

# Complications of fascia lata harvesting for ptosis surgery

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## Abstract

**Aims/background**—The aim of this study was to assess the morbidity associated with harvesting autogenous fascia lata for brow suspension ptosis surgery.

**Methods**—A retrospective study by postal questionnaire of 24 consecutive patients.

**Results**—Early postoperative problems with pain on walking (67%), limping (38%), and wound pain (57%) occurred mostly for less than 1 week. The final cosmetic appearance of the scar caused minor concern in 38% of patients.

**Conclusion**—Fascia lata is the preferred material for permanent ptosis correction when a brow suspension is required. Most of the patients, following fascia lata harvest, experienced some symptoms of leg pain and limping for less than 1 week. The only long term problem was the scar. 38% of patients found the final cosmetic appearance caused minor concern.

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Autogenous fascia lata is commonly used as the material of choice for the frontalis sling in brow suspension ptosis surgery in patients over 3 years of age. It is preferred by many surgeons for its predictable and lasting results. Autogenous material avoids the problems associated with both donor human tissue and synthetic materials such as granuloma formation, infection, extrusion, and late failure.<sup>1-9</sup> Harvesting fascia lata is reported to cause minimal or no postoperative morbidity though complications can arise when a large area of fascia lata is removed.<sup>4 10 11</sup> The aim of this retrospective study by postal questionnaire was to assess the morbidity associated with harvesting autogenous fascia lata for brow suspension ptosis surgery.

## Methods

The details of 24 consecutive patients who underwent brow suspension procedures with autogenous fascia lata were obtained from the operating theatre register at Odstock Hospital, Salisbury. The fascia lata was harvested using a Moseley fasciatome through a 3-4 cm linear skin incision in the lateral aspect of the thigh superior to the knee joint over the ileotibial tract.<sup>11</sup> A strip of tissue 1.5 cm wide and 12-15 cm in length was excised. The wound was closed in one or two subcutaneous layers with 4/0 plain catgut and interrupted nylon sutures to the skin. A pressure dressing applied to the thigh was removed after 24 hours and the skin sutures at 1 week.

Each patient was sent a postal questionnaire which asked about immediate and late complications specific to the harvesting surgery. The questions were divided into two groups; problems with walking and problems with the wound. Symptoms of pain on walking were sought and graded. Problems with wound discharge and healing were requested particularly whether advice from a general practitioner was sought. Wound pain and appearance was graded. The questionnaires were answered by the parents on behalf of their children.

## Results

Twenty one of the 24 (87%) questionnaires were completed and returned. The questionnaires were sent out between 4 months and 66 months after surgery; the median follow up period was 20 months. There were 19 children (age range 3-14 years) and two adults (31 and 60 years). Ten were male and 11 female.

### PROBLEMS WITH WALKING

Fourteen patients (67%) reported pain on walking in the immediate postoperative period lasting from 1 to 30 days, median 6 days. The two adults noted pain for considerably longer than the children, but this is not statistically significant owing to the small numbers studied (Table 1). Eight patients (38%) recorded limping for between 1 and 14 days, median 4 days (Table 2). Neither pain nor limping was a long term problem in any patient.

### PROBLEMS WITH THE WOUND

Early postoperative wound pain was reported by 12 patients (57%), being a major problem in four (19%) and a minor problem in eight (38%). Three patients (14%) were concerned about wound healing including two who noted wound discharge. All three sought advice from their general practitioners.

At the time of questionnaire completion (mean follow up 20 months) leg scarring was considered unsightly in eight patients (38%)

Table 1 Pain on walking (n=21)

Nil	6	(29%)
1-7 days	9	(43%)
8-14 days	1	(5%)
15-21 days	2	(9%)
22-30 days	2	(9%) (both adults)
No record	1	(5%)

Table 2 Limping (n=21)

Nil	7	(33%)
1-7 days	7	(33%)
8-14 days	1	(5%)
No record	6	(29%)

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Table 3 Unsightly scar (n=21)

Nil	13	(62%)
Minor	8	(38%)
Moderate	0	

and included the three patients who reported healing problems to their general practitioners (Table 3). Minor pain persisted in one patient. Unsightly scarring was considered a minor problem in all cases.

