



Role of Gracilis Muscle Transfer in Complex Vesico Vaginal Fistula

KEYWORDS

Supracodylar fracture, Gartland Classification, Flynn, Matthews and Benoit, Webb and Sherman and Boyd and Aronson criteria.

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INTRODUCTION AND OBJECTIVES:

Vesico vaginal fistula (VVF) is an abnormal fistulous tract communicating the bladder with the vagina resulting in continuous urinary leak in to the vagina. Majority of the fistulas are caused by gynecologic and other pelvic surgical procedures. Birth trauma is still the commonest cause of VVF in underdeveloped countries with fewer facilities for obstetric care. Significant emotional and social distress accompanies the diagnosis of this condition and hence requires timely intervention. The management and reconstruction of complex urinary fistulas that result from radiation therapy, Post Surgery (Multiple VVF Repairs) Obstructed Labor, are some of the most difficult problems to manage in urology. These fistula repairs frequently require the buttressing support that can be provided with a flap such as the gracilis muscle.

Materials and Methods:

We describe the anatomy of the gracilis muscle flap and the harvest technique that we utilize. We have used Gracilis muscle flap in 14 cases of complex VVFs, (Complex vesicovaginal fistulas (VVF) Complicated VVF could be defined as

1. Fistulas > 3cm in diameter
2. Fistulas following failed previous repair
3. Fistulas associated with prior radiation therapy
4. Fistulas associated with malignancy
5. Fistulas that occur in trigone, bladder neck and urethra, Prior radiation therapy increases the risk of repair failure

We use what is known as window technique where in we use multiple small window incision in the thigh to harvest the muscle instead of long incision in the thigh this will reduce post operative pain and patient can ambulate early. We have operated 14 cases of complex VVFs from June 2103 to June 2016. out of 14 cases 12 cases were operated twice before else where they had done conventional O'Connor procedure. 2 cases were primary cases post obstructed labor where in the head was large and was engaged in non viable fetus.

Technique: All the cases were operated thro perineal route. The lithotomy position was given and surface marking was done for Gracilis muscle. The standard protocol was to do cystoscopy and the fistula tract was catheterised with suitable Foleys catheter ranging for 12

to 18 French. Local infiltration using adrenaline and saline was injected and circumferential incision was made and fistula tract was excised. Plane was created between the Bladder and vagina and Bladder was closed with interrupted sutures. Now the gracilis muscle was harvested using multiple window technique. The gracilis is an expendable muscle that serves to adduct the thigh and flex the knee (Fig1). It originates from the ischium and inferior pubic ramus and inserts distally on the medial tibial condyle and is about 6 cm wide proximally and 4 cm wide distally. Depending on the patient's leg length, it can range from 24 –30 cm in length. It is innervated by the anterior branch of the obturator nerve. The gracilis has a consistent vascular anatomy that consists of a primary pedicle, which is a branch of the profunda femoral vessels and contains 1 artery and 2 veins, located 8 –12 cm distal to the inguinal crease (Fig2). A minor secondary vascular pedicle located 10 cm distal to the primary pedicle can be routinely sacrificed. The primary vascular pedicle can be identified with Doppler ultrasound to aid in dissection of the muscle. Skin incisions for harvest are typically a 2 cm medial thigh and a small 2 cm counter incision at the knee. The distal tendon can be easily distinguished by its long length and insertion on the medial tibial tubercle. With the distal tendon transected, the muscle was mobilized into the perineum through a hiatus that is created in the thigh to cover the fistula. A closed suction drain is placed in the thigh and an elastic bandage wrap placed to prevent hematoma and seroma formation.

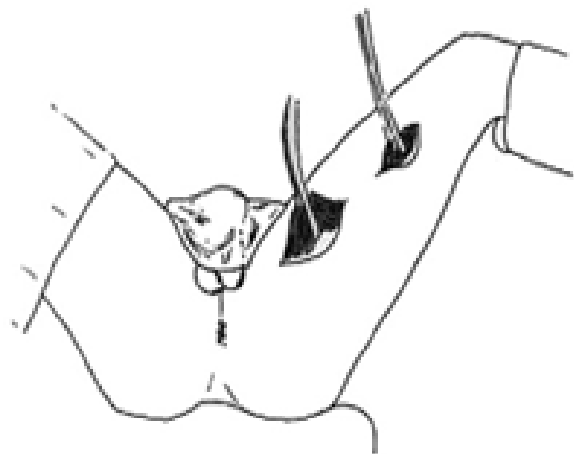


Figure 1

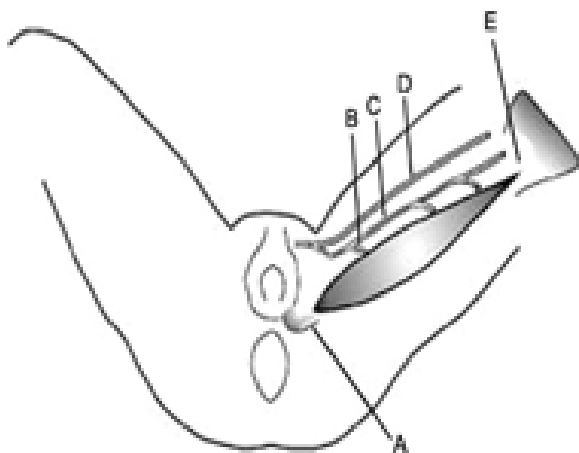
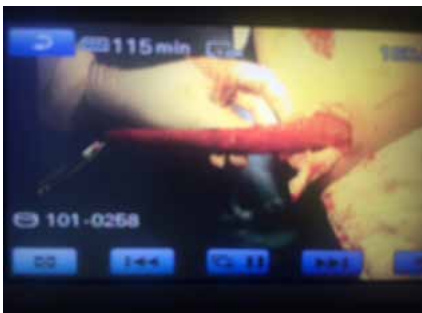


Figure 2

Schematic drawing of the technique for the transfer of the gracilis muscle: (A) origin of the gracilis muscle at the pubis symphysis, (B) branch of the medial circumflex femoral artery, (C) medial circumflex branch of the profunda femoral artery, (D) profunda femoral artery, (E) insertion of the gracilis muscle at the medial tibial condyle.



Surface Marking of multiple window incision and harvesting Gracilis muscle

Results: out of 14 patients 13 patient were dry after the surgery. One patient with post radiation VVF the urinary leak was persistent even after Gracilis flap. She is currently using pads and need to use 2 pads in day and one in the night

CONCLUSIONS: The gracilis muscle is an expendable muscle with a consistent vascular anatomy that allows for easy dissection by an Urologist. The resulting medial thigh scar is slightly posterior to the midline and inconspicuous. Its location adjacent to the perineum makes it an excellent choice for complex vesicovaginal fistulae because its vascularity and Bulk gives excellent results in complex VVF repairs.

Reference :

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