Fascia Lata, a Valuable Substrate for Duraplasty

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CNS 2016 ANNUAL MEETING
San Diego CALIFORNIA
SEPTEMBER 24-28, 2016

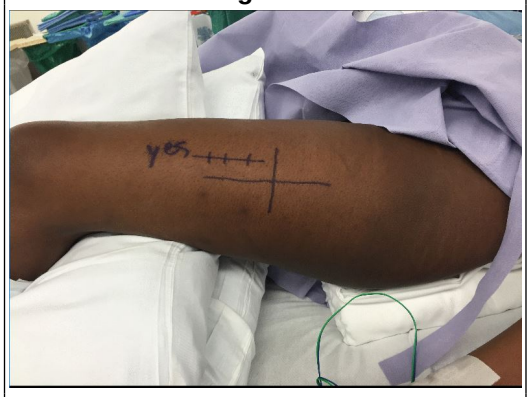
Introduction

Chiari malformations may be treated by suboccipital craniectomy (SOC) and expansile duraplasty. Commercially available grafting substrates include allografts and xenografts. Alternatively, autograft may be used such as local split-thickness dura, pericranium or fascia lata (FL) grafts to name a few. Common complications reported with allografts and xenografts include chemical or asceptic meningitis, CSF leak and pseudomeningocele. We describe a technique for FL autograft harvest.

Methods

Single-surgeon retrospective consecutive case series evaluating wound complications at donor and recipient sites and CSF leak and pseudomeningocele rate. The FL graft is harvested from the patient's lateral thigh by first drawing a line extending on the lateral surface between the greater trochanter and center of the knee joint. A line perpendicular to the first is then drawn at the mid-point, dividing the thigh into four quadrants. The center of the top left quadrant is used as the donor site with a 6cm incision (Figure 1). There are two layers of fascia covering the muscle in this area, a 6cmx2cm elliptical graft is harvested from the superficial layer for grafting.

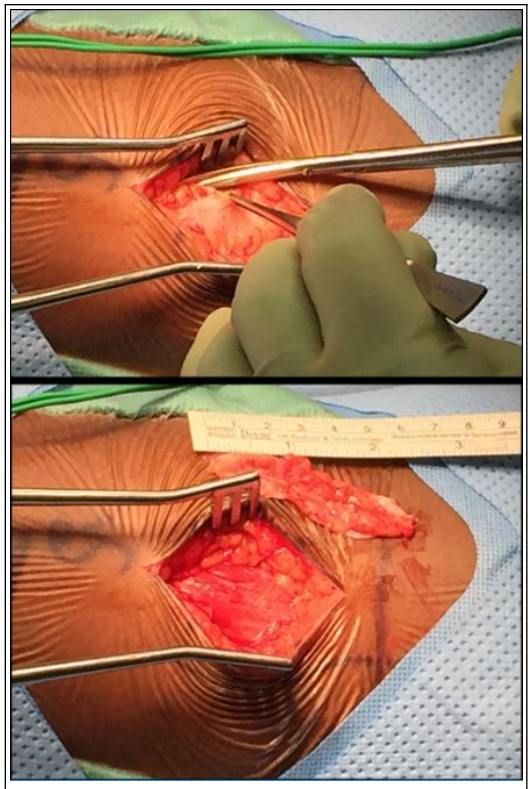
Figure 1



Left lateral surface of the thigh demonstrating land marks for fascia lata graft harvest. A line is drawn from the greater trochanter to the mid-point of the knee then a perpendicular bisecting the first. A 10cm incision in the superior distal quadrant is the harvest site.

Results

We reviewed 50 consecutive patients is a single surgeon series using fascial lata as a substrate for expansile duraplasty after SOC. There was one donor site complication with complaint of muscle bulge, one CSF leak requiring lumbar drainage for 5 days, one reoperation for suprafascial SOC incisional dehiscence, five superficial infections treated with PO antibiotics, no clinicial or radiographic pseudomenigoceles and no cases of asceptic meningitis.



Intraoperative photos demonstrating region of graft harvest and size.

Conclusions

FL is an effective grafting material for duraplasty. The described technique has low patient morbidity. Other series have reported closure complication rates around 20% with overall procedural complications between 17% and 41%. FL is easier to suture than synthetic materials in our experience and have found there is less need for additional stitches compared to synthetic materials to achieve a watertight closure.

Learning Objectives

By the conclusion of this session participants should be able to:

1.Describe common complications associated with the use of allografts and xenografts for duraplasty.

2.How to harvest a fascia lata graft.

3.Discuss in groups the possible risks and benefits of fascial lata for duraplasty procedures.

References

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