On the lateral view the presence or absence of a DISI (Dorsal Intercalated Skeletal Instability) is an important finding. Patients with a DISI are not suitable for a distal scaphoid pole excision, as will be discussed later on in this review.

Treatment options:

Treatment depends largely on the severity of the disease and patient's symptoms. In most cases an initial conservative treatment through activity modification, splints and NSAIDs is tried (Wolf 2002). There are several splints available in the market for thumb support. Custom-made splints can be fabricated by Hand Therapists. Often the pain is exacerbated by a period of heavy activity and a period of rest in splint with NSAID medications usually help to settle the symptoms. When the pain persists for a long time, an intra-articular steroid injection can be tried. These injections are best done under image guidance as clinical landmarks for locating the joint is unreliable. These injections can be repeated but they carry the risks of soft tissue atrophy and skin hypopigmentation (Jeffrey 2011).

In a selected group of patients, surgical treatment is considered due to persistent symptoms. There are several options available and they have to discussed with the patient and a decision taken based on several factors including patient's age, activity level, presence or absence of osteoarthritis in adjacent joints and co-morbidities.

In patients with concomitant arthritis of the first carpometacarpal joint, trapezium excision is an option. However proximal 2mm of the trapezoid may be removed at the same time, to remove the arthritic bone in that joint. A soft tissue interposition may be considered to prevent subsidence of the bones are recurrence of symptoms.

In series of 15 patients with isolated STT art hritis, Langenghan et al. (2014) used trapeziectomy with ligament reconstruction as the sole treatment method. They demonstrated excellent pain relief with good functional outcomes in 14 patients who were available to follow up. They felt that excision of proximal trapezoid was not necessary (Langenhan et al., 2014). Andrachuk and Yang, performed trapeziectomy with ligament reconstruction including proximal trapezoid excision on 12 wrists with symptomatic isolated STT arthritis. They demonstrated significant reduction in pain and increased in range of movements. They suggested that trapeziectomy with ligament reconstruction and excision of proximal trapezoid is an effective alternative to fusion (Andrachuk and Yand, 2012).

STT fusion or triscaphe fusion is the commonly performed procedure for isolated STT arthritis. This procedure is good in relieving pain and retaining grip strength. The negatives of this procedure are the risk of non-union and loss of movements of the wrist especially the 'dart-throwing' motion. In the series of 21 patients who underwent STT fusion for arthritis, Rogers and Watson documented good pain relief in all patients. One patient had a non-union which was treated by revision surgery and two patients had dystrophy which was treated with hand therapy (William et al., 1990). The same authors in a different article highlighted the risk of radial styloid impingement in 33% of patients who underwent STT fusion and recommended routine radial styloidectomy as part of this procedure (Rogers and Watson, 1989). In another series of 41 patients who underwent STT fusion for a variety of indications including arthritis, Keinbock's disease and trauma, authors found 34% of radial impingement and recommended radial styloidectomy as an adjunctive procedure (Voche et al., 1991).

In their series of 40 patients who underwent STT fusion including 10 with arthritis Ishida and Tsai documented a high complication rate of 53%. Additional procedures were required in 25% of cases. Fifty nine percent of their patients returned to initial employment and 68% reported good to excellent results.

They concluded that though the operation was good for pain relief, complications were frequent (Ishida and Tsai, 1993).

Kalb et al. (2001) evaluated 98 patients with STT fusion of various indications including

27 cases of arthritis. They found a 7.7% non-union rate through X-ray and CT scan evaluation. They found that the best functional outcomes were for patients with arthritis (Kalb et al., 2001).

Excision of the distal pole of the scaphoid is a simpler treatment for isolated STT joint arthritis. This can be performed through a dorsal or a volar approach and has the advantage of preserving movements. Garcia-Elias et al. (199) reported on 21 cases where this procedure was performed for STT arthritis. In 10 cases a soft tissue interposition was performed along with distal scaphoid excision. They reported complete pain relief in 13 patients and occasional mild residual pain in 8 patients. They found improvement in grip and pinch strength of 26% and 40% respectively. Radiographic evidence of DISI malalignment was noted in 12 cases but they did not progress on follow up (Garcia-Elias et al., 1999).

In a series of 19 patients treated with distal scaphoid excision, Malrich et al. (2014) found that the procedure increased grip strength and total arc of motion. There were two treatment failure requiring proximal row carpectomy and wrist fusion. However, their series comprised of patients who had arthritis secondary to scaphoid non-union (Malerich et al., 2014).

Arthroscopic treatment of STT arthritis has been evolving and resection of the distal pole of scaphoid can be done using an arthroscope. In a retrospective study of 8 patients who underwent this procedure, Normand et al showed that the pain decreased in 7 patients with complete resolution in 6 and worsening of pain in one patient. They recommended this treatment as first line treatment for isolated STT arthritis which is not relieved by medical treatment (Normand et al., 2012).