### Discussion

Fascia lata was first used by Payr in 1908 as a frontalis sling to correct ptosis.<sup>12</sup> The technique was subsequently refined by Wright in 1922 and continues to be employed today.<sup>13</sup> It has also been used in a wide variety of other surgical procedures to repair heart valves, urethra, nasal septum, facial palsy, hernias, and to cover exposed implants.<sup>10 14</sup>

Many alternative materials have been tried but autogenous fascia lata is still considered to give the best cosmetic results with the lowest incidence of complications and recurrent ptosis.<sup>1 3-7 9</sup> The indications for the use of other materials are for children under 3 years where surgery cannot be delayed and adults who are unfit for general anaesthesia or unwilling to have fascia lata harvested. Many authors emphasise that alternative materials are second best and should be considered when autogenous fascia lata can not be obtained.<sup>1-9</sup>

Donor fascia lata either fresh, irradiated, or lyophilised has been used although in some cases absorption occurs and Wilson and Johnson reported late recurrence of ptosis in up to 50%.<sup>1-4</sup> There is also the unknown risk of transmitting infection from donor material which many parents would find unacceptable given the suitable alternatives.

Synthetic materials used in brow suspension surgery include Prolene, Mersilene mesh, Gore-tex, Supramid, and silicone rods.<sup>2 6-9</sup> Compared with autogenous fascia lata all have a greater incidence of late failure and complications such as granuloma, infections, and extrusion.

Mersilene mesh has become popular recently.<sup>6</sup> The mesh forms a scaffold for fibrovascular ingrowth which prevents cheese wiring, but removal is extremely difficult if indicated. Hintschich *et al*, in a series of 54 patient (76 lids) in which Mersilene mesh was used, reported 13.6% incidence of extrusion, granuloma formation, or infection and 8% developed recurrent ptosis with a median follow up of 20 months.<sup>6</sup> Prolene causes minimal tissue reaction and is easily removed. Ptosis recurrence presumed to be due to cheese wiring was reported and it is only recommended as a temporary procedure, usually in children under 3 with threatened amblyopia.<sup>7</sup>

Autogenous fascia lata has excellent tensile strength and good handling properties.<sup>15</sup> It can be used in children from about the age of 3 when the leg has grown sufficiently to obtain adequate tissue. Harvesting fascia lata requires a further procedure prolonging overall surgical and anaesthetic time. It causes a scar on the leg

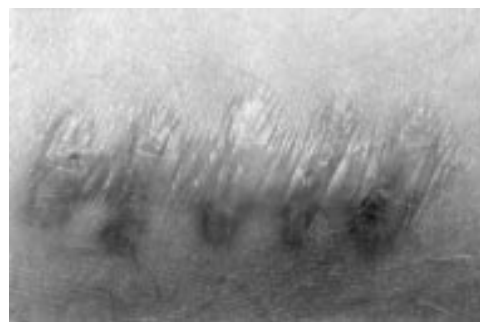


Figure 1 A leg scar with a poor cosmetic result from harvesting fascia lata.

with variable postoperative wound discomfort. The two adults in our study had more prolonged leg pain than the children following fascia lata harvesting.

Very few complications related to harvesting fascia lata for ptosis surgery have been reported. Postoperative haematoma and small muscle herniations have occurred.<sup>11 16</sup> Complications occur if large areas of fascia lata are removed though only a few small studies exist.<sup>10 17</sup> Problems with postoperative infections and haematomas are cited.<sup>10 17</sup> Careful attention to sepsis, haemostasis, and pressure dressing is recommended.<sup>10 17</sup> Dubiel and Wigren assessed the lower limb in 39 patients 1–3 years after a 10 × 20 cm area of fascia lata was excised for heart valve surgery.<sup>10</sup> Significant complications occurred with muscle herniation in 14 (36%), weakness of hip flexion, numbness, pain, haemorrhage, superficial phlebitis, and wound infection. Brow suspension surgery requires much less (1.5 cm × 12–15 cm strip) fascia lata excision and in our series this was not associated with muscle herniation. Our survey found no serious long term complications. In Dubiel and Wigren's series the reported complications probably related to the much greater width of tissue removed.<sup>10</sup>

The scar was the only long term problem in our study. It was a minor cosmetic concern in 38% of patients. The appearance of the scar has been quite variable with the closure described. Figure 1 shows a poor cosmetic result from harvesting fascia lata. So we have subsequently changed to closing the skin with a subcuticular Prolene or Vicryl. The cosmetic appearance is improved and we would recommend this.

In summary fascia lata is the preferred material for permanent ptosis correction when a brow suspension is required. Most of our patients, following fascia lata harvest, experienced some symptoms of pain on walking and limping usually for less than 1 week and 38% of patients found the final cosmetic appearance of the scar caused minor concern.

We recommend careful preoperative discussion explaining (a) the higher incidence of complication and recurrence associated with other materials and (b) the minor postoperative complications reported in this paper from harvesting fascia lata. Since the quality of the skin wound was the only long term problem we identified it would be helpful to investigate

alternative methods of closure such as a subcuticular skin suture. It is our clinical impression that subcuticular Prolene or Vicryl give a better cosmetic result.

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