In a series of 13 patients, Mathoulin and Darin (2011) performed arthroscopic treatment of STT arthritis by resecting the distal scaphoid pole. They demonstrated improvement in pain, increased mobility and strength in these patients. During the same period the authors used pyrocarbon implants in the same number of patients. They had two implant dislocations in that series. They recommended minimally invasive treatment for STT arthritis (Mathoulin and Darin, 2011).

Interposition arthroplasty using pyrocarbon implant through open and arthroscopic methods was performed by Pegoli et al. (2006) in 10 hands in 8 patients. They demonstrated functional improvement in all their patients (Pegoli et al., 2006).

One of the complications of distal scaphoid excision is a mid-carpal instability which has been reported. Following a distal pole of scaphoid excision in a 64-year-old patient, the procedure was complicated a mid-carpal instability and pain. This was salvaged through a capito-lunate fusion (Corbin and Warwick, 2009)

In the authors' unit, a similar complication was encountered in a 50-year-old patient following a distal scaphoid excision. The post-operative X-rays showing mid-carpal instability can be seen in photograph 3 and 4.

Photographs 3-4: X-rays showing post-operative views of distal scaphoid excision complicated by mid-carpal instability.

Tay et al. (2007) studied the clinical implications of STT arthritis with associated carpal instability in 24 wrists in 16 patients. They concluded that a significant proportion of STT arthritis patients have mid carpal instability not associated with scapho-lunate dissociation. The patients in their series had a variety of surgical procedures ranging from denervation to STT fusion. Four patients required revision surgery through STT fusion and during the final review 31% of patients remained dissatisfied with procedure and still had the pain. However, they did not find a direct association between unsatisfactory outcome and the degree of mid carpal instability. They cautioned that if resection arthroplasty is performed there is risk of increasing mid-carpal instability (Tay et al., 2007).

Given the proportion of patients with mid-carpal instability with STT arthritis, there are only isolated reports of mid-carpal collapse following distal scaphoid excision. Kamal et al. (2012) studied the effect of dorsal intercarpal ligament on lunate extension after distal scaphoid excision in 10 cadavers. They concluded that a symptomatic carpal instability after distal scaphoid excision may be due to an incompetent dorsal inter carpal ligament (Kamal et al., 2012).

There are no randomised controlled trials comparing any of the treatments in patients with isolated STT arthritis. There are several case series on individual treatments as discussed above. The author has proposed a treatment algorithm based on the available literature and it can be seen in Diagram 2.

A treatment algorithm for STT arthritis

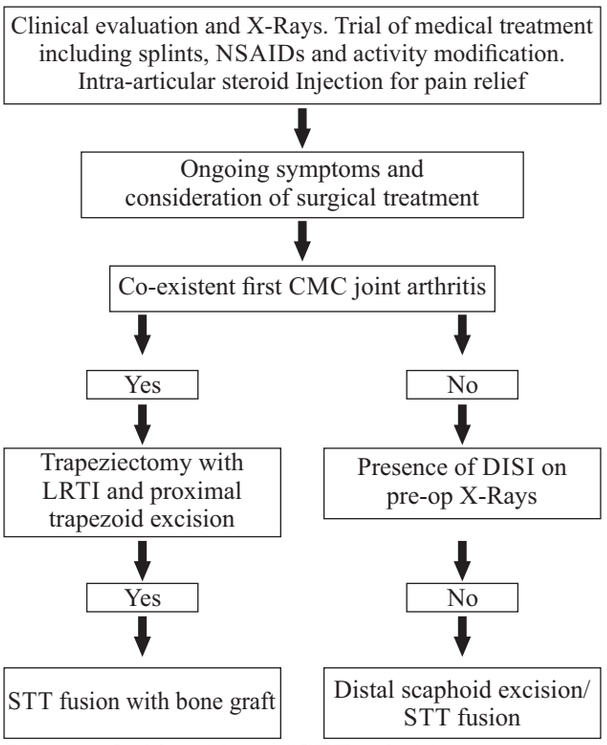

Diagram 2: Algorithm od STT arthritis treatment

Conclusion

STT arthritis can occur in isolation or in combination with arthritis of other hand joints especially the first CMC joint. Evaluation of these patients should include a detailed history, physical examination and plain radiograms of the hand. A true lateral view is important to look for a DISI deformity, and if present excisional procedures in these patients should be avoided. An initial medical treatment should be trialled in all patients and includes analgesics, splints, and activity modifications. Intra-articular steroid injections can give temporary pain relief. In patients with concomitant first CMC joint arthritis, trapeziectomy with excision of proximal pole of scaphoid can be tried. In isolated STT arthritis the surgical options range between arthroscopic/open distal pole of scaphoid excision and STT fusion. Patients without a pre operative DISI are candidates for both but in those with a pre-existing DISI, STT fusion is the preferred operation.

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CASE REPORT

Case presentation (Reconstruction of Congenital Complete Loss of Right Ala with one Stage Surgery)

Dr. Mohamed Abdel Hafeez

ABSTRACT

13 year old girl with congenital complete loss of right ala and bifid rigt side of the nose from right side midface.

Operated before by some other plastic surgeon 3 years ago only full thickness skin graft harvested post auricular and secondary sutures to close the defect between the nose and midface but as shown in preoperative photos no progress or any improvement in the lost ala.

Key words: Septum, Ala Reconstruction

By examination

Complete absence of right ala cartilage, skin and nasal lining all three layers.

Dropped columella.

Deviated tip to normal side.

Dislocated nasal septum caudal end to left side.

C shaped septum convex to right side.

Wide square tip.

Right mid face atrophy and fibrosis.

Summary of the difficulty in the case:

The problem is not in the cartilage loss because it can be harvested as composite cartilage graft from the ear , but the difficulty in skin loss for the ala with same curvature and texture Skin coverage for the ala can be reconstructed by forehead flap or nasolabial flap + skin graft for nasal lining and both of these flaps are two stage surgery with donor morbidity (scaring) and possibility of flap maceration and infection (4).

My preoperative plan and intraoperative tricks to start with :

Open septorhinoplasty to align the septum straight and debride excess cartilage lever the collumella upwards using collumellar strut tip plasty to narrow the tip and raise it with special lever stitch between the septum , tip and collumella with the strut.

My aim to take benefit from lever the collumella upwards after full dissection of nasal skin as by this gliding motility will get more excess skin downwards. Harvest composite graft **two layers** harvested from the concha anteriorly to reconstruct the rim of the ala with same curvature .

Harvesting wider cartilage and less skin in its center , making the skin of composite graft inside as nasal lining (2) through incision for the open rhionoplasty on defect side, open Pocket inferiorly to fix the inferior edge of the

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cartilaginous part of composite graft at the end ala formed completely three layers but remaining very small shlallow notch in the lateral third of alar rim is reconstructed by a small advancement flap medially based to reconstruct it. Harvest small amount of microfat by syringe from lower abdomen and graft the microfat to right mid face beside the nose to overcome the right atrophy related to right congenital loss of ala(3)

Results :

The septum straightened

The collumella drop corrected , and the tip raised and narrowed

The composite graft excellently reconstruct the alar rim cartilage and nasal lining

And skin of the nose by gliding after pushing the collumella and to upwards used as skin coverage for the ala with success.

Conclusion:

In young and females patients we prefer reconstruction with less morbidity to donor site and one stage better than more stages specially in children if possible still simple tricks if come to our mind can solve many complicated problems as this lever action to collumella and tip with dissection upwards to the nasal skin giving excess skin for coverage of composite alar rim cartilage with fine touch small local flap at the rim(1)

* attached preoperative photos and direct post operative photos on table before applying plaster of Paris to the nose

Fig 1:

Fig 2:

Fig 3:

Fig 4:

Fig 5:

Fig 6:

Fig 7:

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ORIGINAL ARTICLE

Restoration of Female Body Configuration by Combined Liposculpture with Lipomodelling Post Massive/ or Moderate Weight Loss

Dr. Mohamed Abdel Hafeez

Abstract:

Introduction And Purpose:

Female naturally should has unique feminine body shape that give her the attractive look, and the most attractive body shape all females seek and want it is hour- glass body shape.

In female patients after massive weight loss whatever through dieting or bariatric surgeries they lose massive weight in relatively short time and the end result will be complete loss of feninine body + a lot of kin excess the hour- glass body has many standards waist/hip ratio should be from 0.6 to max 0.7 lateral profile : buttocks should be heart shape or round shape with two high defined angles , one between the upper border of buttock area and lower back and the other angle beween the lower border of buttock area and the upper thigh posteriorly anterior/posterior view : rounded curvy trochanteric areas without any depressions upper thigh medially not touching each other with narrow inverted triangle space in between flat abdominal wall with low profile mons mound inferiorly

Key words: Liposution, Body Configuration, Abdominoplasty, Obesity

Introduction

And these is what we try to reach through this strategy the changes happened in female after massive weight loss:

After bariatric surgery the patient start lose the weight progressively till as protocol six months after reach fixation of weight we was start dealing surgically with skin excess and the end result of this female has no skin excess any more but looks like a man without any feminine configuration because most of fatty areas lost and she became has no more extra fat at this stage.

To control your body wt. and reach normal range BMI after obesity or over wt. is good target but to preserve or create curvy beauty body shape in parallel line this is most middle east women Patients post massive wt loss lose beauty feminie body shape look after loss of supporting adipose tissue matrix most of them become ruler shape type with more skin redundancy, and when these patients reach for platueau of fixed wieght point after losing most of body fat proceed with different surgeries to manage body skin redundancy, the patients will resume their skin tightness again but will keep in ruler body shape that is not desired to have by most of eastern ladies.

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Materials and Methods:

My aim to start with them before to lose most of supporting fats to get a benefit from this fat cells to give them almost near hour – glass body shape image.

Through 3D lipomodeling which is combined with different degress of liposculpture according to pre-op map and plane (to enhance waist narrowing and increase hip cicumference laterally and posteriorly to try to keep w/h ratio near 0.6, and give buttock augmentation projection , upper medial aspects of both thighs smart liposculpture , and abdominal wall etching can be done in

some cases will not in need for abdominoplasty later) then after 3 month start with skin redundancy surgeries upper and lower body lift.

The Study Started on 40 Patients Divided into two Groups Each Group 20 Patients

The first group with mild to moderate wt. loss and with mild to moderate skin redundancy in this group with 3D configuration of the body with combined liposculpture and lipomodelling.

I did for the abdominal wall aggressive liposuction with concentration on superficial fatty layer with small cannula with friction movement to the dermal layer.

And two drains inserted in abdominal wall and one drain posteriorly in sacral triangle.

These drains kept in place for 3-4 days under –ve pressure to help these three combination (thermal friction injury by liposuction small canula + -ve pressure drains + tight garment) to help adhesion of abdominal skin to underlying abdominal wall 8 weeks tight full garment postoperative the second group post massive wt. loss and massive skin redundancy in this group I tried to use mild over correction for the areas build up with lipomodelling to balance the wt loss curve specially post sleeve gastrectomy and in this group no dermal injury to abdominal skin wall and no –ve pressure drains as with massive skin redundancy they must need abdominoplasty later but in both groups advice patient for ultrasound massage three times a week for 4 weeks post operative.

Results:

These patients fully satisfied with this body shape even in presence of skin redundancy that will start deal with after 3 months, the other benefit of this strategy will decrease abdominal wall subcut. fat thickness which facilitate and subcutaneous optimise abdominoplasty results later.

1- First Group: Patient with moderate gradual weight, loss with mild to moderate skin redundancy they have satisfied with new shape and configuration of the new body image and the mild degree of redundancy improved and no one of them ask for abdominoplasty later and among this group no patient develop any complication.

2- Second Group: Patient post massive weight loss ,with massive skin redundancy Satisfied with new feminine configuration of the body even with presence of skin redundacy that they know will start deal with three months later among this group two patients develop local complication.

One develop 8th day post operative mild fat liquefaction at the loose ischial area because the skin here is very loose. After this I avoid injecting any fat to this area. Another patient develop local inflamation in the site of liposculpture in one thigh and controlled conservative with antibiotic and antiinflamatory medicine.

Conclusions:

Adding lipomodeling and liposculpture for body shaping in these type of patients post wt. loss give chance to them not only to get normal BMI but to keep beauty feminine body shape too that is more desired to most of middle east women and the other advantage too specially for abdominal wall and waist as most these patients post massive weight loss will need abdominoplasty and as combined aggressive liposuction specially for waist areas with abdominoplasty can harm lateral costal perforators supply the abdominal flap and can harm viability of the flap leading to distal skin necrosis and wound dehiscence so separation of liposuction three months before abdominoplasty will help to save abdominal flap.

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ORIGINAL ARTICLE

Technical Aspects in Penile Replantation: Our Experience in two Cases

Krishna Kumar KS, Amrita Mandal , AjitPati, Saju Narayanan, Ravi Kumar Karunakaran, Surdas R, Sumit More

Abstract

Penis is not only an organ of function but also an organ of masculine identity. Penile amputation may be accidental but is more often intentional and in 87% cases it is self- inflicted.[1]There are reports of macroscopic penile replantation with variable success in the literature.[2] Currently, microsurgical replantation is the accepted standard of treatment although there is still controversy on the structures that should be repaired.[3]

Objectives: To assess the outcome of microsurgical penile replantation done in two cases of near total amputation of penis, attached by a small skin tag and review the literature.

Patients: Two cases of near total amputation penis, attached only by a small skin tag came to our emergency. Penile replantation was done by microsurgical repair of the dorsal arteries, vein and nerves in both the cases and cavernosal arteries in the first case.

Result: The postoperative recovery of the first case was uneventful. The second case had complication of minor proximal skin necrosis which needed to be skin grafted. The first patient was followed up for 3 years and the second for 8 months. Both had normal micturition and acceptable appearance. Morning erection occurred in both patients and the second patient reported successful intromission at 4 months postoperatively.

Conclusion: Microsurgical penile replantation is the standard of care and timely meticulous repair can give near normal function and appearance. Repair of cavernosal arteries does not necessarily have a bearing on erection and sexual function at least in distal amputations. When amputation is at a proximal level and technically feasible, cavernosal arteries' anastomosis should be attempted.

Key words: *Penile replantation; microsurgical; cavernosal artery repair;skin necrosis*

Introduction

Penis is an organ of micturition and sexual function and penile amputation is both a physical and emotional trauma for the patient. The cause for penile amputation may be accidental like with gunshot, penetrating and strangulation injuries. Iatrogenic injuries can occur during circumcision in infants.[4,5]

But more often than not it is due to intentional trauma, either assault or self- induced. 87% cases are self- mutilation of which 65% have history of psychiatric illness.[1,6] The patients with psychiatric illness who are most prone to this type of injury have been classified into three main groups; schizophrenics, transvestites and patients who suffer from religious and cultural conflicts.[7] These patients often give history of repeated similar attempts but sometimes self- mutilation is an isolated event often in response to a recent stressful event in an otherwise normal individual.[1] The other group of cases are due to assault generally by sexual partners, in particular jilted homosexual lovers.[8,9] In Thailand in the 1970s there was an epidemic

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of penile amputations caused by humiliated wives on their cheating husbands.[2]

Since, penile amputation is a rare problem, the literature on its management is confined to scattered case reports and a few series and no specific guidelines exist on its management. Owing to the rich blood supply these patients are at risk of haemorrhagic shock and prompt resuscitation and control of bleeding is the first line of management. If the amputated part is salvaged, an attempt at replantation should be made. There is literature to support that simple end to end repair of urethra and corpora without any microsurgical anastomosis of dorsal artery and veins is sufficient for survival of the amputated penis.[2,9]But these were associated with high rates of complications like skin necrosis, urethral strictures and erectile dysfunction.[2] Microsurgical replantation is the current accepted standard management.[3] With microsurgery, the complications have reduced but not been eliminated. The success of replantation depends on the nature and severity of injury, warm and cold ischemia time as well as equipment and available expertise. We present two cases of penile replantation done at our centre, its outcome and a brief review of literature.

Patient 1

Patient was a 70 yrs old male with history of schizophrenia who attempted suicide by using a kitchen knife to amputate his penis. The patient was brought to the emergency in shock and was resuscitated. The amputation was 1.5cm from the base and the part was attached by a 5mm skin tag only (Fig_1, Fig_2).

Figure 1: Preoperative image of case 1 ventral view

Figure 2: Preoperative image of case 1 dorsal view

The surgery was performed under general anaesthesia. Supra-pubic catheterization was done. The part was irrigated with heparin saline solution, debrided and deep dorsal arteries, vein, nerves and bilateral cavernosal arteries were identified and dissected out. Urethral ends were dissected out and spatulated. First a 16F Foley catheter was introduced in the amputated part then the stump into the bladder. Tunica albuginea on the ventral aspect of the spongiosum was repaired. Then the urethra was repaired by the attending urologist with interrupted absorbable sutures (Fig_3).

Figure_3: Intraoperative image of case 1 showing urethral repair and the clamps holding the cavernosal arteries

Tunica albuginea was repaired on the ventral aspect of the corpora to stabilize the penis. Following this the bilateral cavernosal arteries were anastomosed with 10-0 nylon interrupted suture under microscope (Fig_4, Fig_5).

Figure 4: Intraoperative image of case 1 showing cavernosal artery repair

Figure 5: Intraoperative image of case 1 showing close up of repaired cavernosal arteries

Corpora cavernosa and tunica albuginea were sutured with 4-0 polyglactin. Two dorsal arteries and the deep dorsal vein were anastomosed using 9-0 nylon and dorsal nerves were repaired using 10-0 nylon epineural sutures under microscope (Fig_6).

Figure 6: Intraoperative image of case 1 showing repaired dorsal neurovascular structures; dorsal nerves, arteries and vein (from lateral to medial)

Loose suturing of skin was done and covered with loose bulky dressing all around and positioned at 90 degrees from the body axis. Total ischemia time was 7 hours. Patient received low molecular weight dextran with heparin continuous infusion for three postoperative days. Follow up was uneventful and catheter was removed after 3 weeks.

Patient 2

Patient was a 25yrs old male who came with history of near total penile amputation by his girlfriend who felt betrayed by him. The patient was resuscitated and taken to operation theatre as soon as possible. There was complete discontinuity of the corpora 3cm from the base and the amputated part was hanging from the stump by a narrow dorsolateral skin tag and a dorsal nerve (Fig_9, Fig_10).

Figure 9: Preoperative image of case 2

Figure 10: Preoperative image of case 2 showing complete division of corporal bodies

Suprapubic catheterisation was done by urologist. Under GA, amputated part was debrided, washed with normal saline and structures identified and dissected out. Cavernosal arteries were very small and could not be adequately dissected. The urethra was anastomosed by the urologist and then the corpora cavernosa and tunica albuginea were repaired with 4-0 polyglactin. We decided against repair of cavernosal arteries separately in this case as they were very small, amputation being more distal than the first case. Two dorsal arteries, the deep dorsal vein and the injured single dorsal nerve were repaired using 9-0 and 10-0 nylon respectively under microscope. Buck's fascia and skin was closed with loose stitches. Ischemia time was 6 hours. Postoperatively low molecular weight dextran and heparin was given for 5days and discharged on day 10. At 2 weeks, patient presented with necrosis of small area of proximal penile skin (Fig_11).

Figure 11: Postoperative image of case 2 showing penile skin necrosis

Wound healed by conservative management (Fig_12, Fig_13).
Supra-pubic catheter was removed at 4 weeks and Foley's catheter was removed at 6 weeks.

Figure 12: Postoperative image at 8 weeks showing well healed graft

Figure 13: Postoperative image at 8 weeks ventral view

Result:

The first patient had an uncomplicated recovery. At 3 years follow up patient had normal micturition and appearance (Fig_7, Fig_8).

Figure_7: Postoperative image of case 1 dorsal view

Figure_8: Postoperative image of case 1 lateral view

Erectile function could not be assessed properly as patient was not sexually active but morning erections were often present. Patient is on medication for his psychiatric illness and has not re attempted self- mutilation again.

The second patient had an acceptable aesthetic outcome and was able to void normally. Morning erection was seen one and a half months after surgery and patient had some sensations on the glans by one month time. At 7 months follow up, he did not complain of urinary issues and reported successful intromission.

Discussion

Penile amputation is a rare case to be encountered. The most common cause is self-inflicted accounting for 87% cases and 65% of these patients suffer from psychiatric illnesses.[1,6] About 20% of such patients have history of similar attempts in the past and they are at high risk for re-attempts.[1] Most of the literature on penile replantation is based on individual case reports and a few series. The first penile replantation was reported in 1929 wherein the corpora and urethra were approximated and penis was buried into the scrotum and no attempt was made at anastomosis of arteries, veins or nerves.[10] Following this, several similar cases have been reported with variable outcomes.[2,3,11] The most common complication was skin necrosis followed by urethral strictures, urethra-cutaneous fistula, erectile dysfunction and poor sensory recovery.[2,3] In 1977, the first microsurgical replantation were reported by Tamai et al and Cohen et al.[12,13]Since then about 43 cases of microsurgical replantation have been reported in the literature and these have seen fewer complications and better function and appearance as compared to macroscopic replantations.[2,3,11-14]

At present, microsurgical replantation is the standard treatment for penile amputation but there is still no consensus on the structures to be repaired.[3] The blood supply of penis comes from the deep sinusoidal system of cavernosal arteries and a superficial system of deep dorsal penile arteries, both arising from the internal pudendal arteries, with good communication between the two. The sinusoidal flow can be re-established by simple approximation of the corporal bodies, as is evident by numerous reports of successful macroscopic replantation. Deep cavernosal artery repair is recommended by some authors.[15,16] Wei et al advocated that at least repair of a single superficial artery should be done along with deep arteries.[17]Landstrom et al recommended repair of single superficial artery only and did not consider microvascular repair of cavernosal artery mandatory as there is good communication between the superficial and deep vascular system.[14] More recent literature recommends deep cavernosal repair if it is injured proximally and is amenable to repair.[8,9,18]

Skin necrosis is the most common complication and occurs irrespective of the artery repaired.[8,15] The incidence of skin necrosis has been found to be 77. 8% and on eliminating cases with some intact skin bridge, it is as high as 87.5%.[19]Primary debridement of penile skin and burying of the replanted penis in the scrotal or supra-pubic skin was suggested earlier.[20,21] This not only prevented skin necrosis but also protected from further assaults on the replanted penis in patients with history of self-mutilation. But this involved further surgery for removing the penis from the skin pocket and the hairy thick scrotal or abdominal skin did not look aesthetically appealing. Recent cadaveric perfusion studies have revealed that the majority of the shaft skin is supplied by the external pudendal system by multiple small vessels in the skin and only the glans and the distal penile skin is supplied from the dorsal arteries.[19] The repair of external pudendal branches has not been documented in any penile replantation reports. In our second case we saw necrosis of proximal penile skin

which could be attributed to the vascular anatomy. In an account of penile replantation by Chou et al, they observed necrosis of dorsal arteries and early prepucial necrosis but long term survival of the prepuce and glans. Although not proven, they postulated that the deep system takes over the supply of the glans and foreskin after the 1st week and the superficial system is responsible for maintaining its viability in the first week alone.[15]

Necrosis of the glans and corpora is usually associated with other adverse factors like long ischemia time or deep cavernosal injury.[15] Another critical factor for penile skin viability appears to be venous drainage. Ishida et al advocated repair of as many veins as possible.[22] Postoperative oedema or a contained expanding haematoma under the skin can compromise the skin vascularity. There is repeated emphasis on loose suturing of the skin and dartos, postoperative positioning and timely intervention when suspecting venous compromise such as suture removal and release incisions.[15,22] Chou et al recommended multiple release incisions to relieve oedema.[15] There are also accounts of leech therapy and hyperbaric oxygen therapy used successfully to aid survival of the replanted organ.[14,15]

From the review of literature and our own personal experience, we understand that the deep cavernosal artery need not necessarily be anastomosed, at least in distal cases and simple suturing of the corpora is sufficient to establish sinusoidal circulation. Both our cases had normal morning erection within one month of replantation and the repair of cavernosal arteries at least in distal amputations does not have any bearing on erection and sexual function.

Conclusion:

Microsurgical penile replantation is the standard of care and timely meticulous repair can give near normal function and appearance. Repair of cavernosal arteries does not necessarily have a bearing on erection and sexual function at least in distal amputations. When amputation is at a proximal level and technically feasible, cavernosal arteries' anastomosis should be attempted.

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LETTER TO EDITOR

Patients' Smartphone Cameras as Tools for Imaging Skin Lesions

E. Chochrane, Diaa Othman, S. Aslam

Dear ,

We would like to highlightthe benefits of using patients' smartphones as tools for documenting images of skin lesionsas a part of their management. Assessment of a skin lesion(s) is a common presentation to the plastic surgery outpatient clinic. Accurate assessment and documentation are vital to ensure appropriate treatment. In the United Kingdom, the incidence of skin cancer is increasing[1]. Skin lesion assessment represents 35-45% of referrals to the specialist clinic[2].

Medical illustration departments work to providevisual documentationof the lesion(s). With increased service pressures it is not always possible to access medical illustration due to workload and costs.

However, smartphone cameras are able to capture high quality images and successfully document skin lesions[1]. Asaid et al demonstrated that smartphone cameras, whilst not able to provide the same quality image as clinical photography, can be used effectively for assessing skin lesions[3].

One advantage of using smartphones to document skin lesions is monitoring the lesion(s) over time and recording changes prospectively. Patients are able to present the visual timeline, supporting the diagnostic process. Smartphone images are also helpful for surveillance. In the context of pigmented lesions[2], this can have significant benefits in detecting subtle changes over a period of time.

Smartphone photography can also be used to image areas not always visible to the patient,for example the back or scalp, or if multiple lesions are present in the same area. A smartphone imagecan accurately locate the lesion for assessment. Furthermore, it facilitates informed counselling of the patient when discussing the diagnosis and management, especially if needing reconstruction.

During a busy theatre list, images stored on patients'smartphones enable the surgeon to efficiently review the image with correlation to the proposed surgical site. It is not uncommon to encounter uncertainty for the correct lesion to be excised on the day of surgery as lesions may have progressed or regressed with time. For patients requiring procedures utilising nuclear medicine, images stored on their smartphone supports the localisation process. This is particular useful in the context of melanoma where the patient may have multiple naevi and injection of the correct site is paramount[3].

Our experience demonstrates that smartphones play asupporting role in the assessment and management of a skin lesion(s), Free of cost or ethical burden, we propose this tool as an adjunct to the overall care of patients with considerable advantages, and few drawbacks.

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Authors can submit their articles by post or by E-mail: mughese@yahoo.com to the Managing Editor, Pakistan Journal of Plastic Surgery. Article can also be submitted by post or by hand on a Compact Disc (CD) with three hard copies (laser copies or inkjet, photocopies are not accepted). Articles submitted by E-mail do not require any hard copy or CD.

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The author should submit the manuscript typed in MS Word. Manuscripts should be written in English in past tense and third person form of address. Sentences should not start with a number or figure. Any illustrations or photographs should also be sent in duplicate. Components of manuscript should be in the following sequence: a title page (containing names of authors, their postal and Email addresses, fax and phone numbers, including mobile phone number of the corresponding author), abstract, key words, text, references, tables (each table, complete with title and footnotes) and legends for illustrations and photographs. Each component should begin on a new page. The manuscript should be typed in double spacing as a single column on A4 (8-1/2" x 11" or 21.5 cm x 28.0 cm), white bond paper with one inch (2.5 cm) margin on one side.

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The material submitted for publication may be in the form of an Original research (Randomized controlled trial - RCT, Metaanalysis of RCT, Quasi experimental study, Case Control study, Cohort study, Observational Study with statistical support etc), a Review Article, Commentary, a Case Report, Recent Advances, New techniques, Debates, Adverse Drug Reports, Current Practices, Clinical Practice Article, Short Article, KAP (Knowledge, Attitudes, Practices) study, An Audit Report, Evidence Based Report, Short Communication or a Letter to the Editor. Ideas and Innovations can be reported as changes made by the authors to an existing technique or development of a new technique or instrument. A mere description of a technique without any practical experience or innovation will be considered as an update and not an original article. Any study ending four years prior to date of submission is judged by Editorial Board for its suitability as many changes take place over the period of time, subject to area of the study. Studies more than four years old are not entertained. JCPCP also does not accept multiple studies/ multiple end publications gathered/derived from a single research project or data (wholly or in part) known as 'salami slices'.

Original articles should normally report original research of relevance to clinical medicine. The original paper should be of about 2000-2500 words excluding abstract and references. It should contain a structured abstract of about 250 words. Three to 10 keywords should be given for an original article as per MeSH (Medical Subject Headings). There should be no more than three tables or illustrations. The data should be supported with 20 to 25 references,

which should include local as well as international references. Most of the references should be from last five years from the date of submission.

Clinical Practice Article is a category under which all simple observational case series are entertained. The length of such article should be around 1500 - 1600 words with 15 - 20 references. The rest of the format should be that of an original article. KAP studies, Audit reports, Current Practices, Survey reports and Short Articles are also written on the format of Clinical Practice Article. Evidence based reports must have at least 10 cases and word count of 1000-1200 words with 10 - 12 references and not more than 2 tables or illustrations. It should contain a non-structured abstract of about 150 words. Short communications should be of about 1000 words, having a nonstructured abstract of about 150 words with one table or illustration and not more than five references. Clinical case reports must be of academic and educational value and provide relevance of the disease being reported as unusual. Brief or negative research findings may appear in this section. The word count of case report should be 1200-1500 words with a minimum of 3 key words. It should have a non-structured abstract of about 100-150 words (case specific) with maximum of 10 references.

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Letters should normally not exceed 400 words, with not more than 5 references and be signed by all the authors-maximum 3 are allowed. Preference is given to those that take up points made in contributions published recently in the journal. Letters may be published with a response from the author of the article being discussed. Discussions beyond the initial letter and response will not be entertained for publication. Letters to the editor may be sent for peer review if they report a scientific data. Editorials are written by invitation.

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Legends to illustrations should be typed on the same sheet. Tables should be simple, and should supplement rather than duplicate information in the text; tables repeating information will be omitted. Each table should have a title and be typed in double space without horizontal and vertical lines on an 8-1/2" x 11" (21.5 x 28.0 centimeters) paper. Tables should be numbered consecutively with Roman numerals in the order they are mentioned in the text. Page number should be in the upper right corner. If abbreviations are used, they should be explained in footnotes. When Graphs, scatter grams, or histograms are submitted, the numerical data on which they are based should be supplied. All graphs should be made with MS Excel and other Windows/Macintosh compatible software such as SAS and be sent as a separate Excel file, even if merged in the manuscript.

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Abstract of an original article should be in structured format with the following subheadings:

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Four elements should be addressed: why was the study started, what was done, what was found, and what did it mean? Why was the study started is the objective. What was done constitutes the methodology and should include patients or other participants, interventions, and outcome measures. What was found is the results, and what did it mean constitutes the conclusion. Label each section clearly with the appropriate subheadings. Background is not needed in an abstract. The total word count of abstract should be about 250 words. A minimum of 3 Key words as per MeSH (Medical Subject Headings) should be written at the end of abstract. A non structured abstract should be written as case specific statement for case reports with a minimum of three key words.

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This section should include the purpose of the article after giving brief literature review strictly related to objective of the study. The rationale for the study or observation should be summarized. Only strictly pertinent references should be cited and the subject should not be extensively reviewed. It is preferable not to cite more than 10 references in this segment. Pertinent use of reference to augment support from literature is warranted which means, not more than 2 to 3 references be used for an observation. Data, methodology or conclusion from the work being reported should not be presented in this section. It should end with a statement of the study objective.

